As filed with the Securities and Exchange Commission on September 18, 2020

Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

Shattuck Labs, Inc.
(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of incorporation or organization)

2834
(Primary Standard Industrial Classification Code Number)

$1-2575858
(I.R.S. Employer Identification Number)

1018 W. 11th Street, Suite 100
Austin, TX 78703
(919) 864-2700
(Address, including zip code, and telephone number, including area code, of registrant’s principal executive offices)

Taylor Schreiber, M.D., Ph.D.
Chief Executive Officer
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1018 W. 11th Street, Suite 100
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1018 W. 11th Street, Suite 100
Austin, TX 78703
(919) 864-2700

Approximate date of commencement of proposed sale to the public: As soon as practicable after this registration statement becomes effective.

If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. ☐

If this form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “non-accelerated filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☐
Accelerated filer ☐
Non-accelerated filer ☒
Smaller reporting company ☒
Emerging growth company ☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. ☐

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CALCULATION OF REGISTRATION FEE

<table>
<thead>
<tr>
<th>Title of Each Class of Securities to be Registered</th>
<th>Proposed Maximum Aggregate Offering Price(1)(2)</th>
<th>Amount of Registration Fee</th>
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<tr>
<td>Common Stock, par value $0.0001 per share</td>
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<td>$12,980</td>
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</tbody>
</table>

(1) Estimated solely for purposes of calculating the registration fee in accordance with Rule 457(o) under the Securities Act of 1933, as amended.

(2) Includes the aggregate offering price of additional shares that the underwriters have the option to purchase from the registrant. See "Underwriting."

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to such Section 8(a), may determine.
Subject to Completion, dated September 18, 2020

Common Stock

This is the initial public offering of our shares of common stock. We are selling shares of our common stock. We currently expect the initial public offering price to be between $ and $ per share of common stock. Currently, no public market for our common stock exists. We have applied to list our common stock on The Nasdaq Global Market under the symbol “STTK.”

We have granted the underwriters an option to purchase up to an additional shares of our common stock.

We are an “emerging growth company” as defined under the federal securities laws and, as such, may elect to comply with certain reduced public company reporting requirements in future reports after the closing of this offering. See “Business—Implications of Being an Emerging Growth Company.”

Investing in our common stock involves risks. See “Risk Factors” beginning on page 12 of this prospectus.

Neither the Securities and Exchange Commission nor any other regulatory body have approved or disapproved these securities, or passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

<table>
<thead>
<tr>
<th>Public offering price</th>
<th>Per Share</th>
<th>Total</th>
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<tbody>
<tr>
<td>$</td>
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<td>$</td>
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Underwriting discount(1)

<table>
<thead>
<tr>
<th>Proceeds to us, before expenses</th>
<th>Per Share</th>
<th>Total</th>
</tr>
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<tr>
<td>$</td>
<td>$</td>
<td>$</td>
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</table>

(1) See “Underwriting” beginning on page 191 for additional information regarding underwriting compensation.

The underwriters expect to deliver the shares of common stock to purchasers on about , 2020 through the book entry facilities of The Depository Trust Company.

Citigroup

Cowen

Evercore ISI

Needham & Company

, 2020
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prospectus Summary</td>
<td>1</td>
</tr>
<tr>
<td>Risk Factors</td>
<td>12</td>
</tr>
<tr>
<td>Special Note Regarding Forward-Looking Statements</td>
<td>70</td>
</tr>
<tr>
<td>Industry and Market Data</td>
<td>72</td>
</tr>
<tr>
<td>Use of Proceeds</td>
<td>73</td>
</tr>
<tr>
<td>Dividend Policy</td>
<td>74</td>
</tr>
<tr>
<td>Capitalization</td>
<td>75</td>
</tr>
<tr>
<td>Dilution</td>
<td>78</td>
</tr>
<tr>
<td>Selected Financial Data</td>
<td>80</td>
</tr>
<tr>
<td>Management's Discussion and Analysis of Financial Condition and Results of Operations</td>
<td>82</td>
</tr>
<tr>
<td>Business</td>
<td>99</td>
</tr>
<tr>
<td>Management</td>
<td>152</td>
</tr>
<tr>
<td>Executive Compensation</td>
<td>162</td>
</tr>
<tr>
<td>Principal Stockholders</td>
<td>173</td>
</tr>
<tr>
<td>Certain Relationships and Related Party Transactions</td>
<td>177</td>
</tr>
<tr>
<td>Description of Capital Stock</td>
<td>181</td>
</tr>
<tr>
<td>Shares Eligible for Future Sale</td>
<td>185</td>
</tr>
<tr>
<td>Material U.S. Federal Income Tax Consequences to Non-U.S. Holders</td>
<td>187</td>
</tr>
<tr>
<td>Underwriting</td>
<td>191</td>
</tr>
<tr>
<td>Legal Matters</td>
<td>197</td>
</tr>
<tr>
<td>Experts</td>
<td>197</td>
</tr>
<tr>
<td>Where You Can Find Additional Information</td>
<td>197</td>
</tr>
<tr>
<td>Index to Financial Statements</td>
<td>F-1</td>
</tr>
</tbody>
</table>

We have not, and the underwriters have not, authorized anyone to provide you with information other than in this prospectus or in any free writing prospectus we may authorize to be delivered or made available to you. We take no responsibility for and cannot provide any assurance as to the reliability of any other information others may give you. We are not, and the underwriters are not, making an offer to sell shares of our common stock in any jurisdiction where the offer or sale is not permitted. The information in this prospectus or any free writing prospectus is accurate only as of its date, regardless of its time of delivery or of any sale of shares of our common stock. Our business, financial condition, results of operations, and prospects may have changed since that date.

For investors outside the United States: We have not, and the underwriters have not, done anything that would permit this offering, or possession or distribution of this prospectus, in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of our common stock and the distribution of this prospectus outside of the United States.

This prospectus includes our trademarks, including the Shattuck logo, ARC®, and GADLEN™, which are our property and are protected under applicable intellectual property laws. This prospectus also includes trademarks and trade names that are the property of other organizations. Solely for convenience, trademarks and trade names referred to in this prospectus appear without the ® and ™ symbols, but those references are not intended to indicate that we will not assert, to the fullest extent under applicable law, our rights, or that the applicable owner will not assert its rights, to these trademarks and trade names. We do not intend our use or display of other companies’ trade names or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other companies.
PROSPECTUS SUMMARY

This summary highlights selected information contained elsewhere in this prospectus. This summary does not contain all of the information that you should consider before deciding to invest in our common stock. You should read the entire prospectus carefully, including “Risk Factors,” “Management's Discussion and Analysis of Financial Condition and Results of Operations,” and our financial statements and notes to those financial statements, before making an investment decision. Some of the statements in this summary constitute forward-looking statements, see “Special Note Regarding Forward-Looking Statements.” In this prospectus, unless the context requires otherwise, references to “we,” “us,” “our,” “Shattuck Labs,” “Shattuck,” or the “company” refer to Shattuck Labs, Inc. Additionally, references to our “Board” refer to the board of directors of Shattuck Labs, Inc.

Overview

We are an innovative clinical-stage biotechnology company pioneering the development of dual-sided fusion proteins as an entirely new class of biologic medicine. We believe our approach has the potential to fundamentally transform the therapeutic modulation of the immune system. We have created a novel approach to immune-modulation by designing biologics with structural characteristics that are not achievable by existing therapeutic modalities. Compounds derived from our proprietary Agonist Redirected Checkpoint, or ARC®, platform simultaneously inhibit checkpoint molecules and activate costimulatory molecules within a single therapeutic. Our initial product candidates are designed to be differentiated therapeutics addressing molecular targets that are well characterized and scientifically validated in immuno-oncology but are underexploited by current treatment modalities.

Our lead, wholly owned product candidate, SL-172154, has been rationally designed to simultaneously inhibit the CD47/SIRPa checkpoint interaction to restore an anti-tumor immune response and to activate the CD40 costimulatory receptor to bolster an immune response. We are currently conducting a Phase 1 clinical trial evaluating SL-172154 in patients with ovarian cancer, and we expect to announce initial data from the dose-escalation portion of this trial in the second half of 2021. We plan to initiate a second Phase 1 trial evaluating the SL-172154 in patients with cutaneous squamous cell carcinoma, or CSCC, or head and neck squamous cell carcinoma, or HNSCC, and we expect to announce data from the dose-escalation portion of this trial in the second half of 2022. Our second product candidate, SL-279252, which is being developed in collaboration with Takeda Pharmaceuticals, or Takeda, has been rationally designed to simultaneously inhibit the PD-1/PD-L1 interaction and activate the OX40 receptor. We are evaluating SL-279252 in a Phase 1 clinical trial in patients with advanced solid tumors and lymphoma, and we expect to announce data from the dose-escalation portion of this trial in the second half of 2021. In addition to our clinical-stage ARC product candidates, we possess a deep pipeline of preclinical immuno-oncology product candidates. Longer-term, we are pursuing additional disease areas, including autoimmune diseases, where our dual-sided fusion protein platforms may provide advantages over current treatment modalities.

Cancer is characterized by the uncontrolled proliferation of abnormal cells. The immune system typically recognizes and eliminates abnormal cells. However, cancer cells have the ability to evade the immune system through the expression of checkpoint molecules, which ward off an anti-tumor immune response that would otherwise lead to elimination of cancer cells. In an effort to leverage the immune system to promote an anti-tumor response, researchers have developed checkpoint inhibitor therapies, including anti-CTLA-4, anti-PD-1, and anti-PD-L1 antibodies, which have represented a revolutionary milestone in the treatment of cancer. These therapies generate deep and durable responses, translating into meaningful clinical benefit and have become the cornerstone of treatment paradigms for many cancers. However, the clinical benefit is limited to a minority of patients. This limitation highlights the need for novel modalities that may benefit a greater number of patients, such as a compound that simultaneously inhibits checkpoint molecules while activating costimulatory molecules to generate a beneficial immune response.
Driven by an increasing understanding of tumor biology, it is now well-established that the activation of costimulatory molecules can generate a more effective immune response where current checkpoint inhibitors have failed. To date, there has been limited clinical success in combining the inhibition of checkpoints with the activation of trimeric costimulatory molecules. We believe these efforts have had limited success due to the structural mismatch between existing bivalent antibodies and the trimeric costimulatory receptors of the tumor necrosis factor, or TNF, receptor superfamily, such as CD40 and OX40. TNF activation and downstream signaling require the assembly of three receptor molecules, or trimerization. Existing bivalent antibodies can only bind to two TNF receptors and are thus unable to trimerize TNF receptors, leading to weak signaling. Additionally, administration of two separate antibodies, which distribute in the body independent of one another, does not guarantee colocalization of their mechanisms of activity.

Our proprietary ARC platform is designed to overcome the limitations of existing bivalent antibodies. ARC compounds consolidate checkpoint blockade and immune costimulation within a single therapeutic. Additionally, ARC compounds possess a structure that matches the native structure of the target receptors and colocalizes both mechanisms of activity within the immune synapse to promote a coordinated immune response. As shown in Figure 1 below, one end of the ARC compound consists of a checkpoint receptor domain and the opposite end consists of a TNF ligand domain, connected by a scaffold such as an Fc domain. We design ARC compounds to self-assemble into a hexameric structure, as shown in Figure 1 below, comprising six distinct checkpoint receptor domains and six distinct TNF ligand domains, which form two trimerized costimulatory ligand domains. The hexameric structure of an ARC compound facilitates clusters of binding domains thus leveraging the strength of multiple individual binding interactions, known as affinity, into a greater collective strength of all binding interactions, known as avidity.
The unique dual-sided structure of our ARC compounds allows us to simultaneously and effectively target a wide array of pathways for the creation of a deep and differentiated product pipeline. We utilize our understanding of disease pathology and immune dysfunction to identify pairings of optimal domains. Initially, our efforts are concentrated on three broad target families including immune checkpoints, the TNF superfamily, and cytokines. While therapeutic inhibition of immune checkpoints has been shown to improve overall survival in a minority of cancer patients, combining immune checkpoint blockade with activation of TNF superfamily receptors or modulation of cytokines may deepen responses and increase the number of cancer patients that benefit from immunotherapy.

We believe that the following features represent the key advantages offered by compounds developed with the ARC platform:

- **Matching Native Structure of TNF Receptors.** TNF receptors and ligands require trimerization, or assembly into groups of three, for efficient signaling. A hexameric ARC compound contains two trimerized TNF ligand domains, which directly activate trimeric TNF receptors, thus overcoming the structural limitations of bivalent antibodies.

- **Target Specificity, High Affinity, and High Avidity.** ARC compounds incorporate twelve distinct binding domains, six for each of the two targets, enabling high-avidity and durable binding to specific cell surface targets.

- **Replacing Tumor Immune Evasion with Potent Immune Stimulation.** ARC compounds are designed to simultaneously reverse a tumor’s immune evasion and amplify anti-tumor immune responses locally within the tumor microenvironment. In preclinical models, the ability of our ARC compounds to colocalize checkpoint inhibition and costimulation demonstrated superior anti-tumor response as compared to the administration of separate antibody therapies.

- **Versatility.** Modularity of the ARC platform enables production of thousands of potential therapeutic candidates across oncology, autoimmune diseases, and other disease areas.

- **Speed from Concept to Compound to Clinic.** The ARC platform allows for a significantly compressed development timeline from “Concept to Compound to Clinic,” which has enabled us to generate over 300 unique, dual-sided fusion proteins and two clinical-stage assets in less than four years.

- **Accelerated Lead Selection Process.** We are able to identify and select optimal therapeutic constructs during the design and discovery phase of product candidate development through the rational pairing of optimized domains, enabling the efficient transition from discovery to the clinic. The rapid development path of ARC compounds permits systematic and simultaneous comparison of multiple ARC compound variants prior to lead selection.

We believe these collective advantages create the potential for the capital-efficient identification and pursuit of differentiated product candidates.

We are also leveraging our expertise and intellectual property to build novel platforms beyond our ARC platform, where dual-sided fusion proteins may provide advantages over existing therapeutic antibodies. One such platform is our Gamma Delta T Cell Engager platform, known as GADLEN™. A majority of T cells in the human body bear an alpha beta T cell receptor, which recognizes tumor antigens via major histocompatibility complex, or MHC, molecules. Some cancer cells reduce the expression of MHC molecules, rendering those cancer cells invisible to most alpha beta T cells. Gamma delta T cells represent approximately 2% to 5% of the total T cell population and, unlike alpha beta T cells, are not dependent on MHC molecules to recognize and kill tumor cells. The therapeutic utilization of gamma delta T cells represents a novel approach for the treatment of cancer. This approach may be particularly beneficial in targeting tumors that are not addressable by alpha beta T cells. Additionally, as immunotherapies that stimulate alpha beta T cell-dependent immune responses are
increasingly utilized across cancer treatment paradigms, the proportion of patients who may become refractory to alpha beta T cell-mediated therapies will also increase over time, creating an absence of effective treatment options that may be addressed by the utilization of gamma delta T cells.

While we believe compounds developed with our ARC and GADLEN platform may provide significant key advantages, we are in an early stage of development using novel technologies and cannot assure you that our approach will lead to the development of marketable products. For example, SL-279252 is in Phase 1 development and although data as of September 9, 2020 has shown it has been well tolerated, with no dose-limiting toxicities observed, additional data from any of our dual-sided fusion protein product candidates may result in unanticipated safety and efficacy outcomes or unexpected biological interactions that could delay or prevent their development. Moreover, we are aware that others have experienced limited clinical success when attempting to combine the inhibition of checkpoint molecules with the activation of trimeric costimulatory molecules. We believe this limited success is attributable to a structural mismatch between the bivalent antibodies and trimeric costimulatory receptors, which we have attempted to address in the design of our ARC platform compounds.

**Our Pipeline**

We are leveraging our proprietary ARC and GADLEN platforms to discover and develop dual-sided, bi-functional fusion protein product candidates. We own or have exclusively licensed the intellectual property rights to our product candidates. The following table highlights our two clinical-stage assets that have been derived from our ARC platform:

<table>
<thead>
<tr>
<th>Details</th>
<th>Stage of Development</th>
<th>Anticipated Milestone</th>
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<td>Program</td>
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<td>SL-172154</td>
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<td>CD40l</td>
<td>Ovarian Cancer(1)</td>
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<td></td>
<td></td>
<td></td>
<td>CSCC and HNSCC(2)</td>
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<tr>
<td>SL-276252</td>
<td>PD-1</td>
<td>CD40l</td>
<td>Advanced Solid Tumors(3) and Lymphomas</td>
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</table>

(1) Includes patients with Ovarian, Fallopian Tube, and Peritoneal Cancers
(2) Includes patients with Cutaneous Squamous Cell Carcinoma (CSCC) and Head and Neck Squamous Cell Carcinoma (HNSCC)
(3) Includes patients with Melanoma, Non-small Cell Lung Carcinoma (NSCLC), Head and Neck Squamous Cell Carcinoma (HNSCC), Skin Squamous Cell Carcinoma (Skin-SCC), Gastric Cancer (GC), Renal Cell Carcinoma (RCC), Squamous Cell Carcinoma of the Anus (SCCA), Hodgkin Lymphoma (HL), Diffuse Large B-cell lymphoma (DLBCL), Solid Tumors with Microrna instability-high (MiQH) or NLRx match repair deficiency (MMRD) excluding Central/Nervous System tumors

Our lead product candidate, SL-172154, simultaneously inhibits CD47 and activates the CD40 receptor. We believe SL-172154 has the potential to offer a differentiated approach to targeting CD47. Other approaches solely focus on activating the innate immune system by blocking the CD47 macrophage “don’t eat me” signal. In addition to inhibiting CD47, SL-172154 is designed to bridge the innate and adaptive immune response by subsequently activating CD40 signaling to upregulate antigen presentation machinery. In preclinical studies of SL-172154, we observed superior tumor rejection as compared to CD47 and CD40 antibodies, a durable receptor occupancy, a dose-dependent lymphocyte migration into lymphoid tissues and no occurrence of anemia. We have initiated a Phase 1 clinical trial of SL-172154 administered by intravenous injection in patients with ovarian, fallopian tube, and peritoneal cancers, referred to collectively as ovarian cancer, and expect to announce initial data from the dose-escalation portion of this trial in the second half of 2021. We plan to initiate a second Phase 1
clinical trial of SL-172154 administered by intratumoral injection in patients with CSCC or HNSCC and expect to announce data from the dose-escalation portion of this trial in the second half of 2022. These tumors were selected due to their particularly high expression of CD47, a high presence of macrophages in the tumor microenvironment, and a lack of effective treatment options for these indications.

Our second product candidate, SL-279252, being developed in collaboration with Takeda, simultaneously inhibits PD-1 and activates the OX40 receptor. We believe SL-279252 has the potential to offer a differentiated approach to targeting PD-1 and OX40, as compared to existing antibody therapies, either as individual monotherapies or in combination. Antibodies targeting OX40 have not demonstrated sufficient efficacy in clinical trials, a result that we believe is due to a structural mismatch between bivalent antibodies and trimeric OX40 receptors. The unique hexameric structure of SL-279252 is designed to more effectively bind to and activate OX40 receptors, leading to optimized signaling and resulting in T cell activation and proliferation. Together, these properties are intended to replace PD-L1-mediated immune inhibition with OX40 costimulation to synergistically enhance anti-tumor response. In preclinical models, compared to the combination of anti-PD-1 and OX40-agonist antibodies, SL-279252 demonstrated superior tumor reduction. In nonhuman primates treated with SL-279252, we observed dose-dependent lymphocyte expansion followed by post-dose lymphocyte migration into tissue. Our ongoing Phase 1 trial is evaluating SL-279252 in patients with advanced solid tumors and lymphoma. We expect to announce dose-escalation data in the second half of 2021. Takeda has an option to exercise a license of SL-279252 prior to initiation of a Phase 2 clinical trial.

In addition to our lead product candidates, we have an extensive discovery pipeline consisting of over 300 unique fusion proteins that we have manufactured and characterized in both in vitro and in vivo studies. We intend to nominate additional lead candidates in oncology, as well as autoimmune disease, to further broaden our pipeline. In accordance with our prioritization strategy, we intend to develop these compounds as data emerge that clinically validate the targets. We anticipate submitting additional Investigational New Drug Applications, or INDs, for compounds derived from our ARC or GADLEN platforms in both the second half of 2021 and the first half of 2022.

Our Team

Our management team and Board possess decades of experience in cancer immunotherapy, autoimmune disease, targeted therapeutics, protein engineering, biology manufacturing, clinical development, regulatory strategy, and commercialization. Members of our team were involved with, or led, drug development programs leading to the approval of drugs including Votrient, Tafinlar, Mekinist, Enbrel, Nucala, Valtrex, Arranon, Tykerb, Avastin, Revlimid, Pomalyst, and others. Our team members have held senior leadership positions at leading companies including GlaxoSmithKline, Celgene, Pfizer, Novartis, Takeda, Alexion, Medarex, Amgen, Merck KGaA, OSI Pharmaceuticals, and Reata Pharmaceuticals.

Since our founding in 2016, we have raised approximately $239.1 million through redeemable convertible preferred stock financings and non-dilutive partnership funds. Our key investors include Redmile Group, Fidelity Management and Research Company, Janus Henderson, EcoR1 Capital, Partner Fund Management, Avidity Partners, Hatteras Venture Partners, Emerson Collective, Piper Sandler & Co., JSR Corporation, and Takeda.

Our Strategy

Our goal is to become the world leader in the discovery, development, and commercialization of dual-sided, bi-functional fusion proteins for the treatment of cancer and autoimmune diseases. We plan to achieve this by utilizing our proprietary ARC and GADLEN platforms to create novel therapeutics to treat patients who lack effective treatment options. Key elements of our strategy include:

• Rapidly advancing our clinical-stage ARC product candidates, SL-172154 and SL-279252, through clinical development and marketing approval.
• Leveraging our ARC and GADLEN platforms to rapidly advance additional product candidates into clinical development.
• Continuing to augment our fusion protein manufacturing capabilities.
• Collaborating with leading biopharmaceutical companies.
• Deepening our intellectual property portfolio to continue to protect our platform technologies and product candidates.
• Building on our culture of R&D excellence and continuing to out-innovate ourselves.

Risks Associated with Our Business

Investing in our common stock involves significant risks. You should carefully consider the risks described in “Risk Factors” before making a decision to invest in our common stock. If we are unable to successfully address these risks and challenges, our business, financial condition, results of operations, or prospects could be materially and adversely affected. In such case, the trading price of our common stock would likely decline, and you may lose all or part of your investment. Below is a summary of some of the risks we face.

• We have a limited operating history and have incurred significant losses since our inception, we expect to incur losses for the foreseeable future, and we may never achieve profitability.
• All of our product candidates are in preclinical or early-stage clinical development and clinical drug development is a lengthy and expensive process with uncertain timelines and outcomes.
• Results of preclinical studies of our product candidates may not be predictive of the results of future preclinical studies or clinical trials.
• Our product candidates may have serious adverse, undesirable, or unacceptable side effects or other properties that may delay or prevent marketing approval.
• Public health crises such as pandemics or similar outbreaks could materially and adversely affect our preclinical studies and clinical trials, business, financial condition, and results of operations. For example, we have experienced delays in our clinical trial of SL-279252 as a result of the ongoing COVID-19 pandemic, including delays with certain third-party vendors supporting this trial. As “shelter in place” orders and other public health guidance measures are reinstated in the locations of our clinical trial sites, we expect that some patients may also choose to forego one or more doses in our clinical trials due to challenges faced by such patients in travelling to our clinical trial sites, which may negatively affect the study results.
• We depend on the enrollment of patients in our clinical trials for our product candidates and if we experience delays or difficulties in the enrollment of patients in clinical trials, including as a result of competition for patients or the ongoing COVID-19 pandemic, we may be unable to complete these trials on a timely basis, if at all.
• The development and commercialization of biopharmaceutical products is subject to extensive regulation.
• We operate in highly competitive and rapidly changing industries, which may result in others discovering, developing, or commercializing competing products before or more successfully than we do.
• We rely on patents and other intellectual property rights to protect our technology, including product candidates and our ARC and GADLEN platforms, the prosecution, enforcement, defense, and maintenance of which may be challenging and costly.
• Even if this offering is successful, we will require substantial additional funding, which may not be available to us on acceptable terms, or at all.
Implications of Being an Emerging Growth Company

We are an emerging growth company, as defined in Section 2(a) of the Securities Act of 1933, as amended, or the Securities Act, as modified by the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and we may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies, including relief from the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended, less extensive disclosure obligations regarding executive compensation in our registration statements, periodic reports, and proxy statements, exemptions from the requirements to hold a nonbinding advisory vote on executive compensation, and exemptions from stockholder approval of any golden parachute payments not previously approved. In particular, in this prospectus, we have provided only two years of audited financial statements and have not included all of the executive compensation-related information that would be required if we were not an emerging growth company. As a result, our stockholders may not have access to certain information that they may deem important. We could be an emerging growth company for up to five years, although circumstances could cause us to lose that status earlier, including if our total annual gross revenues exceed $1.07 billion, if we issue more than $1.0 billion in non-convertible debt during any three-year period, or if the market value of our common stock held by non-affiliates exceeds $700 million as of June 30 of any year.

In addition, the JOBS Act also provides that an emerging growth company may take advantage of the extended transition period provided in the Securities Act for complying with new or revised accounting standards. An emerging growth company may therefore delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected to avail ourselves of this exemption and, as a result, will not be subject to the same implementation timing for new or revised accounting standards as are required of other public companies that are not emerging growth companies, which may make comparison of our financial information to those of other public companies more difficult.

Corporate Information

We were incorporated in the State of Delaware on May 9, 2016. Our corporate offices are located at 1018 W. 11th Street, Suite 100, Austin, Texas 78703 and 21 Parmer Way, Suite 200, Durham, North Carolina 27709 and our telephone number is (919) 864-2700. Our website is www.shattucklabs.com. The information on, or that can be accessed through, our website is not part of this prospectus and is not incorporated by reference herein.
**THE OFFERING**

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<thead>
<tr>
<th>Section</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common stock offered by us</td>
<td>shares.</td>
</tr>
<tr>
<td>Option to purchase additional shares of common stock</td>
<td>The underwriters have a 30-day option to purchase up to additional shares of our common stock.</td>
</tr>
<tr>
<td>Common stock to be outstanding immediately after this offering</td>
<td>shares (or shares if the underwriters exercise in full their option to purchase the additional shares of our common stock).</td>
</tr>
<tr>
<td>Use of proceeds</td>
<td>We expect that our net proceeds from this offering will be approximately $ million (or approximately $ million if the underwriters exercise in full their option to purchase additional shares of our common stock), at an assumed public offering price of $ per share, which is the midpoint of the price range set forth on the cover of this prospectus, after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. We intend to use the net proceeds of this offering: to advance SL-172154 through the completion of our ongoing and planned Phase 1 clinical trials and to commence a Phase 2 clinical program; to advance SL-279252 through the completion of our ongoing Phase 1 clinical trial; and to develop and advance additional product candidates derived from our platforms through IND-enabling studies and to commence Phase 1 clinical trials. See “Use of Proceeds” for additional information.</td>
</tr>
<tr>
<td>Directed share program</td>
<td>At our request, the underwriters have reserved up to % of the shares of common stock offered by this prospectus, for sale, at the initial public offering price, to certain of our directors, officers, employees, or persons otherwise associated with us through a directed share program. The number of shares of common stock available for sale to the general public will be reduced to the extent these parties purchase any of such reserved shares. Any reserved shares of common stock that are not so purchased will be offered by the underwriters to the general public on the same terms as the other shares offered by this prospectus. See “Underwriting” for additional information.</td>
</tr>
<tr>
<td>Risk factors</td>
<td>You should carefully read and consider the information set forth in the section entitled “Risk Factors” beginning on page 12, together with all of the other information set forth in this prospectus, before deciding whether to invest in our common stock.</td>
</tr>
<tr>
<td>Proposed Nasdaq Global Market trading symbol</td>
<td>“STTK.”</td>
</tr>
</tbody>
</table>
The number of shares of our common stock to be outstanding after this offering (i) is based on shares of our common stock (including shares of our redeemable convertible preferred stock outstanding on an as-converted basis) outstanding as of June 30, 2020 and (ii) excludes the following:

- shares of our common stock issuable upon the exercise of stock options outstanding as of June 30, 2020 under our 2016 Stock Incentive Plan, or 2016 Plan, at a weighted average exercise price of $ per share;
- shares of our common stock issuable upon the exercise of stock options granted subsequent to June 30, 2020 under the 2016 Plan, at a weighted-average exercise price of $ per share;
- shares of our common stock issuable upon the settlement of restricted stock units outstanding as of June 30, 2020;
- shares of our common stock issuable upon the settlement of restricted stock units granted subsequent to June 30, 2020;
- shares of our common stock reserved for future issuance pursuant to future awards under our 2020 Stock Incentive Plan, or 2020 Plan, which will become effective upon consummation of the offering and replace the 2016 Plan, as well as any automatic increase in the number of shares of common stock reserved for future issuance under the 2020 Plan; and
- shares of our common stock to be reserved for future issuance under our 2020 Employee Stock Purchase Plan, or ESPP, which will become effective immediately prior to the completion of this offering, as well as any automatic increase in the number of shares of common stock reserved for future issuance under the ESPP.

Except as otherwise noted, we have presented the information in this prospectus based on the following assumptions:

- the conversion, in accordance with our existing amended and restated certificate of incorporation, of all shares of our redeemable convertible preferred stock outstanding as of the date hereof into shares of our common stock;
- a -for-one stock split of our common stock and a proportional adjustment to the conversion ratio of our redeemable convertible preferred stock to be effected prior to the closing of this offering;
- no exercise by the underwriters of their option to purchase additional shares of our common stock in this offering;
- no exercise of outstanding stock options or vesting of restricted stock units after June 30, 2020; and
- the filing and effectiveness of our second amended and restated certificate of incorporation with the Secretary of State of the State of Delaware, which will be in effect immediately after the completion of this offering.
SUMMARY FINANCIAL DATA

The following tables set forth a summary of our historical financial data as of and for the periods ended on the dates indicated. The summary statements of operations data presented below for the years ended December 31, 2018 and 2019 are derived from our audited financial statements included elsewhere in this prospectus. The summary statements of operations data for the six months ended June 30, 2019 and 2020 and our summary balance sheet data as of June 30, 2020 are derived from our unaudited interim financial statements included elsewhere in this prospectus. Our unaudited interim financial statements have been prepared in accordance with generally accepted accounting principles in the United States, or GAAP, on the same basis as our audited annual financial statements and, in the opinion of management, reflect all adjustments, consisting only of normal, recurring adjustments, necessary for the fair presentation of those unaudited interim financial statements. The following summary financial data should be read in conjunction with “Selected Financial Data,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and our financial statements and related notes included elsewhere in this prospectus.

<table>
<thead>
<tr>
<th>Statements of Operations Data:</th>
<th>Year ended December 31</th>
<th>Six months ended June 30, (unaudited)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaboration revenue—related party</td>
<td>$22,442</td>
<td>$9,887</td>
</tr>
<tr>
<td>Operating expenses:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research and development</td>
<td>24,807</td>
<td>29,218</td>
</tr>
<tr>
<td>General and administrative</td>
<td>3,783</td>
<td>5,736</td>
</tr>
<tr>
<td>Loss from operations</td>
<td>(6,148)</td>
<td>(25,067)</td>
</tr>
<tr>
<td>Other income (expense)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest income</td>
<td>966</td>
<td>1,184</td>
</tr>
<tr>
<td>Interest expense</td>
<td>(2,631)</td>
<td>—</td>
</tr>
<tr>
<td>Gain on the extinguishment of notes payable</td>
<td>782</td>
<td>—</td>
</tr>
<tr>
<td>Other</td>
<td>(357)</td>
<td>(99)</td>
</tr>
<tr>
<td>Total other income (expense)</td>
<td>(1,240)</td>
<td>1,085</td>
</tr>
<tr>
<td>Net loss</td>
<td>$(7,388)</td>
<td>$(23,982)</td>
</tr>
<tr>
<td>Net loss per share—basic and diluted(1)</td>
<td>$(6.83)</td>
<td>$(21.74)</td>
</tr>
<tr>
<td>Weighted-average shares outstanding—basic and diluted(1)</td>
<td>1,081,936</td>
<td>1,103,190</td>
</tr>
<tr>
<td>Pro forma net loss per share—basic and diluted(1)</td>
<td>—</td>
<td>$10.92</td>
</tr>
<tr>
<td>Pro forma weighted-average shares outstanding—basic and diluted(1)</td>
<td>2,196,209</td>
<td>2,785,497</td>
</tr>
</tbody>
</table>

(1) See Note 2 to our audited financial statements and Note 2 to our unaudited financial statements included elsewhere in this prospectus for a description of how we compute net loss per share—basic and diluted, pro forma net loss per common share—basic and diluted, and the weighted-average shares outstanding—basic and diluted, in each case, used in the computation of these per share amounts.
<table>
<thead>
<tr>
<th>Balance Sheet Data:</th>
<th>As of June 30, 2020</th>
<th>Pro Forma As Adjusted(2)(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Actual</td>
<td>Pro Forma(1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(unaudited)</td>
</tr>
<tr>
<td>Cash and cash equivalents and short-term investments</td>
<td>$147,534</td>
<td>$147,534</td>
</tr>
<tr>
<td>Working capital(4)</td>
<td>138,282</td>
<td>138,282</td>
</tr>
<tr>
<td>Total assets</td>
<td>155,544</td>
<td>155,544</td>
</tr>
<tr>
<td>Total liabilities</td>
<td>36,464</td>
<td>36,464</td>
</tr>
<tr>
<td>Total redeemable convertible preferred stock</td>
<td>166,109</td>
<td>—</td>
</tr>
<tr>
<td>Total stockholders’ (deficit) equity</td>
<td>(47,029)</td>
<td>119,080</td>
</tr>
</tbody>
</table>

(1) Reflects the automatic conversion of all outstanding shares of our redeemable convertible preferred stock into an aggregate of shares of common stock upon the closing of this offering.

(2) Reflects the pro forma adjustments described in footnote (1) and the sale by us of shares of common stock in this offering at the assumed initial public offering price of per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

(3) Pro forma as adjusted information is illustrative only and will change based on the actual initial public offering price and other terms of this offering determined at pricing. Each $1.00 increase or decrease in the assumed initial public offering price of per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease pro forma as adjusted cash and cash equivalents and short-term investments, working capital, total assets, and total stockholders’ equity by approximately $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. A share increase or decrease in the number of shares offered by us would increase or decrease pro forma as adjusted cash and cash equivalents and short-term investments, working capital, total assets, and total stockholders’ equity by approximately $ million, assuming that the assumed initial price to public remains the same, and after deducting estimated underwriting discounts and commissions payable by us.

(4) We define working capital as current assets less current liabilities. See our audited and unaudited financial statements and accompanying notes included elsewhere in this prospectus for further details regarding our current assets and our current liabilities.
Investing in shares of our common stock involves a high degree of risk. You should carefully consider the following risks and uncertainties, together with all of the other information contained in this prospectus, including our financial statements and related notes included elsewhere in this prospectus, before making an investment decision. The risks described below are not the only ones facing us. Many of the following risks and uncertainties are, and will be, exacerbated by the COVID-19 pandemic and any worsening of the global business and economic environment as a result. The occurrence of any of the following risks, or of additional risks and uncertainties not presently known to us or that we currently believe to be immaterial, could materially and adversely affect our business, financial condition, reputation, or results of operations. In such case, the trading price of shares of our common stock could decline, and you may lose all or part of your investment.

Risks Related to Our Business

We are an early clinical-stage biotechnology company and have incurred significant losses since our inception and we expect to incur losses for the foreseeable future. We have no products approved for commercial sale and may never achieve or maintain profitability.

We are a clinical-stage biotechnology company with a limited operating history. Biotechnology product development is a highly speculative undertaking and involves a substantial degree of risk. We have incurred significant operating losses since inception. For the years ended December 31, 2018 and 2019 and for the six months ended June 30, 2020, we reported a net loss of $7.4 million, $24.0 million, and $12.8 million, respectively. As of June 30, 2020, we have an accumulated deficit of $48.3 million. Our losses have resulted principally from expenses incurred in the research and development of our product candidates and from management and administrative costs and other expenses that we have incurred while building our business infrastructure. We expect to continue to incur significant operating losses for the foreseeable future as we continue our research and development efforts and seek to obtain regulatory approval and commercialization of our product candidates. We anticipate that our expenses will increase substantially as we:

- continue to advance the preclinical and clinical development of our lead product candidates;
- initiate preclinical studies and clinical trials for additional product candidates that we may identify in the future;
- expand our operational, financial, and management systems and increase personnel, including personnel to support our clinical development, manufacturing, and commercialization efforts;
- continue to develop, perfect, and defend our intellectual property portfolio; and
- incur additional legal, accounting, or other expenses in operating our business, including the additional costs associated with operating as a public company.

We have financed our operations to date primarily through private financings and payments received under a collaboration agreement. We have devoted a significant portion of our financial resources and efforts to developing our ARC platform, identifying potential product candidates, conducting preclinical studies of a variety of product candidates, and preparing for and conducting clinical trials of product candidates. We are in the early stages of development of our product candidates, and we have not completed development and commercialization of any product candidate.

To become and remain profitable, we must succeed in developing and eventually commercializing products that generate significant revenue. This will require us to be successful in a range of challenging activities, including completing preclinical testing and clinical trials of our product candidates, discovering and developing additional product candidates, obtaining regulatory approval for any product candidates that successfully complete clinical trials, accessing manufacturing capacity, establishing marketing capabilities, and ultimately selling any products for which we may obtain regulatory approval. We may never succeed in any or all of these activities and, even if we do, we may never generate revenue that is sufficient to achieve profitability.
Because of the numerous risks and uncertainties associated with pharmaceutical products and biological development, we are unable to accurately predict the timing or amount of increased expenses or when, or if, we will be able to achieve profitability. If we are required by the U.S. Food and Drug Administration, or FDA, or other regulatory authorities to perform studies in addition to those we currently anticipate, or if there are any delays in completing our clinical trials or the development of any of our product candidates, our expenses could increase and commercial revenue could be further delayed and more uncertain.

**Our limited operating history may make it difficult for you to evaluate the success of our business to date and to assess our future viability.**

Since our inception in 2016, we have devoted a significant portion of our resources to developing our product candidates, our other research and development efforts, building our intellectual property portfolio, raising capital, and providing general and administrative support for these operations. While we are evaluating SL-172154 in two ongoing Phase 1 clinical trials and are also evaluating SL-279252 in a Phase 1 clinical trial, we have not completed a clinical trial for any product candidate. We have not yet demonstrated our ability to successfully complete clinical trials (including Phase 3 or other pivotal clinical trials), obtain regulatory approvals, manufacture a commercial scale product or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful product commercialization. Additionally, we expect our financial condition and operating results to continue to fluctuate significantly from period to period due to a variety of factors, many of which are beyond our control. Consequently, any predictions you may make about our future success or viability may not be as accurate as they could be if we had a longer operating history.

**We will require additional funding in order to complete development of our product candidates and commercialize our products, if approved. This additional financing may not be available on acceptable terms, or at all. If we are unable to raise capital when needed, we could be forced to delay, reduce, or eliminate our product development programs or commercialization efforts.**

To date, we have funded our operations primarily through private financings and payments received under a collaboration agreement. We expect our expenses to increase in connection with our ongoing activities, particularly as we conduct our ongoing clinical trials of SL-172154 and SL-279252, initiate additional clinical trials, and continue to research, develop, and conduct preclinical studies of our other product candidates.

In addition, if we obtain regulatory approval for any of our product candidates, we expect to incur significant commercialization expenses related to product manufacturing, marketing, sales, and distribution. Furthermore, upon the closing of this offering, we expect to incur additional costs associated with operating as a public company. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. If we are unable to raise capital when needed or on attractive terms, we could be forced to delay, reduce, or eliminate our research and development programs or any future commercialization efforts.

Based on our current business plans, we believe that the net proceeds from this offering, together with our existing cash and cash equivalents and short-term investments, will enable us to fund our operating expenses through . We have based this estimate on assumptions that may prove to be wrong, and we could use our capital resources sooner than we currently expect, requiring us to seek additional funds sooner than planned, through public or private equity or debt financings or other sources, such as strategic collaborations. In addition, we may seek additional capital due to favorable market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. Attempting to secure additional financing may divert our management from our day-to-day activities, which may adversely affect our ability to develop our product candidates. Our future capital requirements will depend on many factors, including:

- the scope, timing, progress, costs, and results of discovery, preclinical development, laboratory testing, and clinical trials for our product candidates;
- the costs, timing, and outcome of regulatory review of any of our product candidates;
The cost of manufacturing clinical supplies of our product candidates;

the costs and timing of future commercialization activities, including manufacturing, marketing, sales, and distribution, for any of our product candidates for which we receive marketing approval;

the timing and amount of any milestone, royalty, or other payments we are required to make pursuant to any current or future collaboration or license agreements;

the progress of our collaboration with Takeda to develop product candidates;

the costs and timing of preparing, filing, and prosecuting patent applications, maintaining and enforcing our intellectual property rights, and defending any intellectual property-related claims, including any claims by third parties that we are infringing upon their intellectual property rights;

our ability to maintain existing, and establish new, strategic collaborations, licensing, or other arrangements and the financial terms of any such agreements, including the timing and amount of any future milestone, royalty, or other payments due under any such agreement;

the cost of building a sales force in anticipation of product commercialization;

the revenue, if any, received from commercial sales of our product candidates for which we receive marketing approval;

the effect of competing technological and market developments; and

the extent to which we acquire or invest in business, products, and technologies, including our collaboration with Takeda and any other licensing or collaboration arrangements for any of our product candidates.

Our ability to raise additional funds will depend on financial, economic, and market conditions and other factors, over which we may have no or limited control. Market volatility resulting from the COVID-19 pandemic or other factors could also adversely impact our ability to access capital as and when needed. Additional funds may not be available when we need them, on terms that are acceptable to us or at all. If adequate funds are not available to us on a timely basis, we could be required to:

- delay, limit, reduce, or terminate preclinical studies, clinical trials, or other research and development activities, or eliminate one or more of our development programs altogether;
- delay, limit, reduce, or terminate our efforts to access manufacturing capacity, establish sales and marketing capabilities or other activities that may be necessary to commercialize our product candidates, or reduce our flexibility in developing or maintaining our sales and marketing strategy.

Raising additional capital may cause dilution to our stockholders, restrict our operations, or require us to relinquish rights to our technologies or product candidates.

Until such time, if ever, as we can generate substantial product revenues, we expect to finance our operations with our existing cash and cash equivalents and short-term investments, the net proceeds from this offering, equity or debt financings, and upfront and milestone and royalties payments, if any, received under our collaboration with Takeda and any other future licenses or collaborations. If we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a holder of our common stock. In addition, the possibility of such issuance may cause the market price of our common stock to decline. Debt financing, if available, may result in increased fixed payment obligations and involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures, declaring dividends, or acquiring, selling, or licensing intellectual property rights, which could adversely impact our ability to conduct our business.

If we raise additional funds through collaborations, strategic alliances or marketing, distribution, or licensing arrangements with third parties, we may have to relinquish valuable rights to our intellectual property,
technologies, future revenue streams, or product candidates or grant licenses on terms that may not be favorable to us. We could also be required to seek funds through arrangements with collaborators or others at an earlier stage than otherwise would be desirable. Any of these occurrences may have a material adverse effect on our business, operating results, and prospects.

Public health crises such as pandemics or similar outbreaks could materially and adversely affect our preclinical and clinical trials, business, financial condition, and results of operations.

In March 2020, the World Health Organization declared COVID-19 a global pandemic and the United States declared a national emergency with respect to COVID-19. In response to the COVID-19 pandemic, “shelter in place” orders and other public health guidance measures have been implemented across much of the United States, including in the locations of our offices, clinical trial sites, key vendors, and partners. We have experienced delays in our clinical trial of SL-279252 as a result of the ongoing pandemic, including delays with certain third-party vendors supporting this trial. We temporarily paused enrollment of patients for our clinical trial of SL-279252 between March and May 2020 and we resumed enrollment in June 2020. As “shelter in place” orders and other public health guidance measures are reinstated in the locations of our clinical trial sites, we expect that some patients may also choose to forego one or more doses in our clinical trials, due to challenges faced by such patients in travelling to our clinical trial sites, which may negatively affect the study results. We expect that our clinical development program timelines may continue to be negatively affected by COVID-19, which could materially and adversely affect our business, financial condition, and results of operations. Further, due to “shelter in place” orders and other public health guidance measures, we may be required to implement a work-from-home policy for all staff members excluding those necessary to maintain minimum basic operations. In such an instance, our increased reliance on personnel working from home may negatively impact productivity, or disrupt, delay, or otherwise adversely impact our business.

As a result of the COVID-19 pandemic, or similar pandemics, and related “shelter in place” orders and other public health guidance measures, we have and may in the future experience disruptions that could materially and adversely impact our clinical trials, business, financial condition, and results of operations. Potential disruptions include but are not limited to:

- delays or difficulties in enrolling patients in our clinical trials;
- delays or difficulties in initiating or expanding clinical trials, including delays or difficulties with clinical site initiation and recruiting clinical site investigators and clinical site staff;
- increased rates of patients withdrawing from our clinical trials following enrollment as a result of contracting COVID-19 or other health conditions or being forced to quarantine;
- interruption of key clinical trial activities, such as clinical trial site data monitoring and efficacy, safety and translational data collection, processing and analyses, due to limitations on travel imposed or recommended by federal, state, or local governments, employers and others or interruption of clinical trial subject visits, which may impact the collection and integrity of subject data and clinical study endpoints;
- diversion of healthcare resources away from the conduct of clinical trials, including the diversion of hospitals serving as our clinical trial sites and hospital staff supporting the conduct of our clinical trials;
- delays or disruptions in preclinical experiments and IND-enabling studies due to restrictions of on-site staff and unforeseen circumstances at contract research organizations, or CROs, and vendors;
- interruption or delays in the operations of the FDA and comparable foreign regulatory agencies;
- interruption of, or delays in receiving, supplies of our product candidates from our contract manufacturing organizations due to staffing shortages, production slowdowns, or stoppages and disruptions in delivery systems;
delays in receiving approval from local regulatory authorities to initiate our planned clinical trials;

- limitations on employee or other resources that would otherwise be focused on the conduct of our clinical trials and pre-clinical work, including because of sickness of employees or their families, the desire of employees to avoid travel or contact with large groups of people, an increased reliance on working from home, school closures, or mass transit disruptions;

- changes in regulations as part of a response to the COVID-19 pandemic which may require us to change the ways in which our clinical trials are conducted, which may result in unexpected costs, or to discontinue the clinical trials altogether;

- delays in necessary interactions with regulators, ethics committees and other important agencies and contractors due to limitations in employee resources or forced furlough of government or contractor personnel; and

- refusal of the FDA to accept data from clinical trials in affected geographies outside the United States.

The COVID-19 global pandemic continues to rapidly evolve. The extent to which the outbreak may affect our clinical trials, business, financial condition, and results of operations will depend on future developments, which are highly uncertain and cannot be predicted at this time, such as the ultimate geographic spread of the disease, the duration of the outbreak, travel restrictions, and actions to contain the outbreak or treat its impact, such as social distancing and quarantines or lock-downs in the United States and other countries, business closures, or business disruptions and the effectiveness of actions taken in the United States and other countries to contain and treat the disease. Future developments in these and other areas present material uncertainty and risk with respect to our clinical trials, business, financial condition, and results of operations.

If we or our collaborators are unable to successfully develop and commercialize our product candidates, or experience significant delays in doing so, our business, financial condition, and results of operations will be materially adversely affected.

Our ability to generate product and royalty revenues, which we do not expect will occur for at least the next several years, if ever, will depend heavily on the successful development and eventual commercialization of our product candidates, which may never occur. We currently generate no revenue from sales of any products, and we may never be able to develop or commercialize a marketable product. Each of our product candidates and any future product candidates we develop will require significant clinical development; management of clinical, preclinical, and manufacturing activities; regulatory approval in multiple jurisdictions; establishing manufacturing supply, including commercial manufacturing supply; and require us to build a commercial organization and make substantial investment and significant marketing efforts before we generate any revenue from product sales. We are not permitted to market or promote any of our product candidates before we receive regulatory approval from the FDA or comparable foreign regulatory authorities, and we may never receive such regulatory approval for any of our product candidates.

The successful development of our product candidates will depend on several factors, including the following:

- successful and timely completion of clinical trials and preclinical studies for which the FDA, or any comparable foreign regulatory authority agree with the design, endpoints, or implementation;

- sufficiency of our financial and other resources to complete the necessary preclinical studies and clinical trials;

- receiving regulatory approvals or authorizations for conducting our planned clinical trials or future clinical trials;

- initiation and successful patient enrollment in, and completion of, additional clinical trials on a timely basis;
our ability to demonstrate to the satisfaction of the FDA or any comparable foreign regulatory authority that the applicable product candidate is safe and effective as a treatment for our targeted indications or, in the case of an applicable product candidates which is regulated as a biological product, that the applicable product is safe, pure, and potent for our targeted indications;

• our ability to demonstrate to the satisfaction of the FDA or any comparable foreign regulatory authority that the applicable product candidate’s risk-benefit ratio for its proposed indication is acceptable;

• timely receipt of marketing approvals for our product candidates from applicable regulatory authorities;

• the extent of any required post-marketing approval commitments to applicable regulatory authorities; and

• establishing and scaling up, either alone or with third-party manufacturers, manufacturing capabilities of clinical supply for our clinical trials and commercial manufacturing, if any of our product candidates are approved.

If we do not achieve one or more of these factors in a timely manner or at all, we could experience significant delays or an inability to successfully develop and commercialize our product candidates, which would materially adversely affect our business, financial condition, and results of operations.

Our ARC platform is based on novel technologies that are unproven and may not result in approvable or marketable products, which exposes us to unforeseen risks and makes it difficult for us to predict the time and cost of product development and potential for regulatory approval, and we may not be successful in our efforts to use and expand our technology platforms, including ARC and GADLEN, to build a pipeline of product candidates.

We are developing a pipeline of product candidates using our proprietary ARC platform. We have not received regulatory approval for any of ARC product candidates. The scientific research that forms the basis of our efforts to develop product candidates with our ARC platform is still ongoing. Further, the scientific evidence to support the feasibility of developing therapeutic treatments based on our ARC platform is both preliminary and limited. Given the novelty of our technologies, we intend to work closely with the FDA and other regulatory authorities to perform the requisite scientific analyses and evaluation of our methods to obtain regulatory approval for our product candidates. The validation process takes time and resources, may require independent third-party analyses, and may not be accepted by the FDA and other regulatory authorities. We cannot be certain that our approach will lead to the development of approvable or marketable products, alone or in combination with other therapies. Our approach combines two binding domains to create fusion proteins that potentially restore and enhance immune system function in a single construct, which approach is unproven and may not be successful. To our knowledge, our dual-sided fusion protein product candidates have not been tested before in humans and may have properties that negatively impact safety and efficacy, such as greater immunogenicity when compared to existing antibody therapeutics. Moreover, the dual-sided nature of our product candidates may have unexpected biological interactions when administered in vivo. For example, it may be necessary to either implement a loading dose strategy or delay enrollment of patients recently treated with anti-PD-1 antibodies to mitigate interactions between anti-PD-1 antibodies and SL-279252. Finally, the FDA or other regulatory agencies may lack experience in evaluating the safety and efficacy of our ARC platform, which could result in a longer than expected regulatory review process, increase our expected development costs, and delay or prevent commercialization of our product candidates.

Additionally, a key element of our strategy is to use and expand our technology platforms, including ARC and GADLEN, to build a pipeline of product candidates and progress these product candidates through clinical development for the treatment of a variety of different types of diseases. Although our research and development efforts to date have resulted in a pipeline of product candidates directed at various cancers and autoimmune diseases, we may not be able to develop product candidates that are safe and effective. Even if we are successful in continuing to build our pipeline, the potential product candidates that we identify may not be suitable for clinical development, including as a result of being shown to have harmful side effects or other characteristics.
that indicate that they are unlikely to be products that will receive marketing approval and achieve market acceptance. If we do not continue to successfully develop and begin to commercialize product candidates, we will face difficulty in obtaining product revenues in future periods, which could result in significant harm to our financial position and adversely affect our share price.

We expect to continue to expand our development and regulatory capabilities, and as a result, we may encounter difficulties in managing our growth, which could disrupt our operations.

As of June 30, 2020, we had 45 full-time employees. We expect to experience continued growth in the number of our employees and the scope of our operations, particularly in the areas of drug development, regulatory affairs and, ultimately, sales and marketing. To manage our anticipated future growth, we must continue to implement and improve our managerial, operational, and financial systems; expand our facilities; and continue to recruit and train additional qualified personnel. Due to our limited financial resources and the limited experience of our management team in managing a company with such anticipated growth, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. The expansion of our operations may lead to significant costs and may divert our management and business development resources. Any inability to manage growth could delay the execution of our business plans or disrupt our operations.

In addition, future growth imposes significant added responsibilities on members of management, including: identifying, recruiting, integrating, maintaining, and motivating additional employees; managing our internal development efforts effectively, including the clinical and FDA review process for our product candidates, while complying with our contractual obligations to contractors and other third parties; and improving our operational, financial and management controls, reporting systems, and procedures.

We currently rely on certain independent organizations, advisors, and consultants to provide certain services, including strategic, financial, business development services, as well as certain aspects of regulatory approval, clinical management, manufacturing, and preparation for a potential commercial launch. There can be no assurance that the services of independent organizations, advisors, and consultants will continue to be available to us on a timely basis when needed, or that we can find qualified replacements. In addition, if we are unable to effectively manage our outsourced activities or if the quality or accuracy of the services provided by consultants or contract manufacturing organizations is compromised for any reason, our clinical trials may be extended, delayed, or terminated, and we may not be able to obtain regulatory approval of our product candidates or otherwise advance our business. There can be no assurance that we will be able to manage our existing consultants or find other competent outside contractors and consultants on economically reasonable terms, or at all.

Our future growth and ability to compete depends on retaining our key personnel and recruiting additional qualified personnel.

Our success depends upon the continued contributions of our key management, scientific, and technical personnel, many of whom have been instrumental for us and have substantial experience with our product candidates and related technologies. The loss of key managers and senior scientists could delay our research and development activities. Despite our efforts to retain valuable employees, members of our management, scientific, and development teams may terminate their employment with us on short notice. Although we have employment agreements with certain of our key employees, these employment agreements provide for at-will employment, which means that any of our employees could leave our employment at any time, with or without notice. In addition, the competition for qualified personnel in the biotechnology and pharmaceutical industries is intense, and our future success depends upon our ability to attract, retain, and motivate highly-skilled scientific, technical, and managerial employees. We face competition for personnel from other companies, universities, public and private research institutions, and other organizations. If our recruitment and retention efforts are unsuccessful in the future, it may be difficult for us to implement our business strategy, which could have a material adverse effect on our business.
Risks Related to the Development and Clinical Testing of Our Product Candidates

Our clinical trials may fail to demonstrate substantial evidence of the safety and efficacy of our product candidates or any future product candidates, which would prevent or delay or limit the scope of regulatory approval and commercialization.

To obtain the requisite regulatory approvals to market and sell any of our product candidates and any other future product candidates, we must demonstrate through extensive preclinical studies and clinical trials that our investigational drug products are safe and effective for use in each targeted indication. Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. Failure can occur at any time during the clinical development process. Most product candidates that begin clinical trials are never approved by regulatory authorities for commercialization. We may be unable to establish clinical endpoints that applicable regulatory authorities would consider clinically meaningful, and a clinical trial can fail at any stage of testing.

Further, the process of obtaining regulatory approval is expensive, often takes many years following the commencement of clinical trials, and can vary substantially based upon the type, complexity, and novelty of the product candidates involved, as well as the target indications, patient population, and regulatory agency. Prior to obtaining approval to commercialize our product candidates and any future product candidates in the United States or abroad, we, our collaborators or our potential future collaborators must demonstrate with substantial evidence from adequate and well-controlled clinical trials, and to the satisfaction of the FDA or comparable foreign regulatory authorities, that such product candidates are safe and effective for their intended uses.

Clinical trials that we conduct may not demonstrate the efficacy and safety necessary to obtain regulatory approval to market our product candidates. In some instances, there can be significant variability in safety or efficacy results between different clinical trials of the same product candidate due to numerous factors, including changes in trial procedures set forth in protocols, differences in the size and type of the patient populations, changes in and adherence to the clinical trial protocols, and the rate of dropout among clinical trial participants. If the results of our ongoing or future clinical trials are inconclusive with respect to the efficacy of our product candidates, if we do not meet the clinical endpoints with statistical and clinically meaningful significance, or if there are safety concerns associated with our product candidates, we may be delayed in obtaining marketing approval, if at all. Additionally, any safety concerns observed in any one of our clinical trials in our targeted indications could limit the prospects for regulatory approval of our product candidates in those and other indications.

Even if the trials are successfully completed, clinical data are often susceptible to varying interpretations and analyses, and we cannot guarantee that the FDA or comparable foreign regulatory authorities will interpret the results as we do, and more trials could be required before we submit our product candidates for approval. We cannot guarantee that the FDA or comparable foreign regulatory authorities will view our product candidates as having efficacy even if positive results are observed in clinical trials. Moreover, results acceptable to support approval in one jurisdiction may be deemed inadequate by another regulatory authority to support regulatory approval in that other jurisdiction. To the extent that the results of the trials are not satisfactory to the FDA or comparable foreign regulatory authorities for support of a marketing application, approval of our product candidates and any future product candidates may be significantly delayed, or we may be required to expend significant additional resources, which may not be available to us, to conduct additional trials in support of potential approval of our product candidates. Even if regulatory approval is secured for a product candidate, the terms of such approval may limit the scope and use of the specific product candidate, which may also limit its commercial potential.
Interim, topline or preliminary data from our clinical trials that we announce or publish from time to time may change as more patient data becomes available and are subject to audit and verification procedures that could result in material changes in the final data.

From time to time, we may publicly disclose preliminary or topline or data from our preclinical studies and clinical trials, which is based on a preliminary analysis of then-available data, and the results and related findings and conclusions are subject to change following a more comprehensive review of the data related to the particular study or trial. We also make assumptions, estimations, calculations, and conclusions as part of our analyses of data, and we may not have received or had the opportunity to fully and carefully evaluate all data. As a result, the topline results that we report may differ from future results of the same studies, or different conclusions or considerations may qualify such results, once additional data have been received and fully evaluated. Topline data also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published. As a result, topline data should be viewed with caution until the final data are available.

From time to time, we may also disclose interim data from our preclinical studies and clinical trials. Interim data from clinical trials that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data become available. Adverse differences between preliminary or interim data and final data could significantly harm our business prospects. Further, disclosure of interim data by us or by our competitors could result in volatility in the price of our common stock.

Further, others, including regulatory agencies, may not accept or agree with our assumptions, estimates, calculations, conclusions, or analyses or may interpret or weigh the importance of data differently, which could impact the value of the particular program, the approvability or commercialization of the particular product candidate or product, and our company in general. If the interim, topline, or preliminary data that we report differ from actual results, or if others, including regulatory authorities, disagree with the conclusions reached, our ability to obtain approval for, and commercialize, our product candidates may be harmed, which could harm our business, operating results, prospects, or financial condition.

Results of preclinical studies of our product candidates may not be predictive of the results of future preclinical studies or clinical trials.

To obtain the requisite regulatory approvals to market and sell any of our product candidates, we or any collaborator for such candidates must demonstrate through extensive preclinical studies and clinical trials that our product candidates are safe, pure, and potent in humans. Before an IND can be submitted to the FDA and become effective, which is a prerequisite for conducting clinical trials on human subjects, a product candidate must successfully progress through extensive preclinical studies, which include preclinical laboratory testing, animal studies, and formulation studies in accordance with Good Laboratory Practices.

Success in preclinical studies does not ensure that later preclinical studies or clinical trials will be successful. A number of companies in the biotechnology and pharmaceutical industries have suffered significant setbacks in clinical trials, even after positive results in earlier preclinical studies. These setbacks have been caused by, among other things, preclinical findings made while clinical trials were underway and safety or efficacy observations made in clinical trials, including previously unreported adverse events. The design of a clinical trial can determine whether its results will support approval of a product, and flaws in the design of a clinical trial may not become apparent until the clinical trial is well advanced. In addition, preclinical and clinical data are often susceptible to varying interpretations and analyses. Notwithstanding any potential promising results in earlier studies, we cannot be certain that we will not face similar setbacks. In addition, the results of our preclinical animal studies, including our non-human primate studies, may not be predictive of the results of outcomes in subsequent clinical trials on human subjects. Product candidates in clinical trials may fail to show the desired pharmacological properties or safety and efficacy traits despite having progressed through preclinical studies.
If we fail to receive positive results in preclinical studies or clinical trials of our product candidates, the development timeline and regulatory approval and commercialization prospects for our most advanced product candidates, and, correspondingly, our business and financial prospects would be negatively impacted.

All of our product candidates are in preclinical or early-stage clinical development. Clinical drug development is a lengthy and expensive process with uncertain timelines and uncertain outcomes. If clinical trials of our product candidates are prolonged or delayed, we or any collaborators may be unable to obtain required regulatory approvals, and therefore be unable to commercialize our product candidates on a timely basis or at all.

Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. Failure can occur at any time during the clinical trial process. Product candidates in later stages of clinical trials may fail to produce the same results or to show the desired safety and efficacy traits despite having progressed through preclinical studies and initial clinical trials. Our future clinical trial results may not be successful.

Additionally, some of our trials, including our ongoing Phase 1 trials evaluating SL-279252 and Phase 1 trial evaluating SL-172154, are open-label trials in which both the patient and investigator know whether the patient is receiving the investigational product candidate or an existing approved therapy. Open-label clinical trials are subject to various limitations that may exaggerate any therapeutic effect, as patients in open-label clinical trials are aware when they are receiving treatment. In addition, open-label clinical trials may be subject to an “investigator bias” where those assessing and reviewing the physiological outcomes of the clinical trials are aware of which patients have received treatment and may interpret the information of the treated group more favorably given this knowledge. Therefore, it is possible that positive results observed in open-label trials will not be replicated in later placebo-controlled trials.

To date, we have not completed any clinical trials required for the approval of our product candidates. We may experience delays in our ongoing clinical trials, and we do not know whether planned clinical trials will begin on time, need to be redesigned, enroll patients on time, or be completed on schedule, if at all. Clinical trials can be delayed, suspended, or terminated for a variety of reasons, including the following:

- delays in or failure to obtain regulatory authorization to commence a trial;
- delays in or failure to obtain institutional review board, or IRB, approval at each site;
- delays in or failure to reach agreement on acceptable terms with prospective contract research organizations, or CROs, and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- difficulty in recruiting clinical trial investigators of appropriate competencies and experience;
- delays in establishing the appropriate dosage levels in clinical trials;
- delays in or failure to recruit and enroll suitable patients to participate in a trial, particularly considering study inclusion and exclusion criteria and patients’ prior lines of therapy and treatment;
- the difficulty in certain countries in identifying the sub-populations that we are trying to treat in a particular trial, which may delay enrollment and reduce the power of a clinical trial to detect statistically significant results;
- lower than anticipated retention rates of patients in clinical trials;
- failure to have patients complete a trial or return for post-treatment follow-up;
- clinical sites deviating from trial protocol or dropping out of a trial;
- delays adding new investigators or clinical trial sites;
- safety or tolerability concerns could cause us or our collaborators or governmental authorities, as applicable, to suspend or terminate a trial if it is found that the participants are being exposed to
unacceptable health risks, undesirable side effects, or other unfavorable characteristics of the product candidate, or if such undesirable effects or risks are found to be caused by a chemically or mechanistically similar therapeutic or therapeutic candidate;

• our third-party research contractors failing to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all;

• changes in regulatory requirements, policies, and guidelines;

• manufacturing sufficient quantities of a product candidate for use in clinical trials;

• the quality or stability of a product candidate falling below acceptable standards;

• changes in the treatment landscape for our target indications that may make our product candidates no longer relevant;

• third-party actions claiming infringement by our product candidates in clinical trials outside the United States and obtaining injunctions interfering with our progress; and

• business interruptions resulting from geo-political actions, including war and terrorism, natural disasters including earthquakes, typhoons, floods, and fires, or disease, including the COVID-19 pandemic.

In addition, disruptions caused by the COVID-19 pandemic may increase the likelihood that we encounter such difficulties or delays in initiating, enrolling, conducting, or completing our planned and ongoing clinical trials. Moreover, while we plan to submit additional INDs for other drug candidates, we may not be able to file such INDs on the timeline we expect. For example, we may experience manufacturing delays or other delays with IND-enabling preclinical studies. Moreover, we cannot be sure that submission of an IND will result in the FDA allowing clinical trials to begin, or that, once begun, issues will not arise that suspend or terminate clinical trials. Additionally, even if such regulatory authorities agree with the design and implementation of the clinical trials set forth in an IND, we cannot guarantee that such regulatory authorities will not change their requirements in the future. These considerations also apply to new clinical trials we may submit as amendments to existing INDs.

Clinical trials must be conducted in accordance with the FDA and other applicable regulatory authorities’ legal requirements, regulations or guidelines, and are subject to oversight by these governmental agencies and Ethics Committees or IRBs at the medical institutions where the clinical trials are conducted. We could encounter delays if a clinical trial is suspended or terminated by us, by the IRBs or Ethics Committees of the institutions in which such trials are being conducted, by the Data Review Committee or Data Safety Monitoring Board for such trial or by the FDA, or other regulatory authorities. Such authorities may impose such a suspension or termination due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a drug, changes in governmental regulations or administrative actions, or lack of adequate funding to continue the clinical trial. If we experience delays in the completion of, or termination of, any clinical trial of our product candidates, the commercial prospects of our product candidates will be harmed, and our ability to generate product revenues from any of these product candidates will be delayed. In addition, any delays in completing our clinical trials will increase our costs, slow down our product candidate development and approval process, and jeopardize our ability to commence product sales and generate revenues. Significant clinical trial delays could also allow our competitors to bring products to market before we do or shorten any periods during which we have the exclusive right to commercialize our product candidates and impair our ability to commercialize our product candidates and may harm our business and results of operations.

In addition, clinical trials must be conducted with supplies of our product candidates produced under current good manufacturing practices, or cGMP, requirements and other regulations. Furthermore, we rely on CROs and
clinical trial sites to ensure the proper and timely conduct of our clinical trials and while we have agreements governing their committed activities, we have limited influence over their actual performance. We depend on our collaborators and on medical institutions and CROs to conduct our clinical trials in compliance with good clinical practice, or GCP, requirements. To the extent our collaborators or the CROs fail to enroll participants for our clinical trials, fail to conduct the study in accordance with GCP, or are delayed for a significant time in the execution of trials, including achieving full enrollment, we may be affected by increased costs, program delays, or both, which may harm our business. In addition, clinical trials that are conducted in countries outside the United States may subject us to further delays and expenses as a result of increased shipment costs, additional regulatory requirements, and the engagement of non-U.S. CROs, as well as expose us to risks associated with clinical investigators who are unknown to the FDA, and different standards of diagnosis, screening, and medical care.

Our product candidates may have serious adverse, undesirable, or unacceptable side effects or other properties that may delay or prevent marketing approval. If such side effects are identified following approval, if any, the commercial profile of any approved label may be limited, or we may be subject to other significant negative consequences following marketing approval, if any.

Undesirable side effects that may be caused by our product candidates could cause us or regulatory authorities to interrupt, delay, or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or other comparable foreign authorities. While we believe that the targeted nature of our dual-sided fusion proteins may carry a lower risk of overstimulating the immune system and causing a cytokine storm (a side effect associated with certain other antibody therapies), we do not have enough clinical data and experience with these molecules in humans to fully anticipate side effects. Accordingly, we may experience unexpected side effects and/or higher levels of known side effects in clinical trials, such as cytokine storms associated with immune checkpoint inhibitors or red blood cell lysis associated with SIRPα therapies.

Results of our clinical trials could reveal a high and unacceptable severity and prevalence of these or other side effects. In such an event, our clinical trials could be suspended or terminated and the FDA or comparable foreign regulatory authorities could order us to cease further development or deny approval of our product candidates for any or all targeted indications. The drug-related side effects could affect patient recruitment or the ability of enrolled patients to complete the clinical trial or result in potential product liability claims. Any of these occurrences may harm our business, financial condition, and prospects significantly.

Further, clinical trials by their nature utilize a sample of the potential patient population. With a limited number of patients and limited duration of exposure, rare and severe side effects of our product candidates may only be uncovered with a significantly larger number of patients exposed to the product candidate.

In the event that any of our product candidates receives marketing approval and we or others later identify undesirable or unacceptable side effects caused by such products, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw or limit approvals of such products and require us to take our approved product off the market;
- regulatory authorities may require the addition of labeling statements, specific warnings, a contraindication or field alerts to physicians and pharmacies, or issue other communications containing warnings or other safety information about the product;
- regulatory authorities may require a medication guide outlining the risks of such side effects for distribution to patients, or that we implement a risk evaluation and mitigation strategy, or REMS, plan to ensure that the benefits of the product outweigh its risks;
- we may be required to change the dose or the way the product is administered, conduct additional clinical trials, or change the labeling of the product;
we may be subject to limitations on how we may promote or manufacture the product;

sales of the product may decrease significantly;

we may be subject to litigation or product liability claims; and

our reputation may suffer.

Any of these events could prevent us, our collaborators, or our potential future partners from achieving or maintaining market acceptance of the affected product or could substantially increase commercialization costs and expenses, which in turn could delay or prevent us from generating significant revenue from the sale of any products.

The manufacture of our product candidates is complex. Our third-party manufacturers may encounter difficulties in production, which could delay or entirely halt their ability to supply our product candidates for clinical trials or, if approved, for commercial sale.

Our product candidates are considered to be biologics and the process of manufacturing biologics is complex and requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. We do not own or operate any cGMP manufacturing facilities. We rely, and expect to continue to rely, on third-party contract development and manufacturing organizations for the manufacture of our product candidates for preclinical and clinical testing. To date, we and our contract manufacturers have limited experience in the manufacturing of cGMP batches of our product candidates. Our contract manufacturers must comply with cGMPs, regulations, and guidelines for the manufacturing of biologics used in clinical trials and, if approved, marketed products. To date, we and our contract manufacturers have only produced smaller cGMP batches of our product candidates and have not scaled up the manufacturing process for later-stage clinical trials and commercialization. Larger scale manufacturing will require the development of new processes, including for the removal of impurities that are a normal byproduct of the manufacturing process. The nature of our dual-sided fusion proteins requires the development of novel manufacturing and purification processes, which could cause delays in the scale-up of manufacturing, as well as greater costs that could negatively impact the financial viability of our product candidates. Moreover, the nature of our dual-sided fusion proteins creates challenges for the stability of the drug substance, which has the potential to cause delays in completing clinical studies and potentially limiting clinical trial site locations based on applicable regulations.

The process of manufacturing our biologic product candidates is extremely susceptible to product loss due to contamination, oxidation, equipment failure, or improper installation or operation of equipment, vendor or operator error, inconsistency in yields, variability in product characteristics, and difficulties in scaling the production process. Even minor deviations from normal manufacturing processes could result in reduced production yields, product defects, and other supply disruptions. If microbial, viral, or other contaminations are discovered in our product candidates or in the manufacturing facilities in which our product candidates are made, this could lead to withdrawal of our products from the market, and such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination. Moreover, if the FDA determines that our third-party manufacturers are not in compliance with FDA laws and regulations, including those governing cGMPs, the FDA may deny BLA approval until the deficiencies are corrected or we replace the manufacturer in our BLA with a manufacturer that is in compliance.

Any adverse developments affecting manufacturing operations for our product candidates, if any are approved, may result in shipment delays, inventory shortages, lot failures, product withdrawals or recalls, or other interruptions in the supply of our products. We may also have to take inventory write-offs and incur other charges and expenses for products that fail to meet specifications as a result of defects or storage over an extended period of time, undertake costly remediation efforts, or seek more costly manufacturing alternatives. As part of our process development efforts, we also may make changes to our manufacturing processes at various points during development, for various reasons, such as controlling costs, achieving scale, decreasing processing.
time, increasing manufacturing success rate, or other reasons. Such changes carry the risk that they will not achieve their intended objectives, and any of these changes could cause our product candidates to perform differently and affect the results of our ongoing clinical trials or future clinical trials. In some circumstances, changes in the manufacturing process may require us to perform \textit{ex vivo} comparability studies and to collect additional data from patients prior to undertaking more advanced clinical trials.

\textbf{We depend on enrollment of patients in our clinical trials for our product candidates. If we experience delays or difficulties enrolling in our clinical trials, our research and development efforts and business, financial condition, and results of operations could be materially adversely affected.}

Successful and timely completion of clinical trials will require that we enroll a sufficient number of patient candidates. These trials and other trials we conduct may be subject to delays for a variety of reasons, including as a result of patient enrollment taking longer than anticipated, patient withdrawal, or adverse events. For example, we have experienced delays in our clinical trial of SL-279252 as a result of the ongoing pandemic. These types of developments could cause us to delay the trial or halt further development.

Our clinical trials will compete with other clinical trials that are in the same therapeutic areas as our product candidates, and this competition reduces the number and types of patients available to us, as some patients who might have opted to enroll in our trials may instead opt to enroll in a trial being conducted by one of our competitors. Moreover, enrolling patients in clinical trials for cancer therapies is challenging, as cancer patients will first receive the applicable standard of care. Many patients who respond positively to the standard of care antibody therapy, such as PD-1 checkpoint inhibitors, (and thus do not enroll in clinical trials) are believed to have tumor types that may have responded well to our product candidates. This may limit the number of eligible patients able to enroll in our clinical trials who have the potential to benefit from our drug candidates and could extend development timelines or increase costs for these programs. Patients who fail to respond positively to the standard of care treatment will be eligible for clinical trials of unapproved drug candidates. However, these patients may have either compromised immune function from prior administration of chemotherapy or an enhanced immune response from the prior administration of checkpoint inhibitors. Either of these prior treatment regimens may render our therapies less effective in clinical trials. We may seek to mitigate these effects in the future through modification of enrollment eligibility criteria, including patients with tumor types that are not typically responsive to anti-PD-1 antibodies, or pursuing combination regimens early in clinical development to enable access to anti-PD-1 native patients. Additionally, patients who have failed approved therapies will typically have more advanced cancer and a poorer long-term prognosis.

Because the number of qualified clinical investigators and clinical trial sites is limited, we expect to conduct some of our clinical trials at the same clinical trial sites that some of our competitors use, which will reduce the number of patients who are available for our clinical trials at such clinical trial sites.

Patient enrollment depends on many factors, including:

- the size and nature of the patient population;
- the severity of the disease under investigation;
- eligibility criteria for the trial;
- the proximity of patients to clinical sites;
- the design of the clinical protocol;
- the ability to obtain and maintain patient consents;
- the ability to recruit clinical trial investigators with the appropriate competencies and experience;
- the risk that patients enrolled in clinical trials will drop out of the trials before the administration of our product candidates or trial completion;
The availability of competing clinical trials; the availability of new drugs approved for the indication the clinical trial is investigating; and clinicians’ and patients’ perceptions as to the potential advantages of the drug being studied in relation to other available therapies. These factors may make it difficult for us to enroll enough patients to complete our clinical trials in a timely and cost-effective manner. Delays in the completion of any clinical trial of our product candidates will increase our costs, slow down our product candidate development and approval process, and delay or potentially jeopardize our ability to commence product sales and generate revenue. In addition, some of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of our product candidates.

We may become exposed to costly and damaging liability claims, either when testing our product candidates in the clinic or at the commercial stage, and our product liability insurance may not cover all damages from such claims.

We are exposed to potential product liability and professional indemnity risks that are inherent in the research, development, manufacturing, marketing, and use of pharmaceutical products. While we currently have no products that have been approved for commercial sale, the current and future use of product candidates by us and our partners in clinical trials, and the sale of any approved products in the future, may expose us to liability claims. These claims might be made by patients that use the product, healthcare providers, pharmaceutical companies, our partners, or others selling such products. Any claims against us, regardless of their merit, could be difficult and costly to defend and could materially adversely affect the market for our product candidates or any prospects for commercialization of our product candidates. Although the clinical trial process is designed to identify and assess potential side effects, it is always possible that a drug, even after regulatory approval, may exhibit unforeseen side effects. If any of our product candidates were to cause adverse side effects during clinical trials or after approval of the product candidate, we may be exposed to substantial liabilities. Physicians and patients may not comply with any warnings that identify known potential adverse effects and patients who should not use our product candidates. Even successful defense against product liability claims would require significant financial and management resources. Regardless of the merits or eventual outcome, liability claims may result in: decreased demand for our product candidates; injury to our reputation; withdrawal of clinical trial participants; initiation of investigations by regulators; costs to defend the related litigation; a diversion of management’s time and our resources; substantial monetary awards to trial participants or patients; product recalls, withdrawals or labeling, marketing or promotional restrictions; loss of revenue; exhaustion of any available insurance and our capital resources; the inability to commercialize any product candidate; and a decline in our share price.

Although we maintain adequate product liability insurance for our product candidates, it is possible that our liabilities could exceed our insurance coverage. We intend to expand our insurance coverage to include the sale of commercial products if we obtain marketing approval for any of our product candidates. However, we may be unable to maintain insurance coverage at a reasonable cost or obtain insurance coverage that will be adequate to satisfy any liability that may arise. If a successful product liability claim or series of claims is brought against us for uninsured liabilities or in excess of insured liabilities, our assets may not be sufficient to cover such claims, and our business operations could be impaired.
The development and commercialization of biopharmaceutical products is subject to extensive regulation, and the regulatory approval processes of the FDA and comparable foreign authorities are lengthy, time-consuming, and inherently unpredictable. If we are ultimately unable to obtain regulatory approval for our product candidates on a timely basis if at all, our business will be substantially harmed.

The clinical development, manufacturing, labeling, packaging, storage, recordkeeping, advertising, promotion, export, import, marketing, distribution, adverse event reporting, including the submission of safety and other post-marketing information and reports, and other possible activities relating to our product candidates are subject to extensive regulation. In the United States, marketing approval of biologics requires the submission of a Biologics License Application, or BLA, to the FDA, and we are not permitted to market any product candidate in the United States until we obtain approval from the FDA of the BLA for that product candidate. A BLA must be supported by extensive clinical and preclinical data, as well as extensive information regarding pharmacology, chemistry, manufacturing, and controls. Outside the United States, many comparable foreign regulatory authorities employ similar approval processes.

We have not previously submitted a BLA to the FDA or similar regulatory approval filings to comparable foreign authorities, for any product candidate, and we cannot be certain that any of our product candidates will receive regulatory approval. We are not permitted to market our product candidates in the United States or in other countries until we receive approval of a BLA from the FDA or marketing approval from applicable regulatory authorities outside the United States. Obtaining approval of a BLA can be a lengthy, expensive, and uncertain process, and as a company we have no experience with the preparation of a BLA submission or any other application for marketing approval. In addition, the FDA has the authority to require a risk evaluation and mitigation strategies, or REMS, plan as part of a BLA or after approval, which may impose further requirements or restrictions on the distribution or use of an approved biologic, such as limiting prescribing to certain physicians or medical centers that have undergone specialized training, limiting treatment to patients who meet certain safe-use criteria and requiring treated patients to enroll in a registry.

Our product candidates could fail to receive regulatory approval for many reasons, including the following:

- the FDA or comparable foreign regulatory authorities may disagree with the design or implementation of our clinical trials;
- we may be unable to demonstrate to the satisfaction of the FDA or comparable foreign regulatory authorities that a product candidate is safe and effective for its proposed indication;
- the results of clinical trials may not meet the level of statistical significance required by the FDA or comparable foreign regulatory authorities for approval;
- we may be unable to demonstrate that a product candidate’s clinical and other benefits outweigh its safety risks;
- the FDA or comparable foreign regulatory authorities may disagree with our interpretation of data from preclinical studies or clinical trials;
- the data collected from clinical trials of our product candidates may not be sufficient to support the submission of a BLA or other submission or to obtain regulatory approval in the United States or elsewhere, or regulatory authorities may not accept a submission due to, among other reasons, the content or formatting of the submission;
- the FDA or comparable foreign regulatory authorities may fail to approve the manufacturing processes or facilities of third-party manufacturers with which we contract for clinical and commercial supplies; and
- the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval.
This lengthy approval process, as well as the unpredictability of future clinical trial results, may result in our failing to obtain regulatory approval to market any of our product candidates, which would significantly harm our business, results of operations, and prospects. The FDA and other regulatory authorities have substantial discretion in the approval process, and determining when or whether regulatory approval will be obtained for any of our product candidates. For example, regulatory authorities in various jurisdictions have in the past had, and may in the future have, differing requirements for, interpretations of and opinions on our preclinical and clinical data. As a result, we may be required to conduct additional preclinical studies, alter our proposed clinical trial designs, or conduct additional clinical trials to satisfy the regulatory authorities in each of the jurisdictions in which we hope to conduct clinical trials and develop and market our products, if approved. Further, even if we believe the data collected from clinical trials of our product candidates are promising, such data may not be sufficient to support approval by the FDA or any other regulatory authority.

In addition, even if we were to obtain approval, regulatory authorities may approve any of our product candidates for fewer or more limited indications than we request, may not approve the price we intend to charge for our products, may grant approval contingent on the performance of costly post-marketing clinical trials, or may approve a product candidate with a label that does not include the labeling claims necessary or desirable for the successful commercialization of that product candidate. Any of the foregoing scenarios could materially harm the commercial prospects for our product candidates.

**Even if our product candidates obtain regulatory approval, we will be subject to ongoing obligations and continued regulatory review, which may result in significant additional expense. Additionally, our product candidates, if approved, could be subject to labeling and other restrictions and market withdrawal and we may be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our products.**

If the FDA or a comparable foreign regulatory authority approves any of our product candidates, the manufacturing processes, labeling, packaging, distribution, import, export, adverse event reporting, storage, advertising, promotion, and recordkeeping for the product will be subject to extensive and ongoing regulatory requirements. These requirements include submissions of safety and other post-marketing information and reports, registration, as well as continued compliance with cGMPs and GCPs for any clinical trials that we conduct post-approval, all of which may result in significant expense and limit our ability to commercialize such products. In addition, any regulatory approvals that we receive for our product candidates may also be subject to limitations on the approved indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing, including Phase 4 clinical trials, and surveillance to monitor the safety and efficacy of the product candidate.

Manufacturers and manufacturers’ facilities are required to comply with extensive FDA and comparable foreign regulatory authority requirements, including ensuring that quality control and manufacturing procedures conform to cGMP regulations. As such, we and our contract manufacturers will be subject to continual review and inspections to assess compliance with cGMP and adherence to commitments made in any approved marketing application. Accordingly, we and others with whom we work must continue to expend time, money, and effort in all areas of regulatory compliance, including manufacturing, production, and quality control.

If there are changes in the application of legislation or regulatory policies, or if problems are discovered with a product or our manufacture of a product, or if we or one of our distributors, licensees or co-marketers fails to comply with regulatory requirements, the regulators could take various actions. These include issuing warning letters or untitled letters, imposing fines on us, imposing restrictions on the product or its manufacture, and requiring us to recall or remove the product from the market. The regulators could also suspend or withdraw our marketing authorizations, requiring us to conduct additional clinical trials, change our product labeling, or submit additional applications for marketing authorization. If any of these events occurs, our ability to sell such product may be impaired, and we may incur substantial additional expense to comply with regulatory requirements, which could materially adversely affect our business, financial condition, and results of operations.
In addition, if we have any product candidate approved, our product labeling, advertising, and promotion will be subject to regulatory requirements and continuing regulatory review. In the United States, the FDA and the Federal Trade Commission, or FTC, strictly regulate the promotional claims that may be made about pharmaceutical products to ensure that any claims about such products are consistent with regulatory approvals, not misleading or false in any particular, and adequately substantiated by clinical data. The promotion of a drug product in a manner that is false, misleading, unsubstantiated, or for unapproved (or off-label) uses may result in enforcement letters, inquiries and investigations, and civil and criminal sanctions by the FDA or the FTC. In particular, a product may not be promoted for uses that are not approved by the FDA as reflected in the product’s approved labeling. If we receive marketing approval for a product candidate, physicians may nevertheless prescribe it to their patients in a manner that is inconsistent with the approved label. If we are found to have promoted such off-label uses, we may become subject to significant liability. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant sanctions and may result in false claims litigation under federal and state statutes, which can lead to consent decrees, civil monetary penalties, restitution, criminal fines and imprisonment, and exclusion from participation in Medicare, Medicaid, and other federal and state healthcare programs. The federal government has levied large civil and criminal fines against companies for alleged improper promotion and has enjoined several companies from engaging in off-label promotion. The FDA has also requested that companies enter into consent decrees or permanent injunctions under which specified promotional conduct is changed or curtailed.

If a regulatory agency discovers previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured, or disagrees with the promotion, marketing or labeling of a product, such regulatory agency may impose restrictions on that product or us, including requiring withdrawal of the product from the market. If we fail to comply with applicable regulatory requirements, a regulatory agency or enforcement authority may, among other things:

- issue warning letters;
- issue, or require us to issue, safety-related communications, such as safety alerts, field alerts, “Dear Doctor” letters to healthcare professionals, or import alerts;
- impose civil or criminal penalties;
- suspend, limit, or withdraw regulatory approval;
- suspend any of our preclinical studies and clinical trials;
- refuse to approve pending applications or supplements to approved applications submitted by us;
- impose restrictions on our operations, including closing our contract manufacturers’ facilities; or
- seize or detain products, refuse to permit the import or export of products, or require us to conduct a product recall.

Any government investigation of alleged violations of law could require us to expend significant time and resources in response, and could generate negative publicity. Any failure to comply with ongoing regulatory requirements may significantly and adversely affect our ability to commercialize and generate revenue from our products, if approved. If regulatory sanctions are applied or if regulatory approval is withdrawn, the value of our company and our operating results will be adversely affected.

Moreover, the policies of the FDA and of other regulatory authorities may change and additional government regulations may be enacted that could prevent, limit, or delay regulatory approval of our product candidates. We cannot predict the likelihood, nature, or extent of government regulation that may arise from future legislation or administrative or executive action, either in the United States or abroad. For example, certain policies of the Trump administration may impact our business and industry. Namely, the Trump administration has taken several executive actions, including the issuance of a number of Executive Orders, that could impose
significant burdens on, or otherwise materially delay, the FDA's ability to engage in routine oversight activities such as implementing statutes through rulemaking, issuance of guidance, and review and approval of marketing applications. It is difficult to predict how these orders will be implemented, and the extent to which they will impact the FDA's ability to exercise its regulatory authority. If these executive actions impose restrictions on the FDA's ability to engage in oversight and implementation activities in the normal course, our business may be negatively impacted. In addition, if we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and we may not achieve or sustain profitability.

Disruptions at the FDA and other government agencies caused by funding shortages or global health concerns could hinder their ability to hire, retain, or deploy key leadership and other personnel, or otherwise prevent new or modified products from being developed, approved, or commercialized in a timely manner or at all, which could negatively impact our business.

The ability of the FDA to review and approve new products can be affected by a variety of factors, including government budget and funding levels, statutory, regulatory, and policy changes, the FDA's ability to hire and retain key personnel and accept the payment of user fees, and other events that may otherwise affect the FDA's ability to perform routine functions. Average review times at the FDA have fluctuated in recent years as a result. In addition, government funding of other government agencies that fund research and development activities is subject to the political process, which is inherently fluid and unpredictable. Disruptions at the FDA and other agencies may also slow the time necessary for new biologics or modifications to licensed biologics to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, over the last several years, including for 35 days beginning on December 22, 2018, the U.S. government has shut down several times and certain regulatory agencies, such as the FDA, have had to furlough critical FDA employees and stop critical activities.

Separately, in response to the COVID-19 pandemic, on March 10, 2020 the FDA announced its intention to postpone most inspections of foreign manufacturing facilities, and on March 18, 2020, the FDA temporarily postponed routine surveillance inspections of domestic manufacturing facilities. Subsequently, on July 10, 2020, the FDA announced its intention to resume certain on-site inspections of domestic manufacturing facilities subject to a risk-based prioritization system. The FDA intends to use this risk-based assessment system to identify the categories of regulatory activity that can occur within a given geographic area, ranging from mission critical inspections to resumption of all regulatory activities. Regulatory authorities outside the United States may adopt similar restrictions or other policy measures in response to the COVID-19 pandemic. If a prolonged government shutdown occurs, or if global health concerns continue to prevent the FDA or other regulatory authorities from conducting their regular inspections, reviews, or other regulatory activities, it could significantly impact the ability of the FDA or other regulatory authorities to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

Our research and development activities could be affected or delayed as a result of possible restrictions on animal testing.

Certain laws and regulations require us to test our product candidates on animals before initiating clinical trials involving humans. Animal testing activities have been the subject of controversy and adverse publicity. Animal rights groups and other organizations and individuals have attempted to stop animal testing activities by pressing for legislation and regulation in these areas and by disrupting these activities through protests and other means. To the extent the activities of these groups are successful, our research and development activities may be interrupted, delayed, or become more expensive.
Our business operations and current and future relationships with healthcare professionals, principal investigators, consultants, vendors, customers, and third-party payors in the United States and elsewhere are subject to applicable anti-kickback, fraud and abuse, false claims, physician payment transparency, and other healthcare laws and regulations, which could expose us to substantial penalties, contractual damages, reputation harm, administrative burdens, and diminished profits.

Healthcare providers, healthcare facilities and institutions, physicians, and third-party payors in the United States and elsewhere will play a primary role in the recommendation and prescription of any product candidates for which we obtain marketing approval. Our current and future arrangements with healthcare professionals, healthcare facilities and institutions, principal investigators, consultants, customers, and third-party payors may expose us to broadly applicable fraud and abuse and other healthcare laws, including, without limitation, the federal Anti-Kickback Statute and the federal False Claims Act, that may constrain the business or financial arrangements and relationships through which we research, sell, market, and distribute any product candidates for which we obtain marketing approval. In addition, we may be subject to physician payment transparency laws and regulation by the federal government and by the states and foreign jurisdictions in which we conduct our business. The applicable federal, state, and foreign healthcare laws that affect our ability to operate include, but are not limited to, the following:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons or entities from knowingly and willfully soliciting, offering, receiving, or providing any remuneration (including any kickback, bribe, or certain rebate), directly or indirectly, overtly or covertly, in cash or in kind, to induce or reward, or in return for, either the referral of an individual for, or the purchase, lease, order or recommendation of, any good, facility, item or service, for which payment may be made, in whole or in part, under any U.S. federal healthcare program, such as Medicare and Medicaid. The term “remuneration” has been broadly interpreted to include anything of value, including stock options. The federal Anti-Kickback Statute has also been interpreted to apply to arrangements between pharmaceutical manufacturers on the one hand and prescribers, purchasers and formulary managers on the other the other hand. Any arrangements with prescribers must be for bona fide services and compensated at fair market value. A person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation. In addition, on July 24, 2020, President Trump issued an Executive Order directing the Department of Health and Human Services, or HHS, to engage in rulemaking to eliminate the safe harbor protections under the Anti-Kickback Statute that cover rebates for health plan sponsors and pharmacy benefit managers, and instead protect the application of discounts at the patients’ point of sale, in an effort to ensure that discounts on prescription drugs are passed directly to patients;

- the U.S. federal civil and criminal false claims and civil monetary penalties laws, including the civil False Claims Act, which prohibit, among other things, including through civil whistleblower or qui tam actions, individuals or entities from knowingly presenting, or causing to be presented, to the U.S. federal government, claims for payment or approval that are false or fraudulent, knowingly making, using, or causing to be made or used, a false record or statement material to a false or fraudulent claim, or from knowingly making a false statement to avoid, decrease, or conceal an obligation to pay money to the U.S. federal government. Pharmaceutical manufacturers can cause false claims to be presented to the U.S. federal government by, among other things, engaging in impermissible marketing practices, such as the off-label promotion of a product for an indication for which it has not received FDA approval. In addition, the government may assert that a claim including items and services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the civil False Claims Act;

- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which imposes criminal and civil liability for, among other things, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, or knowingly and willfully falsifying, concealing, or covering up a material fact or making any materially false statement, in connection with the delivery of, or payment for, healthcare benefits, items, or services. Similar to the federal Anti-Kickback
Statute, a person or entity does not need to have actual knowledge of the healthcare fraud statute implemented under HIPAA or specific intent to violate it in order to have committed a violation.

- the U.S. Federal Food, Drug, and Cosmetic Act, or the FDCA, which prohibits, among other things, the adulteration or misbranding of drugs, biologics, and medical devices;
- the U.S. Public Health Service Act, which prohibits, among other things, the introduction into interstate commerce of a biological product unless a biologies license is in effect for that product;
- the U.S. Physician Payments Sunshine Act and its implementing regulations, which requires, among other things, certain manufacturers of drugs, devices, biologics, and medical supplies that are reimbursable under Medicare, Medicaid, or the Children’s Health Insurance Program, with specific exceptions, to report annually to the Centers for Medicare and Medicaid Services, or CMS, information related to certain payments and other transfers of value to physicians, as defined by statute, and teaching hospitals, as well as ownership and investment interests held by such physicians and their immediate family members. Beginning in 2022, such obligations will include payments and other transfers of value provided in the previous year to certain other healthcare professionals, including physician assistants, nurse practitioners, clinical nurse specialists, certified nurse anesthetists, and certified nurse-midwives;
- analogous U.S. state laws and regulations, including: state anti-kickback and false claims laws, which may apply to our business practices, including but not limited to, research, distribution, sales and marketing arrangements, and claims involving healthcare items or services reimbursed by any third-party payor, including private insurers; state laws that require pharmaceutical companies to comply with the pharmaceutical industry’s voluntary compliance guidelines and the relevant compliance guidance promulgated by the U.S. federal government, or otherwise restrict payments that may be made to healthcare providers and other potential referral sources; state laws and regulations that require drug manufacturers to file reports relating to pricing and marketing information, which requires tracking gifts and other remuneration and items of value provided to healthcare professionals and entities; and state and local laws requiring the registration of pharmaceutical sales representatives; and
- similar healthcare laws and regulations in foreign jurisdictions, including reporting requirements detailing interactions with and payments to healthcare providers.

Ensuring that our internal operations and future business arrangements with third parties comply with applicable healthcare laws and regulations will involve substantial costs. It is not always possible to identify and deter employee misconduct or business noncompliance, and the precautions we take to detect and prevent inappropriate conduct may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. Efforts to ensure that our business arrangements will comply with applicable healthcare laws may involve substantial costs. We have entered into consulting and scientific advisory board arrangements with physicians and other healthcare providers, including some who could influence the use of our product candidates, if approved. Compensation under some of these arrangements includes the provision of stock or stock options in addition to cash consideration. Because of the complex and far-reaching nature of these laws, it is possible that governmental authorities could conclude that our payments to physicians may not be fair market value for _bona fide_ services or that our business practices do not comply with current or future statutes, regulations, agency guidance or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of the laws described above or any other governmental laws and regulations that may apply to us, we may be subject to significant penalties, including civil, criminal, and administrative penalties, damages, fines, exclusion from government-funded healthcare programs, such as Medicare and Medicaid, or similar programs in other countries or jurisdictions, integrity oversight and reporting obligations to resolve allegations of noncompliance, disgorgement, individual imprisonment, contractual damages, reputational harm, diminished profits, and the curtailment or restructuring of our operations. If any of the physicians or other providers or entities with whom we expect to do business are found to not be in compliance with applicable laws, they may be subject to criminal, civil or administrative
sanctions, including exclusions from government funded healthcare programs and imprisonment, which could affect our ability to operate our business. Further, defending against any such actions can be costly, time-consuming and may require significant personnel resources. Therefore, even if we are successful in defending against any such actions that may be brought against us, our business may be impaired.

Our employees, independent contractors, principal investigators, consultants, commercial partners, and vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements.

We are exposed to the risk of employee fraud or other misconduct. We cannot ensure that our compliance controls, policies, and procedures will in every instance protect us from acts committed by our employees, agents, contractors, or collaborators that would violate the laws or regulations of the jurisdictions in which we operate, including, without limitation, employment, foreign corrupt practices, trade restrictions and sanctions, environmental, competition, and patient privacy and other privacy laws and regulations. Misconduct by employees could include failures to comply with FDA regulations, provide accurate information to the FDA, comply with manufacturing standards we may establish, comply with federal and state healthcare fraud and abuse laws and regulations, report financial information or data accurately, or disclose unauthorized activities to us. In particular, sales, marketing, and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, kickbacks, self-dealing, and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, labeling, marketing and promotion, sales commission, customer incentive programs, and other business arrangements. Employee misconduct could also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. It is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations.

If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a material and adverse effect on our business, financial condition, results of operations and prospects, including the imposition of significant civil, criminal and administrative penalties, damages, monetary fines, individual imprisonment, disgorgement of profits, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings, additional reporting or oversight obligations if we become subject to a corporate integrity agreement or other agreement to resolve allegations of noncompliance with the law, and curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and pursue our strategy.

Current and future legislation may increase the difficulty and cost for us and any future collaborators to obtain marketing approval of and commercialize our product candidates and affect the prices we, or they, may obtain.

In the United States and other jurisdictions, there have been, and we expect there will continue to be, a number of legislative and regulatory changes and proposed changes to the healthcare system that could affect our future results of operations. In particular, there have been and continue to be a number of initiatives at the U.S. federal and state levels that seek to reduce healthcare costs and improve the quality of healthcare. For example, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively the ACA, was enacted, which substantially changed the way healthcare is financed by both governmental and private payors. Among the provisions of the ACA of importance to the pharmaceutical and biotechnology industries, which includes biologics, are the following:

• manufacturers and importers of certain branded prescription drugs, including certain biologics, with annual sales of more than $5 million made to or covered by specified federal healthcare programs are required to pay an annual, nondeductible fee according to their market share of all such sales;
• an increase in the statutory minimum rebates a manufacturer must pay under the Medicaid Drug Rebate Program, to 23.1% of the average manufacturer price for most branded drugs, biologics, and biosimilars and to 13.0% for generic drug, and cap of the total rebate amount for innovator drugs at 100% of the Average Manufacturer Price, or AMP;

• a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for certain drugs and biologics, including our product candidates, that are inhaled, infused, instilled, implanted, or injected;

• extension of manufacturers’ Medicaid rebate liability to covered drugs dispensed to individuals who are enrolled in Medicaid managed care organizations;

• expansion of eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to additional individuals and by adding new mandatory eligibility categories for individuals with income at or below 133% of the federal poverty level, thereby potentially increasing manufacturers’ Medicaid rebate liability;

• expansion of the entities eligible for discounts under the Public Health program, commonly referred to as the “340B Program;”

• a new requirement to annually report drug samples that manufacturers and distributors provide to physicians, also known as the “Physicians Payment Sunshine Act;”

• a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research;

• establishment of a Center for Medicare Innovation at CMS to test innovative payment and service delivery models to lower Medicare and Medicaid spending, potentially including prescription drug spending; and

• a licensure framework for follow-on biologic products.

Since its enactment, there have been judicial and Congressional challenges to certain aspects of the ACA, and we expect there will be additional challenges and amendments to the ACA in the future. For example, the Tax Cuts and Jobs Act of 2017, repealed the tax-based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage that is commonly referred to as the “individual mandate.” In December 2019, a U.S. District Court upheld a ruling that the ACA is unconstitutional in its entirety because the “individual mandate” was repealed by Congress. In March 2020, the Supreme Court of the United States agreed to hear the appeal of this decision. It is unclear how this and other efforts to challenge, repeal, or replace the ACA will impact the ACA or our business.

In addition, other legislative changes have been proposed and adopted in the United States since the ACA was enacted which, among other things, have reduced Medicare payments to several types of providers, including hospitals and cancer treatment centers. These new laws or any other similar laws introduced in the future, as well as regulatory actions that may be taken by CMS, may result in additional reductions in Medicare and other healthcare funding, which could negatively affect our customers and accordingly, our financial operations. Moreover, payment methodologies may be subject to changes in healthcare legislation and regulatory initiatives. Additionally, individual states in the United States have passed legislation and implemented regulations designed to control pharmaceutical and biological product pricing and costs. Similar developments have occurred outside of the United States, including in the European Union where healthcare budgetary constraints have resulted in restrictions on the pricing and reimbursement of medicines by relevant health service providers. To obtain reimbursement or pricing approval in some European Union member states, we may be required to conduct studies that compare the cost-effectiveness of our product candidates to other therapies that are considered the local standard of care.

We cannot predict the likelihood, nature, or extent of government regulation that may arise from future legislation or administrative action in the United States or any other jurisdiction. If we or any third parties we
may engage are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we or such third parties are not able to maintain regulatory compliance, our product candidates may lose any regulatory approval that may have been obtained and we may not achieve or sustain profitability.

Even if we are able to commercialize any product candidate, coverage and adequate reimbursement may not be available or such product candidate may become subject to unfavorable pricing regulations or third-party coverage and reimbursement policies, which would harm our business.

The regulations that govern regulatory approvals, pricing, and reimbursement for drug products vary widely from country to country. Some countries require approval of the sale price of a drug product before it can be marketed. In many countries, the pricing review period begins after marketing approval is granted. In some foreign markets, prescription drug product pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we might obtain regulatory approval for a product in a particular country, but then be subject to price regulations that delay our commercial launch of the product, possibly for lengthy time periods, and negatively impact the revenues we are able to generate from the sale of the product in that country. Adverse pricing limitations may hinder our ability to recoup our investment in one or more product candidates, even if our product candidates obtain regulatory approval.

Our ability to commercialize any products successfully also will depend in part on the extent to which coverage and adequate reimbursement for these products and related treatments will be available from third-party payors, such as government authorities, private health insurers, and other organizations. Even if we succeed in bringing one or more products to the market, these products may not be considered cost-effective, and the amount reimbursed for any products may be insufficient to allow us to sell our products on a competitive basis. Because our programs are in the early stages of development, we are unable at this time to determine their cost effectiveness or the likely level or method of coverage and reimbursement. As a result, we might obtain regulatory approval for a product in a particular country, but then be subject to price regulations that delay our commercial launch of the product, possibly for lengthy time periods, and negatively impact the revenues we are able to generate from the sale of the product in that country. Adverse pricing limitations may hinder our ability to recoup our investment in one or more product candidates, even if our product candidates obtain regulatory approval.

There may be significant delays in obtaining reimbursement for newly-approved drug products, and coverage may be more limited than the purposes for which the drug product is approved by the FDA or similar foreign regulatory authorities. Moreover, eligibility for reimbursement does not imply that any drugs product will be reimbursed in all cases or at a rate that covers our costs, including research, development, manufacture, sale, and distribution.

Interim reimbursement levels for new drug products, if applicable, may also be insufficient to cover our costs and may not be made permanent. Reimbursement rates may be based on payments allowed for lower cost drug products that are already reimbursed, may be incorporated into existing payments for other services and may reflect budgetary constraints or imperfections in Medicare data. Net prices for drug products may be reduced by mandatory discounts or rebates required by third-party payors and by any future relaxation of laws that presently restrict imports of drug products from countries where they may be sold at lower prices than in the United States. Obtaining coverage and adequate reimbursement for our product candidates may be particularly difficult because of the higher prices often associated with drugs administered under the supervision of a physician. Similarly, because our product candidates are physician-administered injectables, separate reimbursement for the product itself may or may not be available. Instead, the administering physician may or may not be reimbursed for providing the treatment or procedure in which our product is used.

Further, no uniform policy for coverage and reimbursement exists in the United States, and coverage and reimbursement can differ significantly from payor to payor. Third-party payors often follow Medicare coverage policy and payment limitations in setting their own reimbursement rates, but also have their own methods and
approval process apart from Medicare determinations. As a result, the coverage determination process is often a time-consuming and costly process that will require us to provide scientific and clinical support for the use of our product candidates to each payor separately, with no assurance that coverage and adequate reimbursement will be applied consistently or obtained in the first instance. Decisions regarding the extent of coverage and amount of reimbursement to be provided for any product candidates that we develop will be made on a payor-by-payor basis. One payor’s determination to provide coverage for a drug does not assure that other payors will also provide coverage and adequate reimbursement for the drug. Additionally, a third-party payor’s decision to provide coverage for a therapy does not imply that an adequate reimbursement rate will be approved.

There have been, and likely will continue to be, legislative and regulatory proposals at the foreign, federal, and state levels directed at broadening the availability of healthcare and containing or lowering the cost of healthcare. We cannot predict the initiatives that may be adopted in the future, including repeal, replacement, or significant revisions to the Affordable Care Act. The continuing efforts of the government, insurance companies, managed care organizations, and other payors of healthcare services to contain or reduce costs of healthcare and/or impose price controls may adversely affect:

- the demand for our product candidates, if we obtain regulatory approval;
- our ability to set a price that we believe is fair for our products;
- our ability to obtain coverage and reimbursement approval for a product;
- our ability to generate revenue and achieve or maintain profitability;
- the level of taxes that we are required to pay; and
- the availability of capital.

Additionally, we may develop companion diagnostic tests for use with our product candidates. If we develop such a companion diagnostic test, we, or our collaborators, may also seek to obtain coverage and reimbursement for these tests separate and apart from the coverage and reimbursement we seek for our product candidates, if approved. While we have not yet developed any companion diagnostic test for our product candidates, if we do, there is significant uncertainty regarding our ability to obtain coverage and adequate reimbursement for the same reasons applicable to our product candidates. Our inability to promptly obtain coverage and adequate reimbursement from both third-party payors for the product candidates and any companion diagnostic tests that we may develop and for which we obtain regulatory approval could have a material and adverse effect on our business, financial condition, results of operations, and prospects.

We face potential liability related to the privacy of health information we obtain from clinical trials sponsored by us or our collaborators, from research institutions and our collaborators, and directly from individuals.

We and our partners and vendors are subject to various federal, state, and foreign data protection laws and regulations (i.e., laws and regulations that address data privacy and security). If we fail to comply with these laws and regulations we may be subject to litigation, regulatory investigations, enforcement notices, enforcement actions, fines, and criminal or civil penalties, as well as negative publicity and a potential loss of business.

In the United States, numerous federal and state laws and regulations, including state data breach notification laws, state health information privacy laws, and federal and state consumer protection laws and regulations that govern the collection, use, disclosure, and protection of health-related and other personal information could apply to our operations or the operations of our partners. For example, most healthcare providers, including research institutions from which we or our collaborators obtain patient health information, are subject to privacy and security regulations promulgated under HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, or HITECH. Under HIPAA, we could potentially face substantial criminal or civil penalties if we knowingly receive individually identifiable health information from a HIPAA-covered healthcare provider or research institution that has not satisfied HIPAA's requirements.
for disclosure of individually identifiable health information, or otherwise violate applicable HIPAA requirements related to the protection of such information. Even when HIPAA does not apply, failing to take appropriate steps to keep consumers’ personal information secure may constitute a violation of the Federal Trade Commission Act.

In addition, we may maintain sensitive personally identifiable information, including health information, that we receive throughout the clinical trial process, in the course of our research collaborations, and directly from individuals (or their healthcare providers) who enroll in our patient assistance programs. As such, we may be subject to state laws requiring notification of affected individuals and state regulators in the event of a breach of personal information. These state laws include the recently enacted California Consumer Privacy Act, which establishes additional data privacy rights for residents of the State of California. Similar laws have been proposed in other states and at the federal level, and if passed, such laws may have potentially conflicting requirements that would make compliance challenging.

Our clinical trial programs and research collaborations outside the United States may implicate international data protection laws, including, in Europe, the General Data Protection Regulation, or GDPR, which became effective in 2018. The GDPR imposes stringent operational requirements for processors and controllers of personal data. Among other things, the GDPR requires detailed notices for clinical trial subjects and investigators, as well as requirements regarding the security of personal data and notification of data processing obligations or security incidents to appropriate data protection authorities or data subjects. If our privacy or data security measures fail to comply with the GDPR requirements, we may be subject to litigation, regulatory investigations, enforcement notices, and/or enforcement actions requiring us to change the way we use personal data and/or fines. In addition to statutory enforcement, a personal data breach can lead to negative publicity and a potential loss of business. Further, following the United Kingdom’s withdrawal from the E.U. effective as of December 31, 2020, we will have to comply with the GDPR and the GDPR as incorporated into United Kingdom national law, which may have differing requirements. If we fail to comply with United Kingdom data protection laws we may be subject to litigation, regulatory investigations, enforcement notices, and/or enforcement actions, as well as negative publicity and a potential loss of business.

We are also subject to evolving EEA laws on data export, as we may transfer personal data from the EEA to other jurisdictions. Recent legal developments in Europe have created complexity and uncertainty regarding transfers of personal data from the EEA to the United States. For example, on July 16, 2020, the Court of Justice of the European Union, or CJEU, invalidated the EU-US Privacy Shield Framework, or Privacy Shield, under which personal data could be transferred from the EEA to United States entities who had self-certified under the Privacy Shield scheme. Moreover, it is uncertain whether the standard contractual clauses will also be invalidated by the European courts or legislature. As government authorities issue further guidance on personal data export mechanisms and/or start taking enforcement action, we could suffer additional costs, complaints, and/or regulatory investigations or fines, and/or if we are otherwise unable to transfer personal data between and among countries and regions in which we operate, it could affect the manner in which we provide our services, the geographical location or segregation of our relevant systems and operations, and could adversely affect our financial results. These laws and regulations may apply, not only to us, but also to vendors that store or otherwise process data on our behalf, such as information technology vendors. If such a vendor misuses data we have provided to it, or fails to safeguard such data, we may be subject to litigation, regulatory investigations, enforcement notices, and/or enforcement actions, as well as negative publicity and a potential loss of business.

We are likely to be required to expend significant capital and other resources to ensure ongoing compliance with applicable privacy and data security laws. Claims that we have violated individuals’ privacy rights or breached our contractual obligations, even if we are not found liable, could be expensive and time-consuming to defend, and could result in adverse publicity that could harm our business. Moreover, even if we take all necessary action to comply with regulatory requirements, we could be subject to a hack or data breach, which could subject us to fines and penalties, as well as reputational damage.
If we or any collaborators fail to comply with applicable federal, state, or local regulatory requirements, we could be subject to a range of regulatory actions that could affect our or any collaborators’ ability to seek to commercialize our clinical candidates. Any threatened or actual government enforcement action could also generate adverse publicity and require that we devote substantial resources that could otherwise be used in other aspects of our business.

Risks Related to Commercialization of Our Product Candidates

We operate in highly competitive and rapidly changing industries, which may result in others discovering, developing or commercializing competing products before or more successfully than we do.

The biotechnology and pharmaceutical industries are highly competitive and subject to significant and rapid technological change. Our success is highly dependent on our ability to discover, develop and obtain marketing approval for new and innovative products on a cost-effective basis and to market them successfully. In doing so, we face and will continue to face intense competition from a variety of businesses, including large pharmaceutical and biotechnology companies, academic institutions, government agencies and other public and private research organizations. These organizations may have significantly greater resources than we do and conduct similar research, seek patent protection and establish collaborative arrangements for research, development, manufacturing, and marketing of products that compete with our product candidates. Mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated in our competitors. Competition may increase further as a result of advances in the commercial applicability of technologies and greater availability of capital for investment in these industries.

With the proliferation of new oncology drugs and therapies, we expect to face increasingly intense competition as new technologies become available. If we fail to stay at the forefront of technological change, we may be unable to compete effectively. Any product candidates that we successfully develop and commercialize will compete with existing therapies and new therapies that may become available in the future. The highly competitive nature of and rapid technological changes in the biotechnology and pharmaceutical industries could render our product candidates or our technology obsolete, less competitive or uneconomical. Our competitors may, among other things:

- have significantly greater financial, manufacturing, marketing, drug development, technical, and human resources than we do;
- develop and commercialize products that are safer, more effective, less expensive, more convenient or easier to administer, or have fewer or less severe side effects;
- obtain quicker regulatory approval;
- establish superior proprietary positions covering our products and technologies;
- implement more effective approaches to sales and marketing; or
- form more advantageous strategic alliances.

Should any of these factors occur, our business, financial condition, and results of operations could be materially adversely affected.

In addition, any collaborators may decide to market and sell products that compete with the product candidates that we have agreed to license to them, and any competition by our collaborators could also have a material adverse effect on our future business, financial condition, and results of operations.

Smaller and other early stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These third parties compete with us in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs.
If the market opportunity for any product candidate that we or our strategic partners develop is smaller than we believe, our revenue may be adversely affected and our business may suffer.

We intend to initially focus our product candidate development on treatments for various oncology indications. Our projections of addressable patient populations that may benefit from treatment with our product candidates are based on our estimates. These estimates, which have been derived from a variety of sources, including scientific literature, surveys of clinics, patient foundations, and market research, may prove to be incorrect. Further, new studies may change the estimated incidence or prevalence of these cancers. Additionally, the potentially addressable patient population for our product candidates may not ultimately be amenable to treatment with our product candidates. Our market opportunity may also be limited by future competitor treatments that enter the market. If any of our estimates prove to be inaccurate, the market opportunity for any product candidate that we or our strategic partners develop could be significantly diminished and have an adverse material impact on our business.

The market opportunities for our product candidates may be limited to those patients who are ineligible for or have failed prior treatments and may be small.

Cancer therapies are sometimes characterized by line of therapy (first, second, third, fourth, etc.), and the FDA often initially approves new therapies only for use in a particular line or lines of therapy. When cancer is detected early enough, first line therapy is sometimes adequate to provide a cure or prolong life without a cure. Whenever first line therapy (typically chemotherapy, hormone therapy, surgery, or a combination of these) proves unsuccessful, second line therapy (typically more chemotherapy, radiation, antibody drugs, tumor targeted small molecules, or a combination of these) may be administered. Third or fourth line therapies can include bone marrow transplantation, antibody and small molecule targeted therapies, more invasive forms of surgery, and new technologies. We may initially seek approval of our product candidates as a third line therapy for patients who have failed other approved treatments. Subsequently, for product candidates that prove to be sufficiently beneficial, if any, we would expect to seek approval as a second and first line therapy. However, there is no guarantee that our product candidates, even if initially approved, would be subsequently approved as a second or first line therapy. In addition, we may have to conduct additional clinical trials prior to gaining approval as a second or first line therapy. Because the potentially addressable patient target population for our product candidates may be limited to patients who are ineligible for or have failed prior treatments, even if we obtain significant market share for our product candidates, we may never achieve profitability.

We may expend our limited resources to pursue a particular product candidate or indication and fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success.

Because we have limited financial and managerial resources, we focus on research programs, therapeutic platforms, and product candidates that we identify for specific indications. Additionally, we have contractual commitments under our collaboration agreements to use commercially reasonable efforts to develop certain programs and thus, do not have unilateral discretion to vary from such agreed to efforts. In addition, we have contractual commitments to conduct certain development plans, and thus may not have discretion to modify such development plans, including clinical trial designs, without agreement from our collaboration partners. As a result, we may forego or delay pursuit of opportunities with other therapeutic platforms or product candidates or for other indications that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our spending on current and future research and development programs, therapeutic platforms, and product candidates for specific indications may not yield any commercially viable products. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through collaboration, licensing, or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights.
Even if approved, our products may not gain market acceptance, in which case we may not be able to generate product revenues, which will materially adversely affect our business, financial condition, and results of operations.

Even if the FDA or any other regulatory authority approves the marketing of any product candidates that we develop on our own or with a collaborator, physicians, healthcare providers, patients, or the medical community may not accept or use them. Additionally, the product candidates that we are developing are based on our proprietary ARC platform, which is a new technology. If these products do not achieve an adequate level of acceptance, we may not generate significant product revenues or any profits from operations. The degree of market acceptance of any of our product candidates will depend on a variety of factors, including:

- the timing of market introduction;
- the terms of any approvals and the countries in which approvals are obtained;
- the number and clinical profile of competing products;
- our ability to provide acceptable evidence of safety and efficacy;
- the prevalence and severity of any side effects;
- relative convenience and ease of administration;
- cost-effectiveness;
- patient diagnostics and screening infrastructure in each market;
- marketing and distribution support;
- adverse publicity about our product candidates;
- availability of coverage, adequate reimbursement and sufficient payment from health maintenance organizations and other insurers, both public and private, for our product candidates, or the procedures utilizing our product candidates, if approved;
- the willingness of patients to pay out-of-pocket in the absence of coverage by third-party payors and government authorities; and
- other potential advantages over alternative treatment methods.

If our product candidates fail to gain market acceptance, this will have a material adverse impact on our ability to generate revenues to provide a satisfactory, or any, return on our investments. Even if some products achieve market acceptance, the market may prove not to be large enough to allow us to generate significant revenues.

We currently have no marketing, sales, or distribution infrastructure and we intend to either establish a sales and marketing infrastructure or outsource this function to a third party. Either of these commercialization strategies carries substantial risks to us.

We currently have no marketing, sales, and distribution capabilities because all of our product candidates are still in clinical or preclinical development. If any of our product candidates are approved, we intend to either establish a sales and marketing organization with technical expertise and supporting distribution capabilities to commercialize our product candidates in a legally compliant manner, or to outsource this function to a third party. There are risks involved if we decide to establish our own sales and marketing capabilities or enter into arrangements with third parties to perform these services. To the extent that we enter into collaboration agreements with respect to marketing, sales or distribution, our product revenue may be lower than if we directly marketed or sold any approved products. Such collaborative arrangements with partners may place the commercialization of our products outside of our control and would make us subject to a number of risks including that we may not be able to control the amount or timing of resources that our collaborative partner
devotes to our products or that our collaborator’s willingness or ability to complete its obligations, and our obligations under our arrangements may be adversely affected by business combinations or significant changes in our collaborator’s business strategy.

If we are unable to enter into these arrangements on acceptable terms or at all, we may not be able to successfully commercialize any approved products. If we are not successful in commercializing any approved products, either on our own or through collaborations with one or more third parties, our future product revenue will suffer and we may incur significant additional losses, which would have a material adverse effect on our business, financial condition, and results of operations.

**Our product candidates for which we intend to seek approval as biologic products may face competition sooner than anticipated.**

The ACA includes a subtitle called the Biologics Price Competition and Innovation Act of 2009, or BPCIA, which created an abbreviated approval pathway for biological products that are biosimilar to or interchangeable with an FDA-licensed reference biological product. Under the BPCIA, an application for a highly similar or “biosimilar” product may not be submitted to the FDA until four years following the date that the reference product was first approved by the FDA. In addition, the approval of a biosimilar product may not be made effective by the FDA until 12 years from the date on which the reference product was first approved. During this 12-year period of exclusivity, another company may still market a competing version of the reference product if the FDA approves a full BLA for the competing product containing the sponsor’s own preclinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity, and potency of their product. The law is complex and is still being interpreted and implemented by the FDA. As a result, its ultimate impact, implementation, and meaning are subject to uncertainty.

We believe that any of our product candidates approved as a biological product under a BLA should qualify for the 12-year period of exclusivity. However, there is a risk that this exclusivity could be shortened due to congressional action or otherwise, or that the FDA will not consider our product candidates to be reference products for competing products, potentially creating the opportunity for competition sooner than anticipated. Other aspects of the BPCIA, some of which may impact the BPCIA exclusivity provisions, have also been the subject of recent litigation. Moreover, the extent to which a biosimilar, once approved, will be substituted for any one of our reference products in a way that is similar to traditional generic substitution for non-biological products is not yet clear, and will depend on a number of marketplace and regulatory factors that are still developing.

Jurisdictions in addition to the United States have established abbreviated pathways for regulatory approval of biological products that are biosimilar to earlier approved reference products. For example, the European Union has had an established regulatory pathway for biosimilars since 2004. However, biosimilars can only be authorized once the period of data exclusivity on the reference biological medicine has expired.

The increased likelihood of biosimilar competition has increased the risk of loss of innovators’ market exclusivity. Due to this risk, and uncertainties regarding patent protection, if our clinical candidates are approved for marketing, it is not possible to predict the length of market exclusivity for any particular product with certainty based solely on the expiration of the relevant patent(s) or the current forms of regulatory exclusivity. It is also not possible to predict changes in United States regulatory law that might reduce biological product regulatory exclusivity. The loss of market exclusivity for a product would likely materially and negatively affect revenues and we may not generate adequate or sufficient revenues from them or be able to reach or sustain profitability.
Risks Related to Our Dependence on Third Parties

We rely on third-parties to manufacture our product candidates. Any failure by a third-party manufacturer to produce acceptable drug substance for us or to obtain authorization from the FDA or comparable regulatory authorities may delay or impair our ability to initiate or complete our clinical trials, obtain regulatory approvals or commercialize approved products.

We do not currently own or operate any GMP manufacturing facilities nor do we have any in-house GMP manufacturing capabilities. We rely on our strategic partners to manufacture product candidates licensed to them or work with multiple third-party contract manufacturers to produce sufficient quantities of materials required for the manufacture of our product candidates for preclinical testing and clinical trials, in compliance with applicable regulatory and quality standards, and intend to do so for the commercial manufacture of our products, if approved. If we are unable to arrange for such third-party manufacturing sources, or fail to do so on commercially reasonable terms, we may not be able to successfully produce sufficient supply of product candidate or we may be delayed in doing so. Such failure or substantial delay could materially harm our business.

We rely on third parties for biological materials that are used in our discovery and development programs. These materials can be difficult to produce and occasionally have variability from the product specifications. Any disruption in the supply of these biological materials consistent with our product specifications could materially adversely affect our business. Although we have control processes and screening procedures, biological materials are susceptible to damage and contamination and may contain active pathogens. We may also have lower yields in manufacturing batches, which can increase our costs and slow our development timelines. Improper storage of these materials, by us or any third-party suppliers, may require us to destroy some of our biological raw materials or product candidates.

Reliance on third-party manufacturers entails risks to which we would not be subject if we manufactured product candidates ourselves, including reliance on the third party for regulatory compliance and quality control and assurance, volume production, the possibility of breach of the manufacturing agreement by the third party because of factors beyond our control (including a failure to synthesize and manufacture our product candidates in accordance with our product specifications) and the possibility of termination or nonrenewal of the agreement by the third party at a time that is costly or damaging to us.

In addition, the FDA and other regulatory authorities require that our product candidates be manufactured according to cGMPs and similar foreign standards relating to methods, facilities, and controls used in the manufacturing, processing, and packing of the product, which are intended to ensure that biological products are safe and that they consistently meet applicable requirements and specifications.

Pharmaceutical manufacturers are required to register their facilities and products manufactured at the time of submission of the marketing application and then annually thereafter with the FDA and certain state and foreign agencies. If the FDA or a comparable foreign regulatory authority does not approve our proposed contract manufacturer’s facilities for the manufacture of our product candidates or if it withdraws any such approval in the future, we may need to find alternative manufacturing facilities, which would significantly impact our ability to develop, obtain regulatory approval for, or market our product candidates, if approved. Any discovery of problems with a product, or a manufacturing or laboratory facility used by us or our strategic partners, may result in restrictions on the product or on the manufacturing or laboratory facility, including marketed product recall, suspension of manufacturing, product seizure, or a voluntary withdrawal of the drug from the market. We may have little to no control regarding the occurrence of third-party manufacturer incidents.

If we were unable to find an adequate replacement or another acceptable solution in time, our clinical trials could be delayed, or our commercial activities could be harmed. In addition, the fact that we are dependent on our collaborators, our suppliers, and other third parties for the manufacture, filling, storage, and distribution of our product candidates means that we are subject to the risk that the products may have manufacturing defects that we have limited ability to prevent or control. The sale of products containing such defects could adversely
affect our business, financial condition, and results of operations. Any failure by our third-party manufacturers to comply with cGMP or failure to scale up manufacturing processes, including any failure to deliver sufficient quantities of product candidates in a timely manner, could lead to a delay in, or failure to obtain, regulatory approval of any of our product candidates.

Pharmaceutical manufacturers are also subject to extensive post-marketing oversight by the FDA and comparable regulatory authorities in the jurisdictions where the product is marketed, which include periodic unannounced and announced inspections by the FDA to assess compliance with cGMP requirements. If an FDA inspection of a manufacturer’s facilities reveals conditions that the FDA determines not to comply with applicable regulatory requirements, the FDA may issue observations through a Notice of Inspectional Observations, commonly referred to as a “Form FDA 483” report. If observations in the Form FDA 483 report are not addressed in a timely manner and to the FDA's satisfaction, the FDA may issue a Warning Letter or proceed directly to other forms of enforcement action. Any failure by one of our contract manufacturers to comply with cGMP or to provide adequate and timely corrective actions in response to deficiencies identified in a regulatory inspection could result in further enforcement action that could lead to a shortage of products and harm our business, including withdrawal of approvals previously granted, seizure, injunction or other civil or criminal penalties. The failure of a manufacturer to address any concerns raised by the FDA or foreign regulators could also lead to plant shutdown or the delay or withholding of product approval by the FDA in additional indications, or by foreign regulators in any indication. Certain countries may impose additional requirements on the manufacturing of drug products or drug substances, and on manufacturers, as part of the regulatory approval process for products in such countries. The failure by our third-party manufacturers to satisfy such requirements could impact our ability to obtain or maintain approval of our products in such countries.

We rely, and expect to continue to rely, on third parties, including independent clinical investigators and CROs, to conduct our preclinical studies and clinical trials. If these third parties do not successfully carry out their contractual duties, comply with applicable regulatory requirements, or meet expected deadlines, we may not be able to obtain regulatory approval for or commercialize our product candidates and our business could be substantially harmed.

We have relied upon and plan to continue to rely upon third parties, including independent clinical investigators and third-party CROs, to conduct our preclinical studies and clinical trials and to monitor and manage data for our ongoing preclinical and clinical programs. We rely on these parties for execution of our preclinical studies and clinical trials, and control only certain aspects of their activities. Nevertheless, we are responsible for ensuring that each of our studies and trials is conducted in accordance with the applicable protocol, legal, regulatory, and scientific standards, and our reliance on these third parties does not relieve us of our regulatory responsibilities. We and our third-party contractors and CROs are required to comply with GCP requirements, which are regulations and guidelines enforced by the FDA and comparable foreign regulatory authorities for all of our product candidates in clinical development. Regulatory authorities enforce these GCPs through periodic inspections of trial sponsors, principal investigators, and trial sites. If we or any of our CROs fail to comply with applicable GCPs, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. We cannot assure you that upon inspection by a given regulatory authority, such regulatory authority will determine that any of our clinical trials comply with GCP regulations. In addition, our clinical trials must be conducted with product produced under cGMP regulations. Our failure to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory approval process.

Further, these investigators and CROs are not our employees and we will not be able to control, other than by contract, the amount of resources, including time, which they devote to our product candidates and clinical trials. If independent investigators or CROs fail to devote sufficient resources to the development of our product candidates, or if their performance is substandard, it may delay or compromise the prospects for approval and commercialization of any product candidates that we develop. In addition, the use of third-party service providers
may require us to disclose our proprietary information to these parties, which could increase the risk that this information will be misappropriated.

Our CROs have the right to terminate their agreements with us in the event of an uncured material breach. In addition, some of our CROs have an ability to terminate their respective agreements with us if it can be reasonably demonstrated that the safety of the subjects participating in our clinical trials warrants such termination, if we make a general assignment for the benefit of our creditors, or if we are liquidated.

There is a limited number of third-party service providers that specialize or have the expertise required to achieve our business objectives. If any of our relationships with these third-party laboratories, CROs or clinical investigators terminate, we may not be able to enter into arrangements with alternative laboratories, CROs, or investigators or to do so in a timely manner or on commercially reasonable terms. If laboratories, CROs, or clinical investigators do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our preclinical or clinical protocols, regulatory requirements or for other reasons, our preclinical or clinical trials may be extended, delayed, or terminated and we may not be able to obtain regulatory approval for or successfully commercialize our product candidates. As a result, our results of operations and the commercial prospects for our product candidates would be harmed, our costs could increase, and our ability to generate revenues could be delayed. Switching or adding additional laboratories or CROs (or investigators) involves additional cost and requires management time and focus. In addition, there is a natural transition period when a new laboratory or CRO commences work. As a result, delays occur, which can materially impact our ability to meet our desired clinical development timelines. Additionally, CROs may lack the capacity to absorb higher workloads or take on additional capacity to support our needs. Though we carefully manage our relationships with our contracted laboratories and CROs, there can be no assurance that we will not encounter similar challenges or delays in the future or that these delays or challenges will not have a material adverse impact on our business, financial condition, and prospects.

In addition, clinical investigators may serve as scientific advisors or consultants to us from time to time and may receive cash or equity compensation in connection with such services. If these relationships and any related compensation result in perceived or actual conflicts of interest, or the FDA concludes that the financial relationship may have affected the interpretation of the preclinical study or clinical trial, the integrity of the data generated at the applicable preclinical study or clinical trial site may be questioned and the utility of the preclinical study or clinical trial itself may be jeopardized, which could result in the delay or rejection by the FDA. Any such delay or rejection could prevent us from commercializing our clinical-stage product candidate or any future product candidates.

We may not realize the benefits of any existing or future collaborative or licensing arrangement, and if we fail to enter into new strategic relationships our business, financial condition, commercialization prospects, and results of operations may be materially adversely affected.

Our product development programs and the potential commercialization of our product candidates will require substantial additional cash to fund expenses. Therefore, for some of our product candidates, we may decide to enter into new collaborations with pharmaceutical or biopharmaceutical companies for the development and potential commercialization of those product candidates. For instance, we have a discovery collaboration with Takeda pursuant to which we are collaborating on the development of certain product candidates, we are obligated to conduct certain development activities, and pursuant to which Takeda has an option to acquire a commercial license to these product candidates.

We face significant competition in seeking appropriate collaborators. Collaborations are complex and time-consuming to negotiate and document. We may also be restricted under existing and future collaboration agreements from entering into agreements on certain terms with other potential collaborators. We may not be able to negotiate collaborations on acceptable terms, or at all. If our strategic collaborations do not result in the
successful development and commercialization of product candidates, or if one of our collaborators terminates its agreement with us, we may not receive any future research funding or milestone or royalty payments under the collaboration. Moreover, our estimates of the potential revenue we are eligible to receive under our strategic collaborations may include potential payments related to therapeutic programs for which our collaborators have discontinued development or may discontinue development in the future. If that were to occur, we may have to curtail the development of a particular product candidate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of our sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to increase our expenditures to fund development or commercialization activities on our own, we may need to obtain additional capital, which may not be available to us on acceptable terms or at all. If we do not have sufficient funds, we will not be able to bring our product candidates to market and generate product revenue.

In instances where we do enter into collaborations, we could be subject to the following risks, each of which may materially harm our business, commercialization prospects, and financial condition:

- we may not be able to control the amount and timing of resources that is required of us to complete our development obligations or that the collaboration partner devotes to the product development or marketing programs;
- the collaboration partner may experience financial difficulties;
- collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial or abandon a product candidate, repeat or conduct new clinical trials, or require a new formulation of a product candidate for clinical testing;
- we may be required to relinquish important rights such as marketing, distribution, and intellectual property rights;
- collaborators may not properly maintain or defend our intellectual property rights or may use our proprietary information in such a way as to invite litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to litigation or potential liability;
- collaborators may infringe the intellectual property rights of third parties, which may expose us to litigation and potential liability;
- we and our collaboration partner may disagree regarding the development plan for product candidates on which we are collaborating (for example, we may disagree with a collaboration partner regarding target indications, inclusion or exclusion criteria for a clinical trial, or the decision to seek front line therapy approval versus second, third, or fourth line therapy approval);
- disputes may arise between the collaborators and us that result in the delay or termination of the research, development or commercialization of our product candidates or that result in costly litigation or arbitration that diverts management attention and resources;
- business combinations or significant changes in a collaborator’s business strategy may adversely affect our willingness to complete our obligations under any arrangement; or
- collaborations may be terminated and, if terminated, may result in a need for additional capital to pursue further development or commercialization of the applicable product candidates.

If we license products or businesses, we may not be able to realize the benefit of such transactions if we are unable to successfully integrate them with our existing operations and company culture. We cannot be certain that, following a strategic transaction or license, we will achieve the results, revenue, or specific net income that justifies such transaction.
To date, we have relied on one single-source supplier for bulk drug substance. The loss of this supplier or its failure to supply us with BDS on a timely basis could cause our ability to develop our product candidates and adversely affect our business.

We depend on one single-source supplier for bulk drug substance, or BDS. Although we believe that we have a substantial reserve of BDS to support our current clinical trial programs, there can be no assurance that our supply of BDS will not be limited, interrupted, or of satisfactory quality or continue to be available at acceptable prices. Additionally, we do not have any control over the process or timing of the acquisition or manufacture of materials by our supplier, and cannot ensure that it will deliver to us the BDS we order on time, or at all. The loss of BDS provided by this supplier could require us to change the design of our product candidate development process based on the functions, limitations, features, and specifications of the replacement.

In addition, the lead time needed to establish a relationship with a new supplier can be lengthy, and we may experience delays in meeting demand in the event we must switch to a new supplier. The time and effort to qualify a new supplier could result in additional costs, diversion of resources, or reduced manufacturing yields, any of which would negatively impact our operating results. Our reliance on this single-source supplier exposes us to certain risks, including the following:

- our supplier may cease or reduce production or deliveries, raise prices, or renegotiate terms;
- we may be unable to locate a suitable replacement on acceptable terms or on a timely basis, if at all;
- if there is a disruption to our single-source supplier’s operations, and if we are unable to enter into arrangements with alternative suppliers, we may need to halt our clinical trial programs;
- delays caused by supply issues may harm our reputation, frustrate our customers, and cause them to turn to our competitors for future projects; and
- our ability to develop our product candidates could be materially and adversely impacted if the single-source supplier upon which we rely were to experience a significant business challenge, disruption or failure due to issues such as financial difficulties or bankruptcy, issues relating to other customers such as regulatory or quality compliance issues, or other financial, legal, regulatory, or reputational issues.

Moreover, to meet anticipated demand, our single-source supplier may need to increase manufacturing capacity, which could involve significant challenges. This may require us and our supplier to invest substantial additional funds and hire and retain the technical personnel who have the necessary experience. Neither we nor our supplier may successfully complete any required increase to existing manufacturing capacity in a timely manner, or at all.

If we are unable to obtain sufficient raw and intermediate materials on a timely basis or if we experience other manufacturing or supply difficulties, our business may be adversely affected.

The manufacture of certain of our product candidates requires the timely delivery of sufficient amounts of raw and intermediate materials. We work closely with our suppliers to ensure the continuity of supply, but cannot guarantee these efforts will always be successful. Further, while efforts are made to diversify our sources of raw and intermediate materials, in certain instances we acquire raw and intermediate materials from a sole supplier. While we believe that alternative sources of supply exist where we rely on sole supplier relationships, there can be no assurance that we will be able to quickly establish additional or replacement sources for some materials. A reduction or interruption in supply, and an inability to develop alternative sources for such supply, could adversely affect our ability to manufacture our product candidates in a timely or cost-effective manner.

Supply sources could be interrupted from time to time and, if interrupted, there is no guarantee that supplies could be resumed within a reasonable time frame and at an acceptable cost or at all.

We rely on our manufacturers to purchase from third-party suppliers the materials necessary to produce our product candidates for our clinical trials. There are a limited number of suppliers for raw materials that we use to
manufacture our drugs and there may be a need to assess alternate suppliers to prevent a possible disruption of the manufacture of the materials necessary to produce our product candidates for our clinical trials, and if approved, ultimately for commercial sale. We do not have any control over the process or timing of the acquisition of these raw materials by our manufacturers. Moreover, we currently do not have any agreements for the commercial production of these raw materials. We cannot be sure that these suppliers will remain in business, or that they will not be purchased by one of our competitors or another company that is not interested in continuing to produce these materials for our intended purpose. In addition, the lead time needed to establish a relationship with a new supplier can be lengthy, and we may experience delays in meeting demand in the event a new supplier must be used. The time and effort to qualify a new supplier could result in additional costs, diversion of resources, or reduced manufacturing yields, any of which would negatively impact our operating results. Although we generally do not begin a clinical trial unless we believe we have a sufficient supply of a product candidate to complete the clinical trial, any significant delay in the supply of a product candidate, or the raw material components thereof, for an ongoing clinical trial due to the need to replace a third-party manufacturer could considerably delay completion of our clinical trials, product testing, and potential regulatory approval of our product candidates. If our manufacturers or we are unable to purchase these raw materials after regulatory approval has been obtained for our product candidates, the commercial launch of our product candidates would be delayed or there would be a shortage in supply, which would impair our ability to generate revenues from the sale of our product candidates.

**Risks Related to Intellectual Property and Information Technology**

We rely on patents and other intellectual property rights to protect our technology, including product candidates and our ARC and GADLEN platforms, the prosecution, enforcement, defense, and maintenance of which may be challenging and costly. Failure to protect or enforce these rights adequately could harm our ability to compete and impair our business.

Our commercial success depends in part on obtaining and maintaining patents and other forms of intellectual property rights for technology related to our product candidates, including, but not limited to, our ARC and GADLEN platforms, product candidates, methods used to manufacture those product candidates, formulations thereof, and the methods for treating patients using those product candidates. Given that the development of our technology and product candidates is at an early stage, our intellectual property portfolio with respect to certain aspects of our technology and product candidates is also at an early stage. We seek to protect our proprietary position by filing patent applications in the United States and abroad related to our novel platform technologies and product candidates that are important to our business. The patent prosecution process is expensive and time-consuming, and we may not be able to prepare, file, and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. In addition, during the patent prosecution process, we may receive rejections. Although we would be given an opportunity to respond to those rejections, we may be unable to overcome such rejections.

The issuance, scope, validity, enforceability, and commercial value of our current or future patent rights are highly uncertain. It is possible that we will fail to identify patentable aspects of inventions made in the course of development and commercialization activities before it is too late to obtain patent protection on them. Our pending and future patent applications may not result in patents being issued which protect our technology or product candidates, in whole or in part, or which effectively prevent others from commercializing competitive technologies and product candidates. The patent examination process may require us to narrow the scope of the claims of our pending and future patent applications, which may limit the scope of patent protection that may be obtained. Further, even if we obtain patents with sufficient scope to protect our technology or product candidates in their present forms, future technical changes to our technology or product candidates may render the patent coverage inadequate.

We cannot assure you that all of the potentially relevant prior art relating to our patents and patent applications has been found. If such prior art exists, it can invalidate or narrow the scope of a patent or prevent a
patent from issuing from a pending patent application. Even if patents do successfully issue and even if such patents cover our product candidates, third parties may initiate opposition, interference, re-examination, post-grant review, *inter partes* review, nullification, or derivation actions in court or before patent offices, or similar proceedings challenging the validity, ownership, enforceability, or scope of such patents, which may result in the patent claims being narrowed, invalidated, or held unenforceable or circumvented. Because patent applications in the United States and other jurisdictions are confidential for a period of time after filing, and some remain so until issued, we cannot be certain that we were the first to make the inventions claimed in our patents or pending patent applications, or that we were the first to file any patent applications related to such inventions. Our patent applications cannot be enforced against third parties practicing the technology claimed in such applications unless and until a patent issues from such applications, and then only to the extent the issued claims cover the technology. Furthermore, even where we have a valid and enforceable patent, we may not be able to exclude others from practicing our invention where the other party can show that they used the invention in commerce before our filing date or the other party benefits from a compulsory license. Additionally, our competitors or other third parties may be able to evade our patent rights by developing new antibodies, biosimilar antibodies, or alternative technologies or products in a non-infringing manner.

In addition, given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our intellectual property may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours. Moreover, some of our owned and in-licensed patents and patent applications may in the future be, co-owned with third parties. If we are unable to obtain an exclusive license to any such third-party co-owners’ interest in such patents or patent applications, such co-owners may be able to license their rights to other third parties, including our competitors, and our competitors could market competing products and technology. In addition, we or our licensors may need the cooperation of any such co-owners of our owned and in-licensed patents in order to enforce such patents against third parties, and such cooperation may not be provided to us or our licensors. Any of the foregoing could have a material adverse effect on our competitive position, business, financial conditions, results of operations and prospects.

The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment, and other provisions during the patent application process. There are situations in which noncompliance can result in abandonment or lapse of a patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, competitors might be able to enter the market earlier than would otherwise have been the case. The standards applied by the USPTO, foreign patent offices and patent courts or other authorities in granting patents and ruling on claim scope and validity are not always applied uniformly or predictably. Patent positions of life sciences companies can be uncertain and involve complex factual, scientific, and legal questions. Changes in either the patent laws or their interpretation in any jurisdiction that we seek patent protection may diminish our ability to protect our inventions, maintain and enforce our intellectual property rights; and, more generally, may affect the value of our intellectual property, including the narrowing of the scope of our patents and any that we may license.

Failure to protect or to obtain, maintain or extend adequate patent and other intellectual property rights could materially adversely affect our ability to develop and market our product candidates.

*We may become involved in lawsuits to protect or enforce our issued patents relating to one or more of our product candidates or our proprietary platforms, including our ARC and GADLEN platforms, which could ultimately render our patents invalid or unenforceable and adversely affect our competitive position. Intellectual property litigation or other legal proceedings could cause us to spend substantial resources and distract our personnel from their normal responsibilities.*

Competitors may infringe our patents or other intellectual property that relate to our ARC and GADLEN platforms and product candidates, their respective methods of use, manufacture, and formulations thereof. To protect our competitive position and counter infringement or unauthorized use, we may from time to time need to
resort to litigation to enforce or defend any patents or other intellectual property rights owned or licensed by us by filing infringement claims. As enforcement of intellectual property rights is difficult, unpredictable, time-consuming, and expensive, we may fail in enforcing our rights, in which case our competitors may be permitted to use our technology without being required to pay us any license fees. In addition, litigation involving our patents carries the risk that one or more of our patents will be held invalid (in whole or in part, on a claim-by-claim basis) or held unenforceable. Such an adverse court ruling could allow third parties to commercialize our product candidates or methods, or our ARC or GADLEN platform, and then compete directly with us, without payment to us.

Even if resolved in our favor, such litigation and other legal proceedings may cause us to incur significant expenses and would be likely to divert significant resources from our core business, including distracting our technical and management personnel from their normal responsibilities, and may impact our reputation. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. Such litigation or proceedings could substantially increase our operating losses and reduce our resources available for development activities. We may not have sufficient financial or other resources to adequately conduct such litigation or proceedings. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their substantially greater financial resources. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace.

If we were to initiate legal proceedings against a third party to enforce a patent related to one of our product candidates, the defendant could counterclaim that our patent is invalid and/or unenforceable. In patent litigation in the United States or in certain jurisdictions in Europe, defendant counterclaims alleging invalidity and/or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, for example, novelty, non-obviousness, written description or enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO, or made a misleading statement, during prosecution. Third parties may also raise similar invalidity and/or unenforceability claims before administrative bodies in the United States or abroad, even outside the context of litigation through opposition, interference, re-examination, post-grant review, inter partes review, nullification, or derivation actions or proceedings. The outcome following legal assertions of invalidity and unenforceability during patent litigation or administrative proceedings is unpredictable. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability, we would lose at least part, and perhaps all, of the patent protection on one or more of our technologies, product candidates, methods or certain aspects of our ARC or GADLEN platform. Such a loss of patent protection could have a material adverse impact on our business.

There is also a risk that, even if the validity of our patents is upheld, the court will construe our patent’s claims narrowly or decide that we do not have the right to stop the other party from using the invention at issue on the grounds that our patent claims do not cover our own products or the other party’s products. Even if we establish infringement, the court may decide not to grant an injunction against further infringing activity and instead award only monetary damages, which may or may not be an adequate remedy. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during litigation. Patents and other intellectual property rights also will not protect our technology if competitors design around our protected technology without infringing our patents or other intellectual property rights.
We may fail to identify relevant third-party patents or may incorrectly interpret the relevance, scope, or expiration of a third-party patent which might adversely affect our ability to develop our ARC and GADLEN platforms and product candidates.

We cannot guarantee that our operations and activities do not, or will not in the future, infringe existing or future patents. We also cannot guarantee that any of our patent searches or analyses, including the identification of relevant patents, the scope of patent claims or the expiration of relevant patents, are complete or thorough, nor can we be certain that we have identified each and every third-party patent and pending application in the United States and abroad that is relevant to our ARC or GADLEN platform or necessary for the commercialization of our product candidates in any jurisdiction.

Numerous U.S. and foreign patents and pending patent applications exist in our market that are owned by third parties. Our competitors in both the United States and abroad, many of which have substantially greater resources and have made substantial investments in patent portfolios and competing technologies, may have applied for or obtained or may in the future apply for and obtain, patents that will prevent, limit, or otherwise interfere with our ability to make, use, and sell our product candidates. We do not always conduct independent reviews of pending patent applications of and patents issued to third parties. Patent applications in the United States and elsewhere are typically published approximately 18 months after the earliest filing for which priority is claimed, with such earliest filing date being commonly referred to as the priority date. Certain U.S. applications that will not be filed outside the United States can remain confidential until patents are issued. In addition, patent applications in the United States and elsewhere can be pending for many years before issuance, and unintentionally abandoned patents or applications can be revived. Furthermore, pending patent applications that have been published can, subject to certain limitations, be later amended in a manner that could cover our technologies, our product candidates, or the use thereof. As such, there may be applications of third parties now pending or recently revived patents of which we are unaware. These applications may later result in issued patents, or the revival of previously abandoned patents, that will prevent, limit, or otherwise interfere with our ability to make, use, or sell our product candidates.

The scope of a patent claim is determined by an interpretation of law and, among other considerations, the written disclosure in a patent and the patent’s prosecution history. The claim scope sought in a patent application can be significantly reduced before the patent is issued, and its scope can be reinterpreted or further altered even after patent issuance, including through interferences, post-grant proceedings, opposition proceedings, or other intellectual property proceedings to address issues or errors that may render claims of the issued patent either wholly or partially invalid or unenforceable. Our interpretation of the relevance or the scope of a patent or a pending application may be incorrect, which may negatively impact our ability to market our product candidates. We may incorrectly determine that our product candidates are not covered by a third-party patent or may incorrectly predict whether a third party’s pending application will issue with claims of relevant scope. Our determination of the expiration date of any patent in the United States or abroad that we consider relevant may be incorrect, which may negatively impact our ability to develop and market our product candidates. We cannot provide any assurances that third-party patents do not exist which might be enforced against our current technology, including our platform technologies, product candidates and their respective methods of use, manufacture, and formulations thereof, and could result in either an injunction prohibiting our manufacture or future sales, or, with respect to our future sales, an obligation on our part to pay royalties and/or other forms of compensation to third parties, which could be significant.

Intellectual property rights of third parties could adversely affect our ability to develop or commercialize our product candidates, such that we could be required to litigate or obtain licenses from third parties in order to develop or market our product candidates.

Our commercial success depends, in part, on our ability to develop, manufacture, market, and sell our product candidates without infringing, or otherwise violating the intellectual property and other proprietary rights of third parties. Our competitive position may suffer if patents issued to third parties or other third-party
intellectual property rights cover our methods or product candidates or elements thereof, our manufacture or uses relevant to our development plans, our product candidates or other attributes of our product candidates, or our ARC or GADLEN platform. In such cases, we may not be in a position to develop or commercialize product candidates unless we successfully pursue litigation to nullify or invalidate the third-party intellectual property right concerned, which can be expensive and time-consuming, or have to enter into a license agreement with the intellectual property right holder, if available on commercially reasonable terms at all.

There is a substantial amount of intellectual property litigation in the biotechnology and pharmaceutical industries, and we may become party to, or threatened with, litigation or other adversarial proceedings regarding intellectual property rights with respect to our product candidates. Parties making claims against us may seek and obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize our product candidates. We will vigorously defend the claims asserted against us.

If we are sued for patent infringement, we would need to demonstrate that our product candidates or platform technologies either do not infringe the patent claims of a relevant patent or that the patent claims are invalid or unenforceable, and we may not be able to do this. Proving invalidity may be difficult. For example, in the United States, proving invalidity in court requires a showing of clear and convincing evidence to overcome the presumption of validity enjoyed by issued patents. We may not have sufficient resources to bring these actions to a successful conclusion. If we are unable to successfully settle future claims on terms acceptable to us, we may be required to engage or continue costly, unpredictable, and time-consuming litigation and may be prevented from or experience substantial delays in marketing our product candidates.

Our involvement in litigation, and in any interferences, post-grant proceedings, opposition proceedings, or other intellectual property proceedings inside and outside of the United States may divert management from focusing on business operations, and even if we are successful in these proceedings, we may incur substantial costs and the time and attention of our management and scientific personnel could be diverted in pursuing these proceedings, which could have a material adverse effect on our business and operations. In addition, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation.

Any current and potential intellectual property litigation also could force us to do one or more of the following:

• stop marketing, selling, incorporating, manufacturing, or using our product candidates or any products, if approved, in the United States and/or other jurisdictions that use the subject intellectual property;
• obtain from a third party asserting its intellectual property rights, a license to sell or use the relevant technology, including the obligation to pay royalties, which license may not be available on reasonable terms, or at all, or may be non-exclusive thereby giving our competitors access to the same technologies licensed to us;
• redesign those products or processes that use any allegedly infringing or misappropriated technology, which may result in significant cost or delay to us, or which redesign could be impossible or technically infeasible; or
• pay damages, including the possibility of treble damages and attorneys’ fees in a patent case if a court finds us to have willfully infringed certain intellectual property rights.

We may need to obtain additional licenses of third-party technology that may not be available to us or are available only on commercially unreasonable terms, and which may cause us to operate our business in a more costly or otherwise adverse manner that was not anticipated.

We own and are pursuing rights to the intellectual property, including patent applications relating to our ARC platform and our product candidates. From time to time, we may be required to license technologies
relating to our therapeutic research programs from additional third parties to further develop or commercialize our platform technologies and product candidates. The targets of our product candidates have also been the subject of research by many companies that have filed patent applications or have patents related to such targets and therapeutic methods relating to those targets. There can be no assurance any such patents will not be asserted against us or that we will not need to seek licenses from such third parties. We may not be able to secure such licenses on acceptable terms, if at all, and any such litigation would be costly and time-consuming.

Should we be required to obtain licenses to any third-party technology, including any such patents required to manufacture, use, or sell our product candidates, the growth of our business will likely depend in part on our ability to acquire, in-license, maintain, or use these proprietary rights. The inability to obtain any third-party license required to develop or commercialize any of our product candidates could cause us to abandon any related efforts, which could seriously harm our business and operations.

In addition, our product candidates may require specific formulations to work effectively and efficiently and the rights to these formulations may be held by others. We may be unable to acquire or in-license any compositions, methods of use, processes, or other third-party intellectual property rights from third parties that we identify as necessary for our product candidates. The licensing and acquisition of third-party intellectual property rights is a competitive area, and a number of more established companies are also pursuing strategies to license or acquire third-party intellectual property rights that we may consider attractive. These established companies may have a competitive advantage over us due to their size, cash resources, and greater clinical development and commercialization capabilities.

In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. We also may be unable to license or acquire third-party intellectual property rights on terms that would allow us to make an appropriate return on our investment. Even if we are able to obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. If we are unable to successfully obtain a license to third-party intellectual property rights necessary for the development of a product candidate or program, we may have to abandon development of that product candidate or program and our business and financial condition could suffer.

We depend on intellectual property licensed from third parties and if we fail to comply with our obligations under any license, collaboration or other agreements, we may be required to pay damages and could lose intellectual property rights that are necessary for developing and protecting our product candidates or we could lose certain rights to grant sublicenses.

Our current licenses impose, and any future licenses we enter into are likely to impose, various development, commercialization, funding, milestone, royalty, diligence, sublicensing, insurance, patent prosecution and enforcement, and/or other obligations on us. If we breach any of these obligations, or use the intellectual property licensed to us in an unauthorized manner, we may be required to pay damages and the licensor may have the right to terminate the license, which could result in us being unable to develop, manufacture, and sell any future products that are covered by the licensed technology or enable a competitor to gain access to the licensed technology. Moreover, our licensors may own or control intellectual property that has not been licensed to us and, as a result, we may be subject to claims, regardless of their merit, that we are infringing or otherwise violating the licensor’s rights. In addition, while we cannot determine currently the amount of the royalty obligations we would be required to pay on sales of future products, if any, the amounts may be significant. The amount of our future royalty obligations will depend on the technology and intellectual property we use in products that we successfully develop and commercialize, if any. Therefore, even if we successfully develop and commercialize products, we may be unable to achieve or maintain profitability.

Moreover, disputes may arise regarding intellectual property subject to a licensing agreement, including:

- the scope of rights granted under the license agreement and other interpretation-related issues;
the extent to which our product candidates, technology and processes infringe on intellectual property of the licensor that is not subject to the licensing agreement;

• the sublicensing of patent and other rights under our collaborative development relationships;

• our diligence obligations under the license agreement and what activities satisfy those diligence obligations;

• the inventorship and ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors and us and our partners; and

• the priority of invention of patented technology.

In addition, the agreements under which we currently license intellectual property or technology from third parties are complex, and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology, or increase what we believe to be our financial or other obligations under the relevant agreement, either of which could have a material adverse effect on our business, financial condition, results of operations, and prospects. Moreover, if disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on commercially acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

We may rely on third parties from whom we license proprietary technology to file and prosecute patent applications and maintain patents and otherwise protect the intellectual property rights we license from them. We may have limited control over these activities or any other intellectual property rights that may be related to our in-licensed intellectual property rights. For example, we cannot be certain that such activities by these licensors will be conducted in compliance with applicable laws and regulations or will result in valid and enforceable patents and other intellectual property rights. Therefore, these patents and patent applications may not be prosecuted and enforced in a manner consistent with the best interests of our business. We may have limited control over the manner in which our licensors initiate an infringement proceeding against a third-party infringer of the intellectual property rights, or defend certain of the intellectual property rights that may be licensed to us. It is possible that the licensors’ infringement proceeding or defense activities may be less vigorous than if we conduct them ourselves.

If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected.

Our registered or unregistered trademarks or trade names may be challenged, infringed, circumvented, or declared generic or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks and trade names, which we need to build name recognition by potential collaborators, partners, or customers in our markets of interest. Over the long term, if we are unable to establish name recognition based on our trademarks and trade names, then we may not be able to compete effectively and our business may be adversely affected. If other entities use trademarks similar to ours in different jurisdictions, or have senior rights to ours, it could interfere with our use of our current trademarks throughout the world.

During trademark registration proceedings, we may receive rejections. Although we would be given an opportunity to respond to those rejections, we may be unable to overcome such rejections. In addition, in both the USPTO and comparable agencies in many foreign jurisdictions, third parties are given an opportunity to oppose pending trademark applications and to seek to cancel registered trademarks. Opposition or cancellation proceedings may be filed against our trademarks, which may not survive such proceedings. If we are unable to establish name recognition based on our trademarks and trade names, we may not be able to compete effectively and our business may be adversely affected.

53
We may license our trademarks and trade names to third parties, such as distributors. Though these license agreements may provide guidelines for how our trademarks and trade names may be used, a breach of these agreements or misuse of our trademarks and tradenames by our licensees may jeopardize our rights in or diminish the goodwill associated with our trademarks and trade names.

**Patent terms may be inadequate to protect our competitive position on our product candidates for an adequate amount of time.**

Patents have a limited lifespan. In the United States, if all maintenance fees are timely paid, the natural expiration of a patent is generally 20 years from its earliest U.S. non-provisional filing date. Various extensions may be available, but the life of a patent, and the protection it affords, is limited. Even if patents covering our product candidates are obtained, once the patent life has expired for a product, we may be open to competition from competitive medications, including biosimilar medications. In addition, although upon issuance in the United States a patent’s life can be increased based on certain delays caused by the USPTO, this increase can be reduced or eliminated based on certain delays caused by the patent applicant during patent prosecution. If we do not have sufficient patent life to protect our product candidates and any products, if approved, our business and results of operations will be adversely affected. Given the amount of time required for the development, testing, and regulatory review of new product candidates, operations will be adversely affected. Given the amount of time required for the development, testing, and regulatory review of new product candidates, our business and results of operations will be adversely affected.

**If we do not obtain protection under the Hatch-Waxman Amendments and similar non-U.S. legislation for extending the term of patents covering each of our product candidates, our business may be materially harmed.**

Depending upon the timing, duration, and conditions of FDA marketing approval of our product candidates, one or more of our U.S. patents may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, referred to as the Hatch-Waxman Amendments, and similar legislation in the European Union. The Hatch-Waxman Amendments permit a patent term extension of up to five years for a patent covering an approved product as compensation for effective patent term lost during product development and the FDA regulatory review process. A patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval, and only claims covering such approved drug product, a method for using it or a method for manufacturing it may be extended. However, we may not receive an extension if we fail to apply within applicable deadlines, fail to apply prior to expiration of relevant patents, or otherwise fail to satisfy applicable requirements. Moreover, the length of the extension could be less than we request. If we are unable to obtain patent term extension or the term of any such extension is less than we request, the period during which we can enforce our patent rights for that product will be shortened and our competitors may obtain approval to market competing products sooner. As a result, our revenue from applicable products could be reduced, possibly materially.

**We enjoy only limited geographical protection with respect to certain patents and may not be able to protect our intellectual property rights throughout the world.**

Patents are of national or regional effect. While we will endeavor to try to protect our technologies, products and product candidates with intellectual property rights such as patents throughout the world, as appropriate, the process of obtaining patents is time-consuming, expensive, and sometimes unpredictable in other countries. We may not be able to file, prosecute, maintain, enforce, or license all necessary or desirable patent rights at a commercially reasonable cost or in a timely manner. In addition, we may not pursue or obtain patent protection in all markets. As such, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions.
International applications under the Patent Cooperation Treaty, or PCT, are usually filed within 12 months after the priority filing. Based on the PCT filing, national and regional patent applications may be filed in additional jurisdictions where we believe our product candidates may be marketed. We have not, and will not, file for patent protection in all national and regional jurisdictions where such protection may be available. Filing, prosecuting, and defending patents on all of our research programs and product candidates in all countries throughout the world would be prohibitively expensive, and, therefore, the scope and strength of our intellectual property rights will vary from jurisdiction to jurisdiction. In addition, we may decide to abandon national and regional patent applications before grant. Finally, the grant proceeding of each national/regional patent is an independent proceeding which may lead to situations in which applications might in some jurisdictions be refused by the relevant patent offices, while granted by others. Further, the standards applied by the USPTO and foreign patent offices in granting patents are not always applied uniformly or predictably. It is common that depending on the country, the scope of patent protection may vary for the same product candidate and/or technology. As such, we do not know the degree of future protection that we will have on our technologies and product candidates in different jurisdictions.

Competitors may use our or our collaboration partners’ technologies in jurisdictions where we have not obtained patent protection to develop their own products and, further, may export otherwise infringing products to territories where we or our collaboration partners have patent protection, but enforcement is not as strong as that in the United States. These products may compete with our product candidates, and our or our collaboration partners’ patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

The laws of some jurisdictions, particularly certain developing countries, do not protect intellectual property rights, particularly those relating to pharmaceuticals or biologics, to the same extent as laws in the United States, and many companies have encountered significant difficulties in protecting and defending such rights in such jurisdictions. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. If we encounter difficulties in protecting, or are otherwise precluded from effectively protecting, the intellectual property rights important for our business in such jurisdictions, the value of these rights may be diminished and we may face additional competition from others in those jurisdictions.

Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing, and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain significant commercial advantage from the intellectual property that we develop or license.

Some countries, including China and India, have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. In addition, some countries limit the enforceability of patents against government agencies or government contractors. In these countries, the patent owner may have limited remedies, which could materially diminish the value of such patent. If we are forced to grant a license to third parties with respect to any patents relevant to our business, our competitive position may be impaired and our business and results of operations may be adversely affected.

We may become subject to claims challenging the inventorship or ownership of our patents and other intellectual property.

We generally enter into confidentiality and intellectual property assignment agreements with our employees, consultants, and contractors. These agreements generally provide that inventions conceived by the party in the course of rendering services to us will be our exclusive property. However, those agreements may not be honored.
Table of Contents

and may not effectively assign intellectual property rights to us. Moreover, there may be some circumstances, where we are unable to negotiate for such ownership rights. Disputes regarding ownership or inventorship of intellectual property can also arise in other contexts, such as collaborations and sponsored research. If we are subject to a dispute challenging our rights in or to patents or other intellectual property, such a dispute could be expensive and time consuming. If we were unsuccessful, we could lose valuable rights in intellectual property that we regard as our own. In addition, interferences, post-grant proceedings, opposition proceedings, derivation proceedings, or other intellectual property proceedings provoked by third parties or brought by us or declared by the USPTO may be necessary to determine the priority of inventions with respect to our patents or patent applications.

The failure to name the proper inventors on a patent application can result in the patents issuing thereon being unenforceable. Inventorship disputes may arise from conflicting views regarding the contributions of different individuals named as inventors, the effects of foreign laws where foreign nationals are involved in the development of the subject matter of the patent, conflicting obligations of third parties involved in developing our product candidates or as a result of questions regarding co-ownership of potential joint inventions. Litigation may be necessary to resolve these and other claims challenging inventorship and/or ownership. Alternatively, or additionally, we may enter into agreements to clarify the scope of our rights in such intellectual property. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, valuable intellectual property. Such an outcome could have a material adverse effect on our business. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.

Intellectual property rights do not necessarily address all potential threats to our competitive advantage.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations, and may not adequately protect our business, or permit us to maintain our competitive advantage. Moreover, if a third party has intellectual property rights that cover the practice of our technology, we may not be able to fully exercise or extract value from our intellectual property rights. The following examples are illustrative:

- others may be able to make product candidates similar to our product candidates but that are not covered by the claims of the patents that we own or have exclusively licensed;
- the patents of third parties may have an adverse effect on our business;
- we or any future strategic partners might not have been the first to conceive or reduce to practice the inventions covered by the issued patent or pending patent application that we own or have exclusively licensed;
- we or any future strategic partners might not have been the first to file patent applications covering certain of our inventions;
- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing, misappropriating, or otherwise violating our intellectual property rights;
- it is possible that our pending patent applications will not lead to issued patents;
- issued patents that we own or have exclusively licensed may not provide us with any competitive advantage, or may be held invalid or unenforceable, as a result of legal challenges by our competitors;
- we cannot predict the degree and range of protection any issued patents will afford us against competitors, whether or not others will obtain patents claiming aspects similar to those covered by our patents and patent applications, or whether we will need to initiate litigation or administrative proceedings which may be costly whether we win or lose;
- our competitors might conduct research and development activities in countries where we do not have patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets;
third parties performing manufacturing or testing for us using our product candidates or technologies could use the intellectual property of others without obtaining a proper license; and

we may not develop additional technologies that are patentable.

Should any of these events occur, they could significantly harm our business, results of operations, and prospects.

Composition of matter patents for biological and pharmaceutical products such as our product candidates are generally considered to be the strongest form of intellectual property protection for those types of products, as such patents provide protection without regard to any method of use. We cannot be certain that the claims in our pending patent applications covering composition of matter of our product candidates will be considered patentable by the USPTO or by patent offices in foreign countries, or that the claims in any of our issued patents will be considered valid and enforceable by courts in the United States or foreign countries. Method of use patents protect the use of a product for the specified method. This type of patent does not prevent a competitor from making and marketing a product that is identical to our product for an indication that is identical to our product for an indication that is outside the scope of the patented method. Moreover, even if competitors do not actively promote their product for our targeted indications, physicians may prescribe these products “off-label.” Although off-label prescriptions may infringe or contribute to the infringement of method of use patents, the practice is common and such infringement is difficult to prevent or prosecute.

Changes in patent laws or patent jurisprudence could diminish the value of patents in general, thereby impairing our ability to protect our product candidates.

As is the case with other biopharmaceutical companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biopharmaceutical industry involve both technological complexity and legal complexity. Recent U.S. Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. Therefore, obtaining and enforcing biopharmaceutical patents is costly, time-consuming, and inherently uncertain.

In September 2011, the America Invents Act, or the AIA, was enacted in the United States, resulting in significant changes to the U.S. patent system. An important change introduced by the AIA was a transition to a “first-to-file” system for deciding which party should be granted a patent when two or more patent applications are filed by different parties claiming the same invention, which went into effect on March 16, 2013. Therefore, a third party that now files a patent application in the USPTO before we do could be awarded a patent covering an invention of ours even if we created the invention before it was created by the third party. While we are cognizant of the time from invention to filing of a patent application, circumstances could prevent us from promptly filing patent applications for our inventions.

Among some of the other changes introduced by the AIA were changes that limit where a patentee may file a patent infringement suit and providing opportunities for third parties to challenge any issued patent in the USPTO. This applies to all of our U.S. patents. Because of a lower evidentiary standard in USPTO proceedings compared to the evidentiary standard in U.S. federal courts necessary to invalidate a patent claim, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a district court action. Accordingly, a third party may attempt to use the USPTO procedures to invalidate our patent claims that would not have been invalidated if first challenged by the third party as a defendant in a district court action. The AIA and its continued implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications, and the patent applications of our collaborators, and the enforcement or defense of our issued patents.

Depending on decisions by the U.S. Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that could weaken our ability to obtain new patents or to
enforce our existing patents and patents that we might obtain in the future. For example, in the case, Assoc. for Molecular Pathology v. Myriad Genetics, Inc., the U.S. Supreme Court held that certain claims to DNA molecules are not patentable. While we do not believe that any of the patents owned or licensed by us will be found invalid based on this decision, we cannot predict how future decisions by the courts, the U.S. Congress or the USPTO may impact the value of our patents. Similarly, there is complexity and uncertainty related to European patent laws. For example, European patent laws are stringent in the type of amendments that are allowed during prosecution, and the complexity and uncertainty of European patent laws has also increased in recent years. These limitations and requirements could adversely affect our ability to obtain new patents in the future that may be important for our business.

We may rely on trade secret and proprietary know-how, which can be difficult to trace and enforce and, if we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be harmed.

In addition to seeking patents for some of our technology and product candidates, we may rely on trade secrets and/or confidential know-how to protect our technology, especially where patent protection is believed to be of limited value, to maintain our competitive position with respect to our research programs and product candidates. Elements of our product candidates, including processes for their preparation and manufacture, may involve proprietary know-how, information, or technology that is not covered by patents, and thus for these aspects we may consider trade secrets and know-how to be our primary intellectual property. Any disclosure, either intentional or unintentional, by our employees or by other third parties of our trade secrets or proprietary information could enable competitors to duplicate or surpass our technological achievements, thus adversely eroding our competitive position in our market.

Trade secrets and/or confidential know-how can be difficult to protect or maintain as confidential. To protect this type of information against disclosure or appropriation by competitors, we generally require our employees, consultants, contractors, collaborators, advisors, and other third parties to enter into confidentiality agreements with us. Despite these efforts, any of these parties may unintentionally or willfully breach the agreements and disclose our confidential information, and confidentiality agreements may not provide an adequate remedy in the event of unauthorized disclosure of confidential information. Monitoring unauthorized uses and disclosures is difficult, and we do not know whether the steps we have taken to protect our proprietary technologies will be effective. Enforcing a claim that a third party obtained illegally and is using trade secrets and/or confidential know-how is also expensive, time-consuming, and unpredictable.

The enforceability of confidentiality agreements may vary from jurisdiction to jurisdiction. The laws of some foreign countries do not protect proprietary rights to the same extent or in the same manner as the laws of the United States. As a result, we may encounter significant problems in protecting and defending our intellectual property both in the United States and abroad. Furthermore, if a competitor lawfully obtained or independently developed any of our trade secrets, we would have no right to prevent such competitor from using that technology or information to compete with us, which could harm our competitive position. Additionally, if the steps taken to maintain our trade secrets are deemed inadequate, we may have insufficient recourse against third parties for misappropriating the trade secret. In addition, some courts inside and outside the United States are less willing or are unwilling to protect trade secrets or other proprietary information.

Trade secrets can over time be disseminated within the industry through independent development, the publication of journal articles and the movement of personnel skilled in the art from company to company or academic to industry scientific positions. Though our agreements with third parties typically restrict the ability of our employees, consultants, contractors, collaborators, advisors, and other third parties to publish data potentially relating to our trade secrets, our agreements may contain certain limited publication rights. Because from time to time we expect to rely on third parties in the development, manufacture, and distribution of our product candidates and provision of our services, we must, at times, share trade secrets with them. Despite employing the contractual and other security precautions described above, the need to share trade secrets increases the risk that
such trade secrets become known by our competitors, are inadvertently incorporated into the technology of others, or are disclosed or used in violation of these agreements. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor or other third party, we would have no right to prevent them from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to or independently developed by a competitor or other third party, our competitive position would be harmed.

In addition, our competitors may independently develop substantially equivalent trade secrets, proprietary information, or know-how and may even apply for patent protection in respect of the same. If successful in obtaining such patent protection, our competitors could limit our use of our trade secrets and/or confidential know-how. Under certain circumstances and to make it more likely that we have our freedom to operate, we may also decide to publish some know-how to make it difficult for others to obtain patent rights covering such know-how, at the risk of potentially exposing our trade secrets to our competitors.

We may be subject to third-party claims asserting that our employees, consultants, contractors, collaborators, or advisors have misappropriated or wrongfully used or disseminated their intellectual property, or claiming ownership of what we regard as our own intellectual property.

Many of our employees, including our senior management, were previously employed at universities or at other biopharmaceutical companies, including our competitors or potential competitors. Some of these employees executed proprietary rights, non-disclosure, and non-competition agreements in connection with such previous employment. Similarly, we work with consultants, contractors, collaborators, advisors, or other third parties who have worked with, and do currently work with, other companies, including our competitors or potential competitors, and have executed proprietary rights, non-disclosure, and non-competition agreements in connection with such other companies. Although we try to ensure that our employees, consultants, contractors, collaborators, advisors, or other third parties do not use or disclose the proprietary information or know-how of others in their work for us, we may be subject to claims that we or these employees or individuals that we work with have used or disclosed confidential information or intellectual property of others, including trade secrets or other proprietary information, or that we caused an individual to breach the terms of his or her non-competition or non-solicitation agreement with a current or former employer or competitor.

Litigation may be necessary to defend against these claims and, even if we are successful, could result in substantial costs and could be a distraction to management, our employees, and our routine business. If we fail in prosecuting or defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel or sustain damages. Such intellectual property rights could be awarded to a third party, and we could be required to obtain a license from such third party to develop or commercialize our technology or product candidates. Such a license may not be available on commercially reasonable terms or at all. Moreover, any such litigation or the threat thereof may adversely affect our reputation and our ability to form strategic alliances or sublicense our rights to collaborators, engage with scientific advisors or hire employees or consultants, each of which would have an adverse effect on our business, results of operations, and financial condition.

Obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment, and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for noncompliance with these requirements.

Periodic maintenance and annuity fees on any issued patent are due to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of the patent. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment, and other similar provisions during the patent application process. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or
complete loss of patent rights in the relevant jurisdiction. Noncompliance events that could result in abandonment or lapse of a patent or patent application include failure to respond to official actions within prescribed time limits, non-payment of fees, and failure to properly legalize and submit formal documents within prescribed time limits. If we fail to maintain the patents and patent applications covering our product candidates or if we otherwise allow our patents or patent applications to be abandoned or lapse, our competitors might be able to enter the market, which would have an adverse effect on our business.

Our information technology systems, or those used by our CROs or other contractors or consultants, may fail or suffer security breaches, which could adversely affect our business.

We collect and maintain information in digital form that is necessary to conduct our business, and we are dependent on our information technology systems and those of third parties to operate our business. In the ordinary course of our business, we collect, store, and transmit large amounts of confidential information, including intellectual property, proprietary business information, and personal information, and data to comply with cGMP and data integrity requirements. It is critical that we do so in a secure manner to maintain data security and data integrity of such information. We have established physical, electronic, and organizational measures to safeguard and secure our systems to prevent a data compromise. We have also outsourced elements of our information technology infrastructure, and as a result a number of third-party vendors may or could have access to our confidential information. Despite the implementation of security measures, our information technology systems and data and those of our current or future CROs or other contractors and consultants are vulnerable to compromise or damage from computer hacking, malicious software, fraudulent activity, employee misconduct, human error, telecommunication and electrical failures, natural disasters, or other cybersecurity attacks or accidents. Future acquisitions could expose us to additional cybersecurity risks and vulnerabilities from any newly acquired information technology infrastructure. Cybersecurity attacks are constantly increasing in sophistication and are made by groups and individuals with a wide range of motives (including industrial espionage) and expertise, including by organized criminal groups, “hacktivists,” nation states, and others. As a company with an increasingly global presence, our systems are subject to frequent attacks and have been targeted by foreign actors for purposes of economic espionage. Due to the nature of some of these attacks, there is a risk that an attack may remain undetected for a period of time. While we continue to make investments to improve the protection of data and information technology, there can be no assurance that our efforts will prevent service interruptions or security breaches.

Any cybersecurity incident could adversely affect our business, by leading to, for example, the loss of trade secrets or other intellectual property, demands for ransom or other forms of blackmail, or the unauthorized disclosure of personal or other sensitive information of our employees, clinical trial patients, customers, and others. Although to our knowledge we have not experienced any material cybersecurity incident to date, if such an event were to occur, it could seriously harm our development programs and our business operations. We could be subject to regulatory actions taken by governmental authorities, litigation under laws that protect the privacy of personal information, or other forms of legal proceedings, which could result in significant liabilities or penalties. Further, a cybersecurity incident may disrupt our business or damage our reputation, which could have a material adverse effect on our business, prospects, operating results, share price, stockholder value, and financial condition. We could also incur substantial remediation costs, including the costs of investigating the incident, repairing or replacing damaged systems, restoring normal business operations, implementing increased cybersecurity protections, and paying increased insurance premiums.

Risks Related to Ownership of Our Common Stock

Our stock price may be volatile or may decline regardless of our operating performance, resulting in substantial losses for investors.

The market price of our common stock may be highly volatile and may fluctuate substantially as a result of a variety of factors, some of which are related in complex ways. The market price of our common stock may
fluctuate significantly in response to numerous factors, many of which are beyond our control, including the factors listed below and other factors describe in this “Risk Factors” section:

- the commencement, enrollment, or results of current and future preclinical studies and clinical trials and trials we may conduct, or changes in the development status of our product candidates;
- any delay in our regulatory filings for our product candidates and any adverse development or perceived adverse development with respect to the applicable regulatory authority’s review of such filings, including, without limitation, the issuance by the FDA of a “refusal to file” letter or a request for additional information;
- adverse results or delays in clinical trials;
- our decision to initiate a preclinical study or clinical trial, not to initiate a preclinical study or clinical trial or to terminate an existing preclinical study or clinical trial;
- adverse actions taken by regulatory agencies with respect to our preclinical studies or clinical trials, manufacturing supply chain or sales and marketing activities, including failure to receive regulatory approval of our product candidates;
- changes in laws or regulations, including, but not limited to, preclinical study or clinical trial requirements for approvals;
- any adverse changes to our relationship with manufacturers or suppliers;
- manufacturing, supply or distribution shortages;
- our failure to commercialize our product candidates;
- additions or departures of key scientific or management personnel;
- unanticipated serious safety concerns related to the use of our product candidates;
- disputes or other developments relating to proprietary rights, including patents, litigation matters, and our ability to obtain patent protection for our technologies;
- variations in our results of operations;
- our cash position;
- our failure to meet the estimates and projections of the investment community or that we may otherwise provide to the public;
- publication of research reports about us or our industry, or immuno-oncology in particular, or positive or negative recommendations or withdrawal of research coverage by securities analysts;
- announcements made by us or our competitors of new product and service offerings, acquisitions, strategic relationships, joint ventures, or capital commitments;
- our inability to establish collaborations, if needed;
- our ability to effectively manage our growth;
- the size and growth of our initial cancer target markets;
- our ability to successfully treat additional types of cancers or at different stages;
- changes in the market valuations of similar companies;
- press reports, whether or not true, about our business;
- sales or perceived potential sales of our common stock by us or our stockholders in the future;
- overall fluctuations in the equity markets;
ineffectiveness of our internal controls;
changes in accounting practices or principles;
changes or developments in the global regulatory environment;
litigation involving us, our industry or both, or investigations by regulators into our operations or those of our competitors;
general political and economic conditions; and
other events or factors, many of which are beyond our control.

In addition, the stock market in general, and the Nasdaq Stock Market, or Nasdaq, and biopharmaceutical companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. Broad market and industry factors may negatively affect the market price of our common stock, regardless of our actual operating performance. If the market price of our common stock after this offering does not exceed the initial public offering price, you may not realize any return on, and may lose some or all of, your investment.

We could be subject to securities class action litigation.

In the past, securities class action litigation has often been instituted against companies following periods of volatility in the market price of a company’s securities. This type of litigation, if instituted, could result in substantial costs and a diversion of management’s attention and resources, which would harm our business, operating results, or financial condition. Additionally, the dramatic increase in the cost of directors’ and officers’ liability insurance may cause us to opt for lower overall policy limits or to forgo insurance that we may otherwise rely on to cover significant defense costs, settlements, and damages awarded to plaintiffs.

Our principal stockholders and management own a significant percentage of our stock and will be able to exert significant control over matters subject to stockholder approval.

Prior to this offering, as of [date], 2020, our executive officers, directors, holders of 5% or more of our capital stock and their respective affiliates owned approximately [percentage] of our outstanding voting stock and, upon the closing of this offering, that same group will own approximately [percentage] of our outstanding voting stock (assuming no exercise of the underwriters’ option to purchase additional shares). Therefore, even after this offering these stockholders will have the ability to influence us through this ownership position. These stockholders may be able to determine all matters requiring stockholder approval. For example, these stockholders may be able to control elections of directors, amendments of our organizational documents, or approval of any merger, sale of assets, or other major corporate transaction. This may prevent or discourage unsolicited acquisition proposals or offers for our common stock that you may feel are in your best interest as one of our stockholders.

Future sales of our common stock in the public market could cause our common stock price to fall.

Our common stock price could decline as a result of sales of a large number of shares of common stock after this offering or the perception that these sales could occur. These sales, or the possibility that these sales may occur, might also make it more difficult for us to sell equity securities in the future at a time and price that we deem appropriate.

Upon the completion of this offering, [number] shares of common stock will be outstanding (including [number] shares if the underwriters exercise their option to purchase additional shares from us in full), based on the number of shares outstanding as of [date], 2020.
All shares of common stock expected to be sold in this offering will be freely tradable without restriction or further registration under the Securities Act unless held by our “affiliates” as defined in Rule 144 under the Securities Act. The resale of the remaining shares, or % of our outstanding shares of common stock following this offering, is currently prohibited or otherwise restricted as a result of securities law provisions, market standoff agreements entered into by certain of our stockholders with us or lock-up agreements entered into by our stockholders with the underwriters in connection with this offering. However, subject to applicable securities law restrictions, these shares will be able to be sold in the public market beginning 181 days after the date of this prospectus. Shares issued upon the exercise of stock options outstanding under our equity incentive plans or pursuant to future awards granted under those plans will become available for sale in the public market to the extent permitted by the provisions of applicable vesting schedules, market stand-off agreements and/or lock-up agreements, as well as Rules 144 and 701 under the Securities Act. For more information, see “Shares Eligible for Future Sale.”

Upon the completion of this offering, the holders of approximately shares, or % of our outstanding shares following this offering, of our common stock will have rights, subject to some conditions, to require us to file registration statements covering the sale of their shares or to include their shares in registration statements that we may file for ourselves or our other stockholders. We also intend to register the offer and sale of all shares of common stock that we may issue under our equity compensation plans. Once we register the offer and sale of shares for the holders of registration rights and shares that may be issued under our equity incentive plans, these shares will be able to be sold in the public market upon issuance, subject to the lock-up agreements described under “Underwriting.”

In addition, in the future, we may issue additional shares of common stock, or other equity or debt securities convertible into common stock, in connection with a financing, acquisition, employee arrangement, or otherwise. Any such issuance could result in substantial dilution to our existing stockholders and could cause the price of our common stock to decline.

**There has been no prior public market for our common stock, and an active trading market may not develop or be sustained.**

There has been no public market for our common stock prior to this offering. The initial public offering price for our common stock was determined through negotiations among the underwriters and us and may vary from the market price of our common stock following this offering. An active or liquid market in our common stock may not develop upon closing of this offering or, if it does develop, it may not be sustainable. The lack of an active market may impair the value of your shares, your ability to sell your shares at the time you wish to sell them and the prices that you may obtain for your shares. An inactive market may also impair our ability to raise capital by selling our common stock and our ability to acquire other companies, products, or technologies by using our common stock as consideration.

**Our management team has broad discretion to use the net proceeds from this offering and its investment of these proceeds may not yield a favorable return. They may invest the net proceeds from this offering in ways with which investors disagree.**

We intend to use a portion of the net proceeds from this offering to advance SL-172154 through the completion of our ongoing and planned Phase 1 clinical trials and to commence a Phase 2 clinical program, to advance SL-279252 through the completion of our ongoing Phase 1 clinical trial, and to develop and advance additional product candidates derived from our platforms through IND-enabling studies and to commence Phase 1 clinical trials. See “Use of Proceeds.” However, within the scope of our plan, and in light of the various risks to our business, including those discussed in this “Risk Factors” section and elsewhere in this prospectus, our management will have broad discretion over the use of net proceeds from this offering, and could spend the net proceeds in ways our stockholders may not agree with or that do not yield a favorable return, if at all. If we do not invest or apply the net proceeds from this offering in ways that improve our operating results, we may fail to achieve expected financial results, which could cause our stock price to decline.
If securities or industry analysts either do not publish research about us or publish inaccurate or unfavorable research about us, our business or our market, or if they change their recommendations regarding our common stock adversely, the trading price or trading volume of our common stock could decline.

The trading market for our common stock will be influenced in part by the research and reports that securities or industry analysts may publish about us, our business, our market, or our competitors. If one or more of these analysts initiate research with an unfavorable rating or downgrade our common stock, provide a more favorable recommendation about our competitors or publish inaccurate or unfavorable research about our business, our common stock price would likely decline. If any analyst who may cover us were to cease coverage of us or fail to regularly publish reports on us, we could lose visibility in the financial markets, which in turn could cause the trading price or trading volume of our common stock to decline.

If you purchase shares of our common stock in our initial public offering, you will experience substantial and immediate dilution.

The assumed initial public offering price of $______ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, is substantially higher than the net tangible book value per share of our outstanding common stock immediately following the completion of this offering. If you purchase shares of common stock in this offering, you will experience substantial and immediate dilution in the pro forma net tangible book value per share of $______ per share as of _______. That is because the price that you pay will be substantially greater than the pro forma net tangible book value per share of the common stock that you acquire. This dilution is due in large part to the fact that our earlier investors paid substantially less than the assumed initial public offering price when they purchased their shares of our capital stock. You will experience additional dilution when those holding stock options exercise their right to purchase common stock under our equity incentive plans or when we otherwise issue additional shares of common stock. See “Dilution.”

We are an emerging growth company, and any decision on our part to comply only with certain reduced reporting and disclosure requirements applicable to emerging growth companies could make our common stock less attractive to investors.

We are an “emerging growth company” as defined in the JOBS Act and, for as long as we continue to be an emerging growth company, we may choose to take advantage of exemptions from various reporting requirements applicable to other public companies but not to emerging growth companies, including:

• not being required to have our independent registered public accounting firm audit our internal control over financial reporting under Section 404 of the Sarbanes-Oxley Act;
• reduced disclosure obligations regarding executive compensation in our periodic reports and annual report on Form 10-K; and
• exemptions from the requirements of holding non-binding advisory votes on executive compensation and stockholder approval of any golden parachute payments not previously approved.

We could be an emerging growth company for up to five years following the completion of our initial public offering. Our status as an emerging growth company will end as soon as any of the following takes place:

• the last day of the fiscal year in which we have more than $1.07 billion in annual revenue;
• the date we qualify as a “large accelerated filer,” with at least $700 million of equity securities held by non-affiliates;
• the date on which we have issued, in any three-year period, more than $1.0 billion in non-convertible debt securities; or
• the last day of the fiscal year ending after the fifth anniversary of the completion of our initial public offering.
We cannot predict if investors will find our common stock less attractive if we choose to rely on any of the exemptions afforded to emerging growth companies. If some investors find our common stock less attractive because we rely on any of these exemptions, there may be a less active trading market for our common stock and the market price of our common stock may be more volatile.

Under the JOBS Act, emerging growth companies can also delay adopting new or revised accounting standards until such time as those standards apply to private companies. We elected to use this extended transition period for complying with new or revised accounting standards that have different effective dates for public and private companies until the earlier of the date that we (i) are no longer an emerging growth company or (ii) affirmatively and irrevocably opt out of the extended transition period provided in the JOBS Act. As a result, these financial statements may not be comparable to companies that comply with the new or revised accounting pronouncements as of public company effective dates.

The requirements of being a public company may strain our resources, result in more litigation, and divert management’s attention.

As a public company, we will be subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act, the listing requirements of Nasdaq, and other applicable securities rules and regulations. Complying with these rules and regulations has increased and will increase our legal and financial compliance costs, make some activities more difficult, time consuming or costly and increase demand on our systems and resources. The Exchange Act requires, among other things, that we file annual, quarterly, and current reports with respect to our business and operating results. The Sarbanes-Oxley Act requires, among other things, that we maintain effective disclosure controls and procedures and internal control over financial reporting. We are required to disclose changes made in our internal control and procedures on a quarterly basis. In order to maintain and, if required, improve our disclosure controls and procedures and internal control over financial reporting to meet this standard, significant resources and management oversight may be required. As a result, management’s attention may be diverted from other business concerns, which could adversely affect our business and operating results. We may also need to hire additional employees or engage outside consultants to comply with these requirements, which will increase our costs and expenses.

In addition, changing laws, regulations, and standards relating to corporate governance and public disclosure are creating uncertainty for public companies, increasing legal and financial compliance costs, and making some activities more time consuming. These laws, regulations, and standards are subject to varying interpretations, in many cases due to their lack of specificity and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices. We intend to invest resources to comply with evolving laws, regulations, and standards, and this investment may result in increased general and administrative expenses and a diversion of management’s time and attention from revenue-generating activities to compliance activities. If our efforts to comply with new laws, regulations, and standards differ from the activities intended by regulatory or governing bodies due to ambiguities related to their application and practice, regulatory authorities may initiate legal proceedings against us and our business may be adversely affected.

These new rules and regulations may make it more expensive for us to obtain director and officer liability insurance and, in the future, we may be required to accept reduced coverage or incur substantially higher costs to obtain coverage. These factors could also make it more difficult for us to attract and retain qualified members of our Board, particularly to serve on our audit committee and compensation committee, and qualified executive officers.

By disclosing information in this prospectus and in future filings required of a public company, our business and financial condition will become more visible, which we believe may result in threatened or actual litigation,
If we fail to maintain proper and effective internal controls over financial reporting our ability to produce accurate and timely financial statements could be impaired.

Pursuant to Section 404 of the Sarbanes-Oxley Act, our management will be required to report upon the effectiveness of our internal control over financial reporting beginning with the annual report for our fiscal year ending December 31, 2021. When we lose our status as an “emerging growth company” and a “smaller reporting company” and become an “accelerated filer” or a “large accelerated filer,” our independent registered public accounting firm will be required to attest to the effectiveness of our internal control over financial reporting. The rules governing the standards that must be met for management to assess our internal control over financial reporting are complex and require significant documentation, testing and possible remediation. To comply with the requirements of being a reporting company under the Securities Exchange Act of 1934, as amended, or the Exchange Act, we will need to implement additional financial and management controls, reporting systems and procedures and hire additional accounting and finance staff.

We cannot assure you that there will not be material weaknesses or significant deficiencies in our internal control over financial reporting in the future. Any failure to maintain internal control over financial reporting could severely inhibit our ability to accurately report our financial condition, results of operations, or cash flows. If we are unable to conclude that our internal control over financial reporting is effective, or if our independent registered public accounting firm determines we have a material weakness or significant deficiency in our internal control over financial reporting, investors may lose confidence in the accuracy and completeness of our financial reports, the market price of our common stock could decline, and we could be subject to sanctions or investigations by Nasdaq, the SEC, or other regulatory authorities. Failure to remedy any material weakness in our internal control over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict our future access to the capital markets.

Our disclosure controls and procedures may not prevent or detect all errors or acts of fraud.

Upon the completion of this offering, we will become subject to the periodic reporting requirements of the Exchange Act. We must design our disclosure controls and procedures to reasonably assure that information we must disclose in reports we file or submit under the Exchange Act is accumulated and communicated to management, and recorded, processed, summarized, and reported within the time periods specified in the rules and forms of the SEC. We believe that any disclosure controls and procedures or internal controls and procedures, no matter how well-conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. For example, our directors or executive officers could inadvertently fail to disclose a new relationship or arrangement causing us to fail to make a required related party transaction disclosure. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in our control system, misstatements due to error or fraud may occur and not be detected.

We do not currently intend to pay dividends on our common stock and, consequently, our stockholders’ ability to achieve a return on their investment will depend on appreciation of the value of our common stock.

We have never declared or paid cash dividends on our common stock. We currently intend to retain all available funds and any future earnings to support operations and to finance the growth and development of our business. We do not intend to declare or pay any cash dividends on our capital stock in the foreseeable future. As a result, any investment return on our common stock will depend upon increases in the value for our common stock, which is not certain.
Our second amended and restated certificate of incorporation and our amended and restated bylaws, each to be in effect immediately prior to the completion of this offering, will contain provisions that could depress the market price of our common stock by acting to discourage, delay, or prevent a change in control of our company or changes in our management that the stockholders of our company may deem advantageous. These provisions, among other things:

- establish a staggered Board divided into three classes serving staggered three-year terms, such that not all members of the Board will be elected at one time;
- authorize our Board to issue new series of preferred stock without stockholder approval and create, subject to applicable law, a series of preferred stock with preferential rights to dividends or our assets upon liquidation, or with superior voting rights to our existing common stock;
- eliminate the ability of our stockholders to call special meetings of stockholders;
- eliminate the ability of our stockholders to fill vacancies on our Board;
- establish advance notice requirements for nominations for election to our Board or for proposing matters that can be acted upon by stockholders at our annual stockholder meetings;
- permit our Board to establish the number of directors;
- provide that our Board is expressly authorized to make, alter or repeal our amended bylaws;
- provide that stockholders can remove directors only for cause and only upon the approval of not less than 66\(\frac{2}{3}\)\% of all outstanding shares of our voting stock;
- require the approval of not less than 66\(\frac{2}{3}\)\% of all outstanding shares of our voting stock to amend our bylaws and specific provisions of our certificate of incorporation; and
- limit the jurisdictions in which certain stockholder litigation may be brought.

As a Delaware corporation, we will be subject to the anti-takeover provisions of Section 203 of the Delaware General Corporation Law, which prohibits a Delaware corporation from engaging in a business combination specified in the statute with an interested stockholder (as defined in the statute) for a period of three years after the date of the transaction in which the person first becomes an interested stockholder, unless the business combination is approved in advance by a majority of the independent directors or by the holders of at least two-thirds of the outstanding disinterested shares. The application of Section 203 of the Delaware General Corporation Law could also have the effect of delaying or preventing a change of control of our company.

Our second amended and restated certificate of incorporation will provide that the Court of Chancery of the State of Delaware will be the exclusive forum for substantially all disputes between us and our stockholders, which could limit our stockholders’ ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our second amended and restated certificate of incorporation to be in effect upon the completion of this offering will provide that, unless we consent in writing to the selection of an alternative forum, the sole and exclusive forum, to the fullest extent permitted by law, for (1) any derivative action or proceeding brought on our behalf, (2) any action asserting a breach of a fiduciary duty owed by any director, officer or other employee to us or our stockholders, (3) any action asserting a claim against us or any director, officer, or other employee arising pursuant to the Delaware General Corporation Law, (4) any action to interpret, apply, enforce, or determine the validity of our second amended and restated certificate of incorporation or amended and restated bylaws, or (5) any other action asserting a claim that is governed by the internal affairs doctrine, shall be the Court of...
Chancery of the State of Delaware (or another state court or the federal court located within the State of Delaware if the Court of Chancery does not have or declines to accept jurisdiction), in all cases subject to the court’s having jurisdiction over indispensable parties named as defendants. In addition, our second amended and restated certificate of incorporation will provide that the federal district courts of the United States will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act but that the forum selection provision will not apply to claims brought to enforce a duty or liability created by the Exchange Act. Although we believe these provisions benefit us by providing increased consistency in the application of Delaware law for the specified types of actions and proceedings, the provisions may have the effect of discouraging lawsuits against us or our directors and officers. Alternatively, if a court were to find the choice of forum provision contained in our second amended and restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business, financial condition, and operating results. For example, under the Securities Act, federal courts have concurrent jurisdiction over all suits brought to enforce any duty or liability created by the Securities Act, and investors cannot waive compliance with the federal securities laws and the rules and regulations thereunder. Any person or entity purchasing or otherwise acquiring any interest in our shares of capital stock shall be deemed to have notice of and consented to this exclusive forum provision, but will not be deemed to have waived our compliance with the federal securities laws and the rules and regulations thereunder.

Our ability to use our net operating loss carryforwards and other tax attributes may be limited.

As of December 31, 2019, we had U.S. federal and state net operating loss, or NOL, carryforwards of $14.0 million and $0.2 million, respectively, which may be available to offset future taxable income. As of December 31, 2019, we also had federal tax credits of $2.3 million, which may be used to offset future tax liabilities. These NOLs and tax credit carryforwards will begin to expire in 2036.

Use of our NOL carryforwards and tax credit carryforwards depends on many factors, including having current or future taxable income, which cannot be assured. Our U.S. NOL and tax credit carryforwards could expire unused and be unavailable to offset future taxable income or income tax liabilities because of their limited duration or because of restrictions under U.S. tax law. In addition, for taxable years beginning after December 31, 2020, the deductibility of federal NOLs generated in taxable years beginning after December 31, 2017 is limited to 80% of our taxable income in such year (after taking into account utilization of NOLs generated in taxable years beginning before January 1, 2018), where taxable income is determined without regard to such NOL deduction itself. In addition, under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, or the Code, and certain corresponding provisions of state law, a corporation that undergoes an “ownership change” is subject to limitations on its ability to utilize its pre-change NOL and tax credit carryforwards to offset future taxable income or taxes. For these purposes, an ownership change generally occurs where the aggregate stock ownership of one or more stockholders (or groups of stockholders), each of whom owns at least 5% of a corporation’s stock, increases by more than 50 percentage points over its lowest ownership percentage within a specified testing period. We believe we have experienced ownership changes in the past, and we believe it is likely that we will experience an additional ownership change in the future as a result of this offering or subsequent shifts in our stock ownership, some of which are outside our control. If finalized, Treasury Regulations currently proposed under Section 382 of the Code may further limit our ability to utilize our pre-change NOL and tax credit carryforwards if we undergo an additional ownership change as a result of this offering.

If we earn taxable income in the future, we expect that our ability to use existing NOL and tax credit carryforwards to offset such taxable income will be materially limited as a result of these ownership changes. The application of such limitations may cause U.S. federal income taxes (and possibly state income taxes) to be paid by us earlier than they otherwise would be paid if such limitations were not in effect and could cause such NOLs and tax credit carryforwards to expire unused, in each case reducing or eliminating the benefit of such NOLs and tax credit carryforwards.
To the extent we are not able to offset our future taxable income with our NOLs or offset future taxes with our tax credit carryforwards, this would adversely affect our operating results and cash flows. These same risks can arise in the context of state income and franchise tax given many states conform to federal law and rely on federal authority for determining state NOLs.
SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains “forward-looking statements” within the meaning of the federal securities laws, which statements are subject to substantial risks and uncertainties and are based on estimates and assumptions. All statements, other than statements of historical facts included in this prospectus, including statements concerning our plans, objectives, goals, strategies, future events, future revenues or performance, financing needs, plans or intentions relating to products and markets, and business trends and other information referred to under the sections entitled “Prospectus Summary,” “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Business,” are forward-looking statements. In some cases, you can identify forward-looking statements by terms such as “may,” “might,” “will,” “objective,” “intend,” “should,” “could,” “can,” “would,” “expect,” “believe,” “design,” “estimate,” “predict,” “potential,” “plan,” or the negative of these terms, and similar expressions intended to identify forward-looking statements. Forward-looking statements are not historical facts, and reflect our current views with respect to future events. Given the significant uncertainties, you should not place undue reliance on these forward-looking statements.

There are a number of risks, uncertainties and other factors that could cause our actual results to differ materially from the forward-looking statements expressed or implied in this prospectus. Such risks, uncertainties and other factors include, among others, the following risks, uncertainties and factors:

- the recent and ongoing COVID-19 pandemic and associated shelter-in-place orders;
- our use of the net proceeds from this offering;
- the timing of the initiation, progress, and expected results of our preclinical studies, our clinical trials and our research and development programs;
- our ability to retain the continued service of our key executives and to identify, hire, and retain additional qualified professionals;
- our ability to advance product candidates into, and successfully complete, preclinical studies and clinical trials;
- the timing or likelihood of regulatory filings and approvals;
- the commercialization of our product candidates, if approved;
- our ability and the potential to successfully manufacture and supply our product candidates for clinical trials and for commercial use, if approved;
- the pricing, coverage, and reimbursement of our product candidates, if approved;
- the implementation of our business model, strategic plans for our business, and product candidates;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our technology platforms, including our ARC and GADLEN platforms, and our product candidates, including the projected terms of patent protection;
- our ability to enter into strategic arrangements and/or collaborations and to realize the potential benefits of such arrangements;
- our ability to contract with third-party suppliers and manufacturers and their ability to perform adequately;
- our estimates regarding the market opportunity for our product candidates, if approved;
- our estimates regarding expenses, capital requirements, and needs for additional financing and our ability to obtain additional capital;
- our financial performance; and
- developments relating to our competitors and our industry, including competing product candidates and therapies.
There may be other factors that may cause our actual results to differ materially from the forward-looking statements expressed or implied in this prospectus, including factors disclosed in “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” You should evaluate all forward-looking statements made in this prospectus in the context of these risks and uncertainties.

We caution you that the risks, uncertainties, and other factors referred to above and elsewhere in this prospectus may not contain all of the risks, uncertainties and other factors that may affect our future results and operations. Moreover, new risks will emerge from time to time. It is not possible for our management to predict all risks. In addition, we cannot assure you that we will realize the results, benefits or developments that we expect or anticipate or, even if substantially realized, that they will result in the consequences or affect us or our business in the way expected.

All forward-looking statements in this prospectus apply only as of the date made and are expressly qualified in their entirety by the cautionary statements included in this prospectus. Except as required by law, we disclaim any intent to publicly update or revise any forward-looking statements to reflect subsequent events or circumstances.
INDUSTRY AND MARKET DATA

We obtained the industry, market, and competitive position data used throughout this prospectus from our own internal estimates and research, as well as from industry and general publications, and research, surveys, and studies conducted by third parties. Internal estimates are derived from publicly available information released by industry analysts and third-party sources, our internal research and our industry experience, and are based on assumptions made by us based on such data and our knowledge of the industry and market, which we believe to be reasonable. In addition, while we believe the industry, market, and competitive position data included in this prospectus is reliable and based on reasonable assumptions, we have not independently verified any third-party information, and all such data involve risks and uncertainties and are subject to change based on various factors, including those discussed under the section entitled “Risk Factors.” These and other factors could cause results to differ materially from those expressed in the estimates made by the independent parties and by us.
USE OF PROCEEDS

We estimate that we will receive net proceeds of approximately $ \text{millions} \ (or \ approximately \ $ \ \text{millions} \ if \ the \ underwriters’ \ option \ to \ purchase \ additional \ shares \ is \ exercised \ in \ full) \ from \ the \ sale \ of \ the \ shares \ of \ common \ stock \ offered \ by \ us \ in \ this \ offering, \ based \ on \ an \ assumed \ initial \ public \ offering \ price \ of \ $ \ per \ share, \ which \ is \ the \ midpoint \ of \ the \ price \ range \ set \ forth \ on \ the \ cover \ page \ of \ this \ prospectus, \ after \ deducting \ the \ estimated \ underwriting \ discounts \ and \ commissions \ and \ estimated \ offering \ expenses \ payable \ by \ us.

Each $1.00 increase (decrease) in the assumed public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) the net proceeds to us from this offering by $ million, assuming the number of shares of common stock offered by us, as set forth on the cover of this prospectus, remains the same, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, each increase (decrease) of 1,000,000 shares in the number of shares of common stock offered by us, as set forth on the cover of this prospectus, would increase (decrease) our net proceeds from this offering by $ million, assuming the assumed public offering price remains the same, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

We intend to use the net proceeds of this offering, together with our existing cash and cash equivalents and short-term investments, primarily as follows:

- approximately $ million to advance SL-172154 through the completion of our ongoing and planned Phase 1 clinical trials and to commence a Phase 2 clinical program;
- approximately $ million to advance SL-279252 through the completion of our ongoing Phase 1 clinical trial; and
- approximately $ million to develop and advance additional product candidates derived from our platforms through IND-enabling studies and to commence Phase 1 clinical trials.

We intend to use the remainder of the net proceeds for working capital and general corporate purposes.

Our expected use of proceeds from this offering represents our current intentions based on our present plans and business condition. As of the date of this prospectus, we cannot predict with certainty all of the particular uses for the proceeds to be received upon the completion of this offering or the amounts that we will actually spend on the uses set forth above. We may also use a portion of the proceeds to license, acquire, or invest in complementary businesses, technology, products, or assets. However, we have no current commitments to do so. If we receive any additional proceeds from this offering, we expect to use such proceeds on a proportional basis to the categories described above. The amount and timing of our actual expenditures will depend on numerous factors. As a result, our management will have broad discretion over the use of the proceeds from this offering.

Based on our current business plans, we believe that the net proceeds from this offering, together with our existing cash and cash equivalents and short-term investments, will be sufficient to fund our planned operations through . We have based this estimate on assumptions that may prove to be incorrect, and we could use our available capital resources sooner than we currently. Such amount will not be sufficient for us to fund our product candidates through regulatory approval and commercialization, and we will need to raise substantial additional capital in order to do so. To obtain the capital necessary to fund our product candidates through regulatory approval and commercialization, we may need to enter into additional public or private equity offerings, debt financings, or collaborations and licensing arrangements, or seek out other capital sources.

Pending the use of the proceeds from this offering, we may invest the proceeds in a variety of capital preservation investments, including interest-bearing, investment-grade securities, certificates of deposit, or government securities.
We have never declared or paid cash dividends on our common stock. We currently intend to retain all available funds and future earnings, if any, to fund the operations and the further development and expansion of our business. We have no present intention to pay cash dividends on our common stock. Any determination to pay dividends to holders of our common stock will be at the discretion of our Board and will depend on many factors, including our financial condition, results of operations, liquidity, earnings, projected capital and other cash requirements, legal requirements, restrictions in the agreements governing any indebtedness we may enter into, our business prospects, and other factors that our Board deems relevant.
The following table sets forth our cash and cash equivalents and short-term investments and capitalization as of June 30, 2020:

- on an actual basis;
- on a pro forma basis to give effect to:
  - the automatic conversion of all outstanding shares of our redeemable convertible preferred stock into an aggregate of shares of common stock upon the closing of this offering; and
  - the filing and effectiveness of our second amended and restated certificate of incorporation, which will be in effect immediately after the completion of this offering; and
- on a pro forma as adjusted basis to give effect to:
  - the pro forma items described immediately above; and
  - the issuance and sale of shares of our common stock in this offering, at an assumed public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.
The pro-forma information below is illustrative only and our capitalization following the completion of this offering will be adjusted based on the actual initial public offering price and other terms determined at pricing. You should read the following table in conjunction with the sections entitled "Use of Proceeds,” “Selected Financial Data,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and our financial statements and related notes included in this prospectus.

<table>
<thead>
<tr>
<th></th>
<th>As of June 30, 2020</th>
<th>Pro Forma As Adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(unaudited)</td>
<td>(in thousands, except share and Per share amounts)</td>
</tr>
<tr>
<td>Cash and cash equivalents and short-term investments</td>
<td>$147,534</td>
<td>$</td>
</tr>
<tr>
<td>Long-term liabilities</td>
<td>$21,966</td>
<td>$</td>
</tr>
</tbody>
</table>

**Redeemable convertible preferred stock:**

- Series A redeemable convertible preferred stock, $0.0001 par value, 1,093,019 shares authorized, 1,093,019 shares issued and outstanding, actual; no shares authorized, issued and outstanding, pro forma and pro forma as-adjusted: 49,064
- Series B redeemable convertible preferred stock, $0.0001 par value, 550,571 shares authorized, 550,571 shares issued and outstanding, actual; no shares authorized, issued and outstanding, pro forma and pro forma as-adjusted: 34,427
- Series B-1 redeemable convertible preferred stock, $0.0001 par value, 1,319,964 shares authorized, 1,319,964 shares issued and outstanding, actual; no shares authorized, issued and outstanding, pro forma and pro forma as-adjusted: 82,618

**Stockholders’ (deficit) equity:**

- Preferred stock, $0.0001 par value, no shares authorized, issued and outstanding, actual; shares authorized, no shares issued and outstanding, pro forma and pro forma as adjusted: —
- Common stock, $0.0001 par value, 4,950,000 shares authorized, 1,121,327 shares issued and 1,118,140 shares outstanding, actual; 4,950,000 shares authorized, shares issued and outstanding, pro forma; and shares authorized, shares issued and outstanding, pro forma as-adjusted: —

| Additional paid-in capital | 1,205 |
| Accrued other comprehensive income | 18 |
| Accumulated deficit | (48,252) |
| Total stockholders’ (deficit) equity | (47,029) |
| Total capitalization | $141,046 | $ | $ |

Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease pro forma as adjusted cash and cash equivalents and short-term investments, total stockholders’ equity and total capitalization by approximately $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. A share increase or decrease in the number of shares offered by us would increase or decrease pro forma as adjusted cash and cash equivalents and short-term investments, total stockholders’ equity and total capitalization by approximately $ million, assuming...
that the assumed initial price to public remains the same, and after deducting estimated underwriting discounts and commissions payable by us.

The outstanding share information in the table above is based on shares of our common stock (including shares of our redeemable convertible preferred stock outstanding on an as-converted basis) outstanding as of June 30, 2020 and (ii) excludes the following:

- shares of our common stock issuable upon the exercise of stock options outstanding as of June 30, 2020 under the 2016 Plan, at a weighted average exercise price of $ per share;
- shares of our common stock issuable upon the exercise of stock options granted subsequent to June 30, 2020 under the 2016 Plan, at a weighted-average exercise price of $ per share;
- shares of our common stock issuable upon the settlement of restricted stock units outstanding as of June 30, 2020;
- shares of our common stock issuable upon the settlement of restricted stock units granted subsequent to June 30, 2020;
- shares of our common stock reserved for future issuance pursuant to future awards under our 2020 Plan, as well as any automatic increase in the number of shares of common stock reserved for future issuance under the 2020 Plan; and
- shares of our common stock to be reserved for future issuance under the ESPP, which will become effective immediately prior to the completion of this offering, as well as any automatic increase in the number of shares of common stock reserved for future issuance under the ESPP.
DILUTION

If you invest in the shares of our common stock in this offering, your ownership interest will be immediately diluted. Dilution represents the difference between the amount per share paid by investors in this offering and the as-adjusted net tangible book value per share of our common stock immediately after this offering. The data in this section are derived from our balance sheet as of June 30, 2020. As-converted net tangible book value per share is equal to our total tangible assets less the amount of our total liabilities, divided by the sum of the number of shares of our common stock that will be outstanding immediately prior to the closing of this offering (assuming the conversion of all outstanding shares of our redeemable convertible preferred stock into shares of common stock). Our as-converted net tangible book value as of June 30, 2020 was $ million, or $ per share of common stock.

After giving effect to our receipt of the estimated net proceeds from the sale of our common stock in this offering, based on an assumed public offering price of $ per share, which is the midpoint of the range set forth on the cover page of this prospectus, after deducting the estimated underwriting discounts and commissions and other estimated offering expenses payable by us our net tangible book value, as-adjusted, as of June 30, 2020 would have been $ million, or $ per share of our common stock. This represents an immediate increase in net tangible book value to our existing stockholders of $ per share and an immediate dilution to new investors in this offering of $ per share. The following table illustrates this per share dilution:

<table>
<thead>
<tr>
<th>Assumed public offering price per share</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Historical net tangible book value per share as of June 30, 2020</td>
<td>$</td>
</tr>
<tr>
<td>Pro forma net tangible book value per share as of June 30, 2020, after giving effect to the conversion of all of our redeemable convertible preferred stock into shares of common stock</td>
<td>$</td>
</tr>
<tr>
<td>Increase in pro forma as adjusted net tangible book value per share attributable to new investors</td>
<td>$</td>
</tr>
<tr>
<td>Pro forma as adjusted net tangible book value per share after this offering</td>
<td>$</td>
</tr>
<tr>
<td>Dilution per share to new investors</td>
<td>$</td>
</tr>
</tbody>
</table>

A $1.00 increase (decrease) in the assumed public offering price of $ per share would increase (decrease) our as-adjusted net tangible book value by $ million, the as-adjusted net tangible book value per share after this offering by $ and the dilution per share to new investors by $, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, each increase (decrease) in the number of shares offered by us would increase (decrease) our as-adjusted net tangible book value by $ million, the as-adjusted net tangible book value per share after this offering by $ and the dilution per share to new investors by $, or $ if the underwriters exercise their option to purchase additional shares in full, assuming the assumed public offering price remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. If the underwriters fully exercise their option to purchase additional shares, as-adjusted net tangible book value after this offering would increase by approximately $ per share, and there would be an immediate dilution of approximately $ per share to new investors.
The following table presents, on an as-adjusted basis, as described above, the differences between the existing stockholders and the purchasers of shares in this offering with respect to the number of shares purchased from us, the total consideration paid, and the average price paid per share at an assumed public offering price of $        per share (the midpoint of the range set forth on the cover page of this prospectus):

<table>
<thead>
<tr>
<th>Shares Purchased</th>
<th>Total Consideration</th>
<th>Average Price Per Share</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>Existing stockholders</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>New investors</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If the underwriters were to fully exercise their option to purchase                 additional shares of our common stock from us, the percentage of shares of our common stock held by existing stockholders would be %, and the percentage of shares of our common stock held by new investors would be %.

The outstanding share information in the table above is based on shares of our common stock (including shares of our redeemable convertible preferred stock outstanding on an as-converted basis) outstanding as of June 30, 2020, and (ii) excludes the following:

- shares of our common stock issuable upon the exercise of stock options outstanding as of June 30, 2020 under the 2016 Plan, at a weighted average exercise price of $        per share;
- shares of our common stock issuable upon the exercise of stock options granted subsequent to June 30, 2020 under the 2016 Plan, at a weighted average exercise price of $        per share;
- shares of our common stock issuable upon the settlement of restricted stock units outstanding as of June 30, 2020;
- shares of our common stock issuable upon the settlement of restricted stock units granted subsequent to June 30, 2020, at a weighted-average exercise price of $        per share;
- shares of our common stock reserved for future issuance pursuant to future awards under our 2020 Plan, as well as any automatic increase in the number of shares of common stock reserved for future issuance under the 2020 Plan; and
- shares of our common stock to be reserved for future issuance under the ESPP, which will become effective immediately prior to the completion of this offering, as well as any automatic increase in the number of shares of common stock reserved for future issuance under the ESPP.
SELECTED FINANCIAL DATA

The following tables set forth our selected historical financial data as of and for the periods ended on the dates indicated. The selected statements of operations data for the years ended December 31, 2018 and 2019 and the selected balance sheet data as of December 31, 2018 and 2019 are derived from our audited financial statements and accompanying notes included elsewhere in this prospectus. The selected statements of operations data for the six months ended June 30, 2019 and 2020 and the selected balance sheet data as of June 30, 2020 have been derived from our unaudited interim financial statements and accompanying notes included elsewhere in this prospectus. We have prepared the unaudited interim financial data in accordance with GAAP and on the same basis as the audited financial statements and the accompanying notes included elsewhere in this prospectus, and we have included all adjustments, consisting only of normal recurring adjustments, that management considers necessary for a fair presentation of the information for the periods presented. Our historical results are not necessarily indicative of the results that may be expected in the future, and the historical results for the six months ended June 30, 2020 are not necessarily indicative of the results to be expected for the year ending December 31, 2020, or for any other period.

You should read the following selected historical financial data together with our audited and unaudited financial statements and accompanying notes included elsewhere in this prospectus and the information under the caption “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” The selected historical financial data included in this section are not intended to replace the audited and unaudited financial statements and the accompanying notes and are qualified in their entirety by our audited and unaudited financial statements and the accompanying notes included elsewhere in this prospectus.

<table>
<thead>
<tr>
<th>(in thousands)</th>
<th>Year ended December 31,</th>
<th>Six months ended June 30,</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2018</td>
<td>2019</td>
</tr>
<tr>
<td>Statement of Operations Data:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collaboration revenue—related party</td>
<td>$22,442</td>
<td>$9,887</td>
</tr>
<tr>
<td>Operating expenses:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research and development</td>
<td>24,807</td>
<td>29,218</td>
</tr>
<tr>
<td>General and administrative</td>
<td>3,783</td>
<td>5,736</td>
</tr>
<tr>
<td>Loss from operations</td>
<td>(6,148)</td>
<td>(25,067)</td>
</tr>
<tr>
<td>Other income (expense):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest income</td>
<td>966</td>
<td>1,184</td>
</tr>
<tr>
<td>Interest expense</td>
<td>(2,631)</td>
<td>—</td>
</tr>
<tr>
<td>Gain on the extinguishment of notes payable</td>
<td>782</td>
<td>—</td>
</tr>
<tr>
<td>Other</td>
<td>(357)</td>
<td>(99)</td>
</tr>
<tr>
<td>Total other income (expense)</td>
<td>(1,240)</td>
<td>1,085</td>
</tr>
<tr>
<td>Net loss</td>
<td>$(7,388)</td>
<td>$(23,982)</td>
</tr>
<tr>
<td>Net loss per share—basic and diluted</td>
<td>$(6.83)</td>
<td>$(21.74)</td>
</tr>
<tr>
<td>Weighted-average shares outstanding—basic and diluted</td>
<td>1,081,936</td>
<td>1,103,190</td>
</tr>
<tr>
<td>Pro forma net loss per share—basic and diluted(1)</td>
<td>$ (10.92)</td>
<td>—</td>
</tr>
<tr>
<td>Pro forma weighted-average shares outstanding—basic and diluted(1)</td>
<td>2,196,209</td>
<td>2,785,497</td>
</tr>
</tbody>
</table>

(1) See Note 2 to our audited financial statements and Note 2 to our unaudited financial statements included elsewhere in this prospectus for a description of how we compute net loss per share—basic and diluted, pro forma net loss per share—basic and diluted, and the weighted average shares outstanding—basic and diluted, in each case, used in the computation of these per share amounts.
### Balance Sheet Data:

<table>
<thead>
<tr>
<th></th>
<th>December 31, 2018</th>
<th>December 31, 2019</th>
<th>June 30, 2020 (unaudited)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash and cash equivalents and short-term investments</td>
<td>$60,376</td>
<td>$39,087</td>
<td>$147,534</td>
</tr>
<tr>
<td>Working capital(^{(1)})</td>
<td>44,782</td>
<td>22,458</td>
<td>138,282</td>
</tr>
<tr>
<td>Total assets</td>
<td>68,161</td>
<td>44,969</td>
<td>155,544</td>
</tr>
<tr>
<td>Total liabilities</td>
<td>30,178</td>
<td>30,453</td>
<td>36,464</td>
</tr>
<tr>
<td>Total redeemable convertible preferred stock(^{(2)})</td>
<td>49,064</td>
<td>49,064</td>
<td>166,109</td>
</tr>
<tr>
<td>Total stockholders’ deficit</td>
<td>(11,081)</td>
<td>(34,548)</td>
<td>(47,029)</td>
</tr>
</tbody>
</table>

---

\(^{(1)}\) We define working capital as current assets less current liabilities. See our audited and unaudited financial statements and accompanying notes included elsewhere in this prospectus for further details regarding our current assets and our current liabilities.

\(^{(2)}\) Total redeemable convertible preferred stock is the sum of our Series A redeemable convertible preferred stock, Series B redeemable convertible preferred stock and Series B-1 redeemable convertible preferred stock.
Overview

We are an innovative clinical-stage biotechnology company pioneering the development of dual-sided fusion proteins as an entirely new class of biologic medicine. We believe our approach has the potential to fundamentally transform the therapeutic modulation of the immune system. We have created a novel approach to immune-modulation by designing biologics with structural characteristics that are not achievable by existing therapeutic modalities. Compounds derived from our proprietary Agonist Redirected Checkpoint, or ARC®, platform simultaneously inhibit checkpoint molecules and activate costimulatory molecules within a single therapeutic. Our initial product candidates are designed to be differentiated therapeutics addressing molecular targets that are well characterized and scientifically validated in immuno-oncology but are underexploited by current treatment modalities.

Our lead, wholly owned product candidate, SL-172154, has been rationally designed to simultaneously inhibit the CD47/SIRPa checkpoint interaction to restore an anti-tumor immune response and to activate the CD40 costimulatory receptor to bolster an immune response. We are currently conducting a Phase 1 clinical trial evaluating SL-172154 in patients with ovarian cancer, and we expect to announce initial data from the dose-escalation portion of this trial in the second half of 2021. We plan to initiate a second Phase 1 trial evaluating the SL-172154 in patients with cutaneous squamous cell carcinoma or head and neck squamous cell carcinoma, and we expect to announce data from the dose-escalation portion of this trial in the second half of 2022. Our second product candidate, SL-279252, which is being developed in collaboration with Takeda, has been rationally designed to simultaneously inhibit the PD-1/PD-L1 interaction and activate the OX40 receptor. We are evaluating SL-279252 in a Phase 1 clinical trial in patients with advanced solid tumors and lymphoma, and we expect to announce data from the dose-escalation portion of this trial in the second half of 2021. In addition to our clinical-stage ARC product candidates, we possess a deep pipeline of preclinical immuno-oncology product candidates. Longer-term, we are pursuing additional disease areas, including autoimmune diseases, where our dual-sided fusion protein platforms may provide advantages over current treatment modalities.

Since our inception in 2016, we have devoted substantially all of our resources to developing and perfecting our intellectual property rights, conducting research and development activities, including undertaking preclinical studies of our product candidates, conducting clinical trials of our most advanced product candidates, manufacturing our product candidates, organizing and staffing our company, business planning, and raising capital. We do not have any products approved for sale and we have not generated any revenue from product sales. We continue to have related party revenue under a collaboration agreement with Takeda. We have funded our operations to date through the sale of redeemable convertible preferred stock for approximately $152.9 million, the issuance of convertible notes for approximately $10.5 million and payments received pursuant to our collaboration agreement with Takeda for approximately $75.7 million.

For the years ended December 31, 2018 and 2019, our net loss was $7.4 million and $24.0 million, respectively. For the six months ended June 30, 2019 and 2020, our net loss was $9.3 million and $12.8 million,
respectively. We have not been profitable since inception, and as of June 30, 2020, we had an accumulated deficit of $48.3 million and $147.5 million in cash and cash equivalents and short-term investments. We expect to continue to incur significant expenses and increasing operating losses in the near term. We expect our expenses will increase substantially in connection with our ongoing activities, as we:

- continue to advance the preclinical and clinical development of our lead product candidates;
- initiate preclinical studies and clinical trials for additional product candidates that we may identify in the future;
- expand our operational, financial, and management systems and increase personnel, including personnel to support our clinical development, manufacturing, and commercialization efforts;
- continue to develop, perfect, and defend our intellectual property portfolio; and
- incur additional legal, accounting, or other expenses in operating our business, including the additional costs associated with operating as a public company.

We do not expect to generate significant product revenue unless and until we successfully complete development and obtain regulatory and marketing approval of, and begin to sell, one or more of our product candidates, which we expect will take several years. We expect to spend a significant amount in development and marketing costs prior to such time. We may never succeed in achieving regulatory and marketing approval for our product candidates. We may obtain unexpected results from our preclinical and clinical trials. We may elect to discontinue, delay, or modify preclinical and clinical trials of our product candidates. A change in the outcome of any of these variables with respect to the development of a product candidate could mean a significant change in the costs and timing associated with the development of that product candidate. Accordingly, until such time as we can generate significant product revenue, if ever, we expect to continue to seek private or public equity and debt financing to meet our capital requirements. There can be no assurance that such funding may be available to us on acceptable terms, or at all, or that we will be able to commercialize our product candidates. In addition, we may not be profitable even if we commercialize any of our product candidates.

Coronavirus Pandemic

On March 10, 2020, the World Health Organization characterized the novel COVID-19 virus as a global pandemic. There is significant uncertainty as to the effects of this disease which may, among other things, materially impact our business, including our ongoing and planned clinical trials. To date, we have experienced delays in our SL-279252 clinical trial as a result of the ongoing pandemic, including delays with certain third-party vendors supporting this trial. We temporarily paused enrollment of patients for our clinical trial of SL-279252 between March and May 2020 and we resumed enrollment in June 2020. As “shelter in place” orders and other public health guidance measures are reinstated in the locations of our clinical trial sites, we expect that some patients may also choose to forego one or more doses in our clinical trials, due to challenges faced by such patients in travelling to our clinical trial sites, which may negatively affect the study results. We expect that our clinical development program timelines will continue to be negatively affected by COVID-19, although the degree of these delays is difficult to predict. Further, due to “shelter in place” orders and other public health guidance measures, we may be required to implement a work-from-home policy for all staff members excluding those necessary to maintain minimum basic operations. In such an instance, our increased reliance on personnel working from home may negatively impact productivity, or disrupt, delay, or otherwise adversely impact our business. For example, with our personnel working from home, some of our research activities that require our personnel to be in our laboratories may be delayed.

Due to the impact of the COVID-19 pandemic and work-from-home policies and other operational limitations mandated by federal, state, and local governments as a result of the pandemic, certain of our research and development activities, including the conduct of preclinical studies, have been delayed and may be further delayed and other aspects of our business, such as the conduct of various corporate functions and the ability of
our Board and management to provide oversight and guidance may be adversely impacted until such operational limitations are lifted. The COVID-19 pandemic or local outbreaks associated with the COVID-19 pandemic could result in difficulty manufacturing our product candidates, securing clinical trial site locations, CROs, and/or trial monitors and other critical vendors and consultants supporting our clinical trials. In addition, outbreaks or the perception of an outbreak near a clinical trial site location could impact our ability to enroll patients or to complete all scheduled physician visits for currently enrolled patients. These situations, or others associated with COVID-19 pandemic, could cause delays in our clinical trial plans and could increase expected costs, all of which could have a material adverse effect on our business and its financial condition. At the current time, we are unable to quantify the potential effects of the COVID-19 pandemic on our future operations.

Collaboration and License Agreements

Collaboration Agreement with Takeda

On August 8, 2017, we entered into a Collaboration Agreement with Millennium Pharmaceuticals, Inc., or Takeda, a wholly owned subsidiary of Takeda Pharmaceutical Company, Ltd., or the Collaboration Agreement. The Collaboration Agreement was subsequently amended in April 2018, October 2018, and March 2020.

Pursuant to the Collaboration Agreement, we are required to use our commercially reasonable efforts to conduct preclinical and Phase 1 clinical trials for two molecules, PD-1-Fc-OX40L and CSF1R-Fc-CD40L, and Takeda has an exclusive option to license one or both of these clinical-stage ARC compounds for a specified amount of time up to and following the conclusion of each respective Phase 1 trial. While we are currently evaluating PD-1-Fc-OX40L in a Phase 1 clinical trial, we have not yet conducted a Phase 1 clinical trial for CSF1R-Fc-CD40L. During the development phase of the Collaboration Agreement, we may not, by ourselves or through a third party, develop or commercialize a compound, molecule or product that targets both PD-1 and OX40L, or a compound, molecule or product that targets both CSF1R and CD40L.

Further, pursuant to the Collaboration Agreement, we agreed to conduct certain preclinical studies on four additional preclinical ARC molecules, and Takeda had an option to license up to two of the four preclinical molecules. We completed our research and development activities related to the four preclinical molecules and delivered a final report to Takeda. Takeda elected to not exercise its option to enter into up to two licenses for such molecules, and Takeda’s option period for such molecules has now lapsed. As a result, the Collaboration Agreement is terminated as to the four preclinical molecules and Takeda does not have any rights to participate in the development or commercialization of such molecules.

Under the Collaboration Agreement, Takeda is granted a right of first negotiation to enter into licenses for each molecule within a specified class of ARC molecules. To exercise its right of first negotiation, Takeda will be required to provide a notice within a specified time, and if the parties do not conclude a license agreement within a set timeframe, we will be entitled to enter into licenses with third parties, subject to certain conditions.

Thus far under the Collaboration Agreement, we have received approximately $75.7 million in option payments, milestone payments, and expense reimbursements from Takeda. If Takeda exercises its exclusive option to license one or both of the clinical-stage ARC compounds (PD-1-Fc-OX40L and CSF1R-Fc-CD40L), we will enter into a license agreement with Takeda with respect to such compound. Any such license agreement would, among other things, require Takeda to use its commercially reasonable efforts to develop the licensed compound and seek approval for the compound. In addition, Takeda would be solely responsible, at its costs, for the development, manufacture, and commercialization of the licensed ARC compounds. If both ARC compounds are licensed, we would be entitled to additional payments consisting of up to an aggregate of $78.75 million in license fee payments and up to an aggregate of $450 million in clinical, regulatory, and sales milestone payments. In addition, we would be eligible for tiered royalty payments on net sales of licensed products at percentages ranging from the high single digits to sub-teens, subject to specified reductions, during the royalty term.
If Takeda exercises its option to enter into a license agreement, the royalty term with respect to the licensed product would extend, on a country-by-country basis, from the period commencing on the first commercial sale of the product in such country and ending on the later of (i) the expiration of the last to expire of the valid claims of the applicable licensed patent rights covering the product in such country or (ii) the tenth anniversary of the first commercial sale of the product in such country.

Unless sooner terminated, the Collaboration Agreement will continue until the later of (a) February 8, 2021, (b) the earlier of (i) the 90th day following delivery of a report detailing certain results of the PD-1-Fc-OX40L Phase 1 clinical trial and (ii) the exercise by Takeda of its right to an exclusive license with respect to PD-1-Fc-OX40L, and (c) the earlier of (i) the 90th day following delivery of a report detailing certain results of the CSF1R-Fc-CD40L Phase 1 clinical trial and (ii) the exercise by Takeda of its right to an exclusive license with respect to CSF1R-Fc-CD40L. Either party may terminate the Collaboration Agreement prior to expiration upon the insolvency or uncured material breach of the other party.

Heat License Agreement

In June 2016, we entered into an Exclusive License Agreement, or the Heat License Agreement, with Heat Biologics Inc., or Heat. The Heat License Agreement was subsequently amended in November 2016, December 2016, and March 2017. Pursuant to the Heat License Agreement, Heat granted to us a worldwide, sublicensable exclusive license to research, develop, manufacture, and commercialize products under three provisional patent applications, including all patents issuing from such applications, or the Fusion Protein Patent Rights and a worldwide, sublicensable nonexclusive license to research, develop, manufacture, and commercialize certain know how owned and controlled by Heat related to the Fusion Protein Patent Rights.

Under the Heat License Agreement, Heat was required to conduct certain research and development services under a mutually-agreed upon research and development plan and Heat was eligible to receive financial support from us for these efforts. Effective March 2017, Heat completed all research and development services under the Heat License Agreement and assigned to us three patent applications and all data derived from the research and development activities, referred to collectively as the Research Services Inventions. Pursuant to the terms of the Heat License Agreement, we are obligated to use commercially reasonable efforts to diligently research and develop at least one product covered by the Fusion Protein Patent Rights, including the obligation to file an IND application for such product. Our development efforts, including the development of SL-279252 and certain other ARC compounds, to date satisfy these obligations. In addition, we are to provide annual reports to Heat on or before the anniversary of the effective date of the Heat License Agreement to inform Heat of our progress.

Unless sooner terminated or extended, the term of the Heat License Agreement continues until the later of 20 years following the effective date and the expiration of the last-to-expire royalty term. Either party may terminate the agreement due to a material breach by the other party (subject to a 90-day cure period) or if the other party files for bankruptcy. In the event we terminate the Heat License Agreement due to a material breach by Heat, Heat must assign to us all right, title, and interest in the patent rights licensed under the Heat License Agreement.

In addition to an upfront payment of $50,000, the Heat License Agreement requires us to make further payments to Heat of up to $20.6 million in the aggregate, for the achievement of specified development, regulatory, and commercial sale milestones for certain licensed products. We are also required to pay Heat a percentage of certain upfront fees or other non-royalty payments we receive that are not tied to milestone events under any sublicense of the Fusion Protein Patent Rights. We are also required to pay Heat a royalty on all worldwide net sales by us, our affiliates, and sublicensees of certain licensed products in the low single digits. Royalties are payable, on a product-by-product and country-by-country basis, commencing on the first commercial sale of such product and continuing until the last-to-expire valid patent claim to the licensed patent rights that cover such product in that country.
Components of our Results of Operation

Collaboration Revenue – Related Party

Pursuant to the Collaboration Agreement, we are eligible to receive up to $33.8 million if Takeda exercises options to enter into license agreements for SL-279252 and $45.0 million if Takeda exercises options to enter into license agreements for SL-115154. We are also entitled to receive reimbursements for certain materials and costs incurred in conjunction with research and development activities. We are further eligible to receive up to $450.0 million in additional fees if certain milestones are reached, and we are eligible to receive tiered royalties from the high single digits to the sub teens percentages based on annual worldwide net sales.

For the years ended December 31, 2018 and 2019 we received payments of $21.0 million and $8.5 million, respectively, and we received $11.3 million for the six months ended June 30, 2020. We have recognized total revenue of $48.2 million through June 30, 2020 under the Collaboration Agreement.

We have no products approved for commercial sale and we have not generated any revenue from commercial product sales. Our total revenue to date has been generated solely from our collaboration agreement with Takeda. We expect to continue to recognize revenue under this agreement as development work is performed. We expect that any collaboration revenue we generate from our collaboration agreement with Takeda and any future collaboration partners will fluctuate from period to period as a result of the timing and the amount of milestones and other payments.

Operating Expense

Research and Development

Our research and development expenses consist primarily of costs incurred in connection with the discovery and development of our product candidates. These expenses include:

- expenses incurred under agreements with contract research organizations, or CROs, as well as investigative sites and consultants that conduct our preclinical studies and clinical trials;
- manufacturing and development expenses and the costs of acquiring and manufacturing preclinical study and clinical trial materials;
- analysis of manufacturing processes for optimization;
- employee-related expenses, including salaries, benefits, and stock-based compensation;
- fees paid to consultants who assist with research and development activities;
- expenses relating to regulatory activities, including filing fees paid to regulatory agencies;
- laboratory materials and supplies used to support our research activities; and
- allocated expenses for facility-related costs.

The following table summarizes our research and development expenses by product candidate:

<table>
<thead>
<tr>
<th>(in thousands)</th>
<th>Year ended December 31</th>
<th>Six months ended June 30, (unaudited)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2018</td>
<td>2019</td>
</tr>
<tr>
<td>SL-279252</td>
<td>$11,209</td>
<td>$4,901</td>
</tr>
<tr>
<td>SL-172154</td>
<td>1,087</td>
<td>10,489</td>
</tr>
<tr>
<td>Other pipeline candidates</td>
<td>8,436</td>
<td>7,407</td>
</tr>
<tr>
<td>Internal costs, including personnel related benefits, facilities, and depreciation</td>
<td>4,075</td>
<td>6,421</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$24,807</strong></td>
<td><strong>$29,218</strong></td>
</tr>
</tbody>
</table>

86
Research and development activities are central to our business model. Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials. We expect our research and development expenses to increase significantly over the next several years as we conduct preclinical studies and clinical trials, including later-stage clinical trials, for our current and future product candidates and pursue regulatory approval of our product candidates, including preparing regulatory filings. As we expand our research and development activities, we will correspondingly incur an increase in personnel costs, including salaries, employee benefits, and stock-based compensation, as discussed in greater detail below under “General and Administrative Expenses.”

The process of conducting the necessary preclinical and clinical research to obtain regulatory approval is costly and time consuming. The actual probability of success for our product candidates may be affected by a variety of factors including:

- the safety and efficacy of our product candidates;
- early clinical data for our product candidates;
- investment in our clinical programs;
- the ability of collaborators to successfully develop our licensed product candidates;
- competition;
- manufacturing capability; and
- commercial viability.

We may never succeed in achieving regulatory approval for any of our product candidates. As a result of the uncertainties discussed above, we are unable to determine the duration and completion costs of our research and development projects or when and to what extent we will generate revenue from the commercialization and sale of our product candidates, if ever.

**General and Administrative Expense**

General and administrative expense consists primarily of personnel expenses, including salaries, benefits, and stock-based compensation expense, for employees and consultants in executive, finance, accounting, legal, and human resource functions. General and administrative expense also includes corporate facility costs, including rent, utilities, depreciation, and maintenance, not otherwise included in research and development expense, as well as legal fees related to intellectual property and corporate matters and fees for accounting and consulting services.

We expect that our general and administrative expense will increase in the future to support our continued research and development activities and as a result of the increased costs of operating as a public company. These increases will likely include increased costs related to the hiring of additional personnel and fees to outside consultants, lawyers, and accountants, among other expenses. Additionally, we anticipate increased costs associated with being a public company, including expenses related to services associated with maintaining compliance with the requirements of Nasdaq and the SEC, insurance, and investor relations costs. If any of our current or future product candidates obtains U.S. regulatory approval, we expect that we would incur significantly increased expenses associated with building a sales and marketing team.

**Interest Income**

Interest income consists of interest earned on our cash equivalents and short-term investments, which consists of amounts held in a money market fund and at various times in short-term government obligations.
Income Taxes

Since our inception, we have not recorded any income tax benefits for the net operating losses, or NOLs, we have incurred and for our research and development tax credits, as we believe, based upon the weight of available evidence, that it is more likely than not that all of our NOLs and tax credits will not be realized. As of December 31, 2019, we had U.S. federal and state net operating loss carryforwards of $14.0 million, and $0.2 million, respectively, which may be available to offset future taxable income. As of December 31, 2019, we also had federal tax credits of $2.3 million, which may be used to offset future tax liabilities. These NOLs and tax credit carryforwards will begin to expire in 2036. We have recorded a full valuation allowance against our deferred tax assets at each balance sheet date.

Results of Operations

Comparison of the Six Months Ended June 30, 2019 and 2020

The following table sets forth our results of operations for the six months ended June 30, 2019 and 2020.

<table>
<thead>
<tr>
<th></th>
<th>Six months ended</th>
<th>Change</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>June 30,</td>
<td></td>
<td>Dollar</td>
<td>Percentage</td>
</tr>
<tr>
<td></td>
<td>(unaudited) 2019</td>
<td></td>
<td>2020</td>
<td></td>
</tr>
<tr>
<td>Collaboration revenue – related party</td>
<td>$5,282</td>
<td></td>
<td>$6,157</td>
<td>$875</td>
</tr>
<tr>
<td>Operating expenses:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research and development</td>
<td>12,502</td>
<td></td>
<td>15,892</td>
<td>3,390</td>
</tr>
<tr>
<td>General and administrative</td>
<td>2,696</td>
<td></td>
<td>3,346</td>
<td>650</td>
</tr>
<tr>
<td>Loss from operations</td>
<td>(9,916)</td>
<td></td>
<td>(13,081)</td>
<td>(3,165)</td>
</tr>
<tr>
<td>Other income (expense):</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest income</td>
<td>623</td>
<td></td>
<td>387</td>
<td>(236)</td>
</tr>
<tr>
<td>Other</td>
<td>(41)</td>
<td></td>
<td>(68)</td>
<td>(27)</td>
</tr>
<tr>
<td>Net loss</td>
<td>$ (9,334)</td>
<td></td>
<td>$(12,762)</td>
<td>$(3,428)</td>
</tr>
</tbody>
</table>

Collaboration Revenue – Related Party

Collaboration revenue increased by $0.9 million, or 16.6%, from $5.3 million for the six months ended June 30, 2019 to $6.2 million for the six months ended June 30, 2020. The increase is driven by increased clinical and development work on SL-279252 associated with Amendment No. 3 to the Collaboration Agreement.

Research and Development Expense

Research and development expenses increased by $3.4 million, or 27.1%, from $12.5 million for the six months ended June 30, 2019 to $15.9 million for the six months ended June 30, 2020. The increase was primarily attributable to an increase of $4.2 million in manufacturing and clinical costs incurred in connection with the Collaboration Agreement and an increase in personnel cost of $0.9 million offset by a decrease of $1.0 million in nonclinical studies and laboratory costs and a $0.8 million reduction in consulting costs due to bringing certain activities in-house.

General and Administrative Expense

General and administrative expenses increased by $0.7 million, or 24.1%, from $2.7 million for the six months ended June 30, 2019 to $3.3 million for the six months ended June 30, 2020. The increase was primarily due to a $0.7 million increase in personnel-related costs driven by higher employee headcount.
Interest Income

Interest income decreased by $0.2 million from $0.6 million for the six months ended June 30, 2019 to $0.4 million for the six months ended June 30, 2020. The decrease was primarily due to a decrease in investments in corporate and government obligations in 2020 compared to 2019.

Comparison of the Years Ended December 31, 2018 and 2019

The following table sets forth our results of operations for the years ended December 31, 2018 and 2019.

<table>
<thead>
<tr>
<th>(in thousands)</th>
<th>Year ended December 31,</th>
<th>Change</th>
<th>Dollar</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaboration revenue – related party</td>
<td>$22,442</td>
<td>$9,887</td>
<td>$(12,555)</td>
<td>(55.9)%</td>
</tr>
<tr>
<td>Operating expenses:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research and development</td>
<td>24,807</td>
<td>29,218</td>
<td>4,411</td>
<td>17.8%</td>
</tr>
<tr>
<td>General and administrative</td>
<td>3,783</td>
<td>5,736</td>
<td>1,953</td>
<td>51.6%</td>
</tr>
<tr>
<td>Loss from operations</td>
<td>(6,148)</td>
<td>(25,067)</td>
<td>(18,919)</td>
<td>307.7%</td>
</tr>
<tr>
<td>Other income (expense):</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest income</td>
<td>966</td>
<td>1,184</td>
<td>218</td>
<td>22.6%</td>
</tr>
<tr>
<td>Interest expense</td>
<td>(2,631)</td>
<td>—</td>
<td>2,631</td>
<td>(100.0)%</td>
</tr>
<tr>
<td>Gain on extinguishment of notes payable</td>
<td>782</td>
<td>(782)</td>
<td>(100.0)%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>(357)</td>
<td>(99)</td>
<td>258</td>
<td>(72.3)%</td>
</tr>
<tr>
<td>Net loss</td>
<td>$(7,388)</td>
<td>$(23,982)</td>
<td>$(16,594)</td>
<td>224.6%</td>
</tr>
</tbody>
</table>

Collaboration Revenue – Related Party

Collaboration revenue decreased by $12.6 million, or 55.9%, from $22.4 million for the year ended December 31, 2018 to $9.9 million for the year ended December 31, 2019. Pursuant to the Collaboration Agreement, in 2018 and the first quarter of 2019, we performed development and nonclinical studies on SL-279252 and SL-115154. We also conducted early research and development on the four preclinical molecules under the Collaboration Agreement. We completed the development plans for all four preclinical molecules in the first quarter of 2019 and have recognized all revenue associated with those programs. Takeda declined to license any of the four preclinical molecules. We continue to advance SL-279252 and SL-115154 through clinical and preclinical studies and will continue to recognize revenue as earned under the Collaboration Agreement.

Research and Development Expense

Research and development expenses increased by $4.4 million, or 17.8%, from $24.8 million for the year ended December 31, 2018 to $29.2 million for the year ended December 31, 2019. The increase was primarily attributable to an increase of $9.4 million and $2.1 million in non-clinical and manufacturing development expense for SL-172154 and SL-115154, respectively, as we prepared for SL-172154 to go into a Phase 1 clinical trial in the second half of 2020, and an increase in personnel-related expense of $2.3 million due to an increase in employee headcount. These increases were offset by a decrease in non-clinical and manufacturing development expense for SL-279252 as that program moved into a Phase 1 clinical trial in April 2019 and a decrease in other pipeline development costs as a result of completing work for the four preclinical molecules under the Collaboration Agreement in March 2019.

General and Administrative Expense

General and administrative expenses increased by $2.0 million, or 51.6%, from $3.8 million for the year ended December 31, 2018 to $5.7 million for the year ended December 31, 2019. The increase was primarily due...
to a $1.0 million increase in professional services expense related to accounting and audit fees related to the 2017 and 2018 fiscal year and tax services for the 2018 fiscal year, and a $0.8 million increase in personnel-related expense due to an increase in employee headcount.

**Interest Income**

Interest income increased by $0.2 million, or 22.6%, from $1.0 million for the year ended December 31, 2018 to $1.2 million for the year ended December 31, 2019. The increase was primarily due to an increase in interest earned from funds held in money market accounts and debt securities.

**Interest Expense**

Interest expense decreased by $2.6 million or 100% from $2.6 million for the year ended December 31, 2018 to none for the year ended December 31, 2019. No interest expense was incurred in 2019 as all of our outstanding convertible notes were converted into shares of our Series A redeemable convertible preferred stock in 2018.

**Gain on Extinguishment of Notes Payable**

In 2018, there was a $0.8 million gain on the extinguishment of notes payable associated with the conversion of all the outstanding convertible notes into shares of Series A redeemable convertible preferred stock. No similar gains were recognized in the year ended December 31, 2019.

**Other**

Other expenses decreased by $0.3 million from $0.4 million for the year ended December 31, 2018 to $0.1 million for the year ended December 31, 2019. In 2018, we recorded a $0.4 million expense to reflect the change in the fair value of a derivative instrument. No such charge was incurred in 2019 as the derivative was settled in 2018.

**Liquidity and Capital Resources**

We have incurred losses since inception. As of June 30, 2020, we had an accumulated deficit of $48.3 million and $147.5 million of cash and cash equivalents and short-term investments. Historically, we have funded our operations to date primarily from private placements of preferred stock for approximately $152.9 million, the issuance of convertible notes for approximately $10.5 million and payments received pursuant to a collaboration agreement with Takeda for approximately $75.7 million. We anticipate incurring additional losses and negative cash flows from operations until such time, if ever, that we can generate significant sales of our product candidates currently in development. We are highly dependent on our ability to find additional sources of funding in the form of licensing of its technology, collaboration agreements, and/or debt and equity financing. Our ability to fund planned clinical operations, research and development, and commercialization of product candidates is expected to depend on the amount and timing of cash receipts from these funding sources. Adequate additional funding may not be available to the us on acceptable terms, or at all. The failure to raise funds as and when needed could have a negative impact on our financial condition and ability to pursue its business strategies. Management believes that our cash and cash equivalents and short-term investments as of June 30, 2020 are sufficient to fund the projected operations of the company through at least .

**Capital Resources and Funding Requirements**

Our primary uses of cash are to fund our operations, which consist primarily of research and development expenditures related to our programs, product development costs, operating expenses, and working capital requirements. We believe that our cash and cash equivalents and short-term investments, together with the net proceeds from this offering, will enable us to fund our operating expenses through . We expect to incur
substantial additional expenditures in the near term to support our ongoing activities including clinical trials of several product candidates. Additionally, we expect to incur additional costs as a result of operating as a public company. We expect to continue to incur net losses for the next several years, and we are highly dependent on our ability to find additional sources of funding in the form of debt, equity financing, or additional partnerships. Our ability to fund our product development and clinical operations will depend on the amount and timing of cash received from planned financings. Our future capital requirements will depend on many factors, including:

- the scope, timing, progress, and results of discovery, preclinical development, laboratory testing, and clinical trials for our product candidates;
- the costs of manufacturing our product candidates for clinical trials and in preparation for marketing approval and commercialization;
- the extent to which we enter into collaborations or other arrangements with additional third parties in order to further develop our product candidates;
- the costs of preparing, filing, and prosecuting patent applications, maintaining, and enforcing our intellectual property rights and defending other intellectual property-related claims;
- the costs and fees associated with the discovery, acquisition, or in-license of additional product candidates or technologies;
- our ability to establish additional collaborations on favorable terms, if at all;
- the costs required to scale up our clinical, regulatory, and manufacturing capabilities;
- the costs of future commercialization activities, if any, including establishing sales, marketing, manufacturing, distribution, and storage capabilities, for any of our product candidates for which we receive marketing approval; and
- revenue, if any, received from commercial sales of our product candidates, should any of our product candidates receive marketing approval.

Until we obtain regulatory approval to market our product candidates, if ever, we cannot generate revenues from sales of our products. Even if we are able to sell our products, we may not generate a sufficient amount of product revenues to finance our cash requirements. Accordingly, we may seek to raise any necessary additional capital through a combination of public or private equity offerings, debt financings, collaborations, licensing arrangements, and other marketing and distribution agreements. There can be no assurance that such funding may be available to us on acceptable terms, or at all. Because of the numerous risks and uncertainties associated with the development and commercialization of our product candidates, we are unable to estimate the amounts of increased capital outlays and operating expenditures associated with our current and anticipated preclinical studies and clinical trials. The issuance of equity securities may result in dilution to stockholders. If we raise additional funds through the issuance of debt securities, these securities may have rights, preferences and privileges senior to those of our common stock and the terms of the debt securities could impose significant restrictions on our operations. The failure to raise funds as and when needed could have a negative impact on our financial condition and ability to pursue our business strategies. Additionally, if additional funding is not secured when required, we may need to delay or curtail our operations until such funding is received, which would have a material adverse impact on our business prospects and results of operations.
Cash Flows

The following table shows a summary of our cash flows for the periods indicated:

### Table of Contents

#### Cash Flows

The following table shows a summary of our cash flows for the periods indicated:

<table>
<thead>
<tr>
<th>(in thousands)</th>
<th>Six months ended June 30, 2019 (unaudited)</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net cash used in operating activities</td>
<td>$(5,870)</td>
<td>$(8,268)</td>
</tr>
<tr>
<td>Net cash (used in) provided by investing activities</td>
<td>(2,763)</td>
<td>15,179</td>
</tr>
<tr>
<td>Net cash provided by financing activities</td>
<td></td>
<td>117,120</td>
</tr>
<tr>
<td>Net (decrease) increase in cash and cash equivalents</td>
<td>$(8,633)</td>
<td>$124,031</td>
</tr>
</tbody>
</table>

**Net Cash Used in Operating Activities**

During the six months ended June 30, 2019, net cash used in operating activities was $5.9 million and primarily reflected our net loss of $9.3 million and a $3.1 million net decrease in our operating assets and liabilities, partially offset by noncash charges $0.2 million in stock-based compensation and $0.3 million in depreciation expense.

During the six months ended June 30, 2020, net cash used in operating activities was $8.3 million and primarily reflected our net loss of $12.8 million and a $3.9 million net decrease in our operating assets and liabilities, partially offset by noncash charges $0.3 million in stock-based compensation and $0.3 million in depreciation expense.

**Net Cash (Used in) Provided by Investing Activities**

During the six months ended June 30, 2019, net cash used in investing activities was $2.8 million of which $0.3 million was used to purchase property and equipment, $21.8 million was used to purchase short-term investments, and $19.3 million was received from the sale of short-term investments.

During the six months ended June 30, 2020, net cash provided by investing activities was $15.2 million of which $0.4 million was used to purchase property and equipment, $2.7 million was used to purchase short-term investments, and $18.3 million was received from the sale of short-term investments.

**Net Cash Provided by Financing Activities**

During the six months ended June 30, 2020, net cash provided by financing activities was $117.1 million and was primarily from the sale of our Series B and B-1 redeemable convertible preferred stock.

The following table shows a summary of our cash flows for the periods indicated:

<table>
<thead>
<tr>
<th>(in thousands)</th>
<th>Year ended December 31, 2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net cash used in operating activities</td>
<td>$(6,903)</td>
<td>$(20,975)</td>
</tr>
<tr>
<td>Net cash used in investing activities</td>
<td>(29,925)</td>
<td>(3,592)</td>
</tr>
<tr>
<td>Net cash (used in) provided by financing activities</td>
<td>35,145</td>
<td>(64)</td>
</tr>
<tr>
<td>Net decrease in cash and cash equivalents</td>
<td>$(1,683)</td>
<td>$(24,631)</td>
</tr>
</tbody>
</table>
Net Cash Used in Operating Activities

During the year ended December 31, 2018, net cash used in operating activities was $6.9 million and primarily reflected our net loss of $7.4 million, which net loss includes $2.6 million of noncash interest expense and a $2.5 million net decrease in our operating assets and liabilities.

During the year ended December 31, 2019, net cash used in operating activities was $21.0 million and primarily reflected our net loss of $24.0 million and a $2.2 million net decrease in our operating assets and liabilities, partially offset by noncash charges $0.5 million in stock-based compensation and $0.5 million in depreciation expense.

Net Cash Used in Investing Activities

During the year ended December 31, 2018, net cash used in investing activities was $29.9 million, of which $1.2 million was used to purchase property and equipment and $28.7 million was used to purchase short-term investments. No proceeds were received from the sale of short-term investments in 2018.

During the year ended December 31, 2019, net cash used in investing activities was $3.6 million of which $0.5 million was used to purchase property and equipment, $44.3 million was used to purchase short-term investments, and $41.1 million was received from the sale of short-term investments.

Net (Used in) Provided by Financing Activities

During the year ended December 31, 2018, net cash provided by financing activities was $35.1 million from the sale of our Series A redeemable convertible preferred stock.

During the year ended December 31, 2019, a nominal amount related to offering costs in connection with the private placements of our preferred common stock was used for financing activities.

Contractual Obligations and Other Commitments

The following table summarizes our contractual obligations and commitments at December 31, 2019:

<table>
<thead>
<tr>
<th>(in thousands)</th>
<th>Less than 1 year</th>
<th>1 to 3 years</th>
<th>3 to 5 years</th>
<th>More than 5 years</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating lease obligations(1)</td>
<td>$ 290</td>
<td>$ 605</td>
<td>$ 643</td>
<td>$ 1,405</td>
<td>$2,943</td>
</tr>
<tr>
<td>Total</td>
<td>$ 290</td>
<td>$ 605</td>
<td>$ 643</td>
<td>$ 1,405</td>
<td>$2,943</td>
</tr>
</tbody>
</table>

(1) The operating lease is for office space leased in Durham, North Carolina. The lease for this office was amended on July 24, 2020 to include an expansion to the leased facility. This will result in incremental increases to the existing lease obligations as follows: none in 2020, $0.8 million for 2021 and 2022, $0.9 million for 2023 and 2024, and $1.9 million thereafter for total incremental payments of $3.6 million.

The commitment amounts in the table above are associated with contracts that are enforceable and legally binding and that specify all significant terms, including fixed or minimum services to be used, fixed, minimum, or variable price provisions, and the approximate timing of the actions under the contracts. Payments due upon cancellation consisting only of payments for services provided or expenses incurred, including noncancelable obligations of our service providers, up to the date of cancellation are not included in the preceding table as the amount and timing of such payments are not known.

We have not included any potential contingent payments upon the achievement by us of specified regulatory and commercial events, as applicable, or patent prosecution or royalty payments we may be required to make under the Heat License Agreement. We have excluded these potential payments in the contractual obligations table because the timing and likelihood of these contingent payments are not currently known and would be difficult to predict or estimate. See “Business—Collaboration and License Agreements.”
Contractual obligations represent future cash commitments and liabilities under agreements with third parties, and exclude contingent liabilities for which the Company cannot reasonably predict future payment. The Company’s contractual obligations result primarily from obligations for various contract manufacturing organizations and clinical research organizations, which include potential payments the Company may be required to make under its agreements. The contracts also contain variable costs and milestones that are hard to predict as they are based on such things as patients enrolled and clinical trial sites. The timing of payments and actual amounts paid under contract manufacturing organization, or CMO, and CRO agreements may be different depending on the timing of receipt of goods or services or changes to agreed-upon terms or amounts for some obligations. Also, those agreements are cancelable upon written notice by the Company and, therefore, not long-term liabilities.

Off-Balance Sheet Arrangements

During the periods presented, we did not have, nor do we currently have, any relationships with unconsolidated entities or financial partnerships, including entities sometimes referred to as structured finance or special purpose entities that were established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes. We do not engage in off-balance sheet financing arrangements. In addition, we do not engage in trading activities involving non-exchange traded contracts. We therefore believe that we are not materially exposed to any financing, liquidity, market, or credit risk that could arise if we had engaged in these relationships.

Critical Accounting Policies

Our management’s discussion and analysis of our financial condition and results of operations are based on our financial statements, which have been prepared in accordance with GAAP. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, and expenses and the disclosure of contingent assets and liabilities in our financial statements. On an ongoing basis, we evaluate our estimates and judgments, including those related to revenue recognition, the accrual for research and development expenses, and the valuation of stock-based awards. We base our estimates on historical experience, known trends and events, and various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are described in more detail in Note 2 to our financial statements included elsewhere in this prospectus, we believe the following accounting policies are the most critical to the judgments and estimates used in the preparation of our financial statements.

Revenue Recognition

We have and may continue to enter into collaboration agreements with other companies. Arrangements with collaborators may include licenses to intellectual property, research and development services, manufacturing services for clinical and commercial supply, and participation on joint steering and patent committees. We evaluate the promised goods or services in the contract to determine which promises, or group of promises, represent performance obligations. In contemplation of whether a promised good or service meets the criteria required of a performance obligation, we consider the stage of development of the underlying intellectual property, the capabilities and expertise of the customer relative to the underlying intellectual property, and whether the promised goods or services are integral to or dependent on other promises in the contract. When accounting for an arrangement that contains multiple performance obligations, we develop judgmental assumptions, which may include market conditions, reimbursement rates for personnel costs, development timelines, and probabilities of regulatory success to determine the stand-alone selling price for each performance obligation identified in the contract.
When we conclude that a contract should be accounted for as a combined performance obligation and recognized over time, we then determine the period over which revenue should be recognized and the method by which to measure revenue. We generally recognize revenue using a cost-based input method.

We recognize collaboration revenue when our customer or collaborator obtains control of promised goods or services, in an amount that reflects the consideration which we expect to receive in exchange for those goods or services. To determine revenue recognition for such arrangements, we perform the following five steps:

i. identify the contract(s) with a customer;
ii. identify the performance obligations in the contract;
iii. determine the transaction price;
iv. allocate the transaction price to the performance obligations within the contract; and
v. recognize revenue when (or as) the entity satisfies a performance obligation.

We only apply the five-step model to contracts when we determine that it is probable we will collect the consideration we are entitled to in exchange for the goods or services we transfer to the customer.

At contract inception, we assess the goods or services promised within the contract to determine whether each promised good or service is a performance obligation. The promised goods or services in the arrangement consist of a license to our intellectual property and research, development and manufacturing services. We may provide options to additional items in such arrangements, which are accounted for as separate contracts when the customer elects to exercise such options, unless the option provides a material right to the customer. Performance obligations are promises in a contract to transfer a distinct good or service to the customer that (i) the customer can benefit from on its own or together with other readily available resources, and (ii) is separately identifiable from other promises in the contract. Goods or services that are not individually distinct performance obligations are combined with other promised goods or services until such combined group of promises meet the requirements of a performance obligation.

We determine transaction price based on the amount of consideration we expect to receive for transferring the promised goods or services in the contract. Consideration may be fixed, variable, or a combination of both. At contract inception for arrangements that include variable consideration, we estimate the probability and extent of consideration we expect to receive utilizing either the most likely amount method or expected amount method, whichever best estimates the amount expected to be received. We then consider any constraints on the variable consideration and include in the transaction price variable consideration to the extent it is deemed probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved.

We then allocate the transaction price to each performance obligation based on the relative standalone selling price and recognize revenue as the amount of the transaction price that is allocated to the respective performance obligation when (or as) control is transferred to the customer and the performance obligation is satisfied. For performance obligations that consist of licenses and other promises, we utilize judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress. We evaluate the measure of progress each reporting period and, if necessary, adjust the measure of performance and related revenue recognition.

We record amounts as accounts receivable when the right to consideration is deemed unconditional. When consideration is received, or such consideration is unconditionally due, from a customer prior to transferring goods or services to the customer under the terms of a contract, a contract liability is recorded as deferred revenue.
Amounts received prior to satisfying the revenue recognition criteria are recognized as deferred revenue in our balance sheet. Deferred revenues expected to be recognized as revenue within the 12 months following the balance sheet date are classified as a current liability. Deferred revenues not expected to be recognized as revenue within the 12 months following the balance sheet date are classified as noncurrent liabilities.

**Research and Development Expense**

Research and development expenses consist primarily of costs incurred in connection with the development of our product candidates. We expense research and development costs as incurred.

We accrue an expense for preclinical studies and clinical trial activities performed by vendors based upon estimates of the proportion of work completed. We determine the estimates by reviewing contracts, vendor agreements and purchase orders, and through discussions with our internal personnel and external service providers as to the progress or stage of completion of trials or services and the agreed-upon fee to be paid for such services. However, actual costs and timing of clinical trials are highly uncertain, subject to risks and may change depending upon a number of factors, including our clinical development plan.

We make estimates of our prepaid and accrued expenses as of each balance sheet date in our financial statements based on facts and circumstances known at that time. If the actual timing of the performance of services or the level of effort varies from the estimate, we will adjust the accrual accordingly. Nonrefundable advance payments for goods and services, including fees for process development or manufacturing and distribution of clinical supplies that will be used in future research and development activities, are deferred and recognized as expense in the period that the related goods are consumed or services are performed.

**Stock-Based Compensation**

We measure compensation expense for all share-based awards based on the estimated fair value of the share-based awards on the grant date. We use the Black-Scholes option pricing model to value our stock option awards. We recognize compensation expense on a straight-line basis over the requisite service period, which is generally the vesting period of the award. We have not issued awards for which vesting is subject to a market or performance conditions.

The Black-Scholes option-pricing model requires the use of subjective assumptions that include the expected stock price volatility and the fair value of the underlying common stock on the date of grant. See Note 11 to our audited financial statements included elsewhere in this prospectus for information concerning certain of the specific assumptions we used in applying the Black-Scholes option pricing model to determine the estimated fair value of our stock options granted during the year ended December 31, 2019.

The following table summarizes by grant date the number of shares of common stock subject to stock options granted from January 1, 2019, as well as the associated per share exercise price and the estimated fair value per share of our common stock as of the grant date:

<table>
<thead>
<tr>
<th>Grant date</th>
<th>Number of options granted</th>
<th>Exercise price per share</th>
<th>Estimated fair value per share</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 6, 2019</td>
<td>4,250</td>
<td>$20.15</td>
<td>$12.14</td>
</tr>
<tr>
<td>May 14, 2019</td>
<td>6,500</td>
<td>20.15</td>
<td>11.89</td>
</tr>
<tr>
<td>September 18, 2019</td>
<td>17,250</td>
<td>21.69</td>
<td>12.85</td>
</tr>
<tr>
<td>December 4, 2019</td>
<td>49,800</td>
<td>21.69</td>
<td>12.59</td>
</tr>
<tr>
<td>December 11, 2019</td>
<td>4,500</td>
<td>21.69</td>
<td>12.95</td>
</tr>
<tr>
<td>January 2, 2020</td>
<td>19,866</td>
<td>21.69</td>
<td>12.83</td>
</tr>
</tbody>
</table>

Based on an assumed initial public offering price of $ per share, which is the midpoint of the estimated price range set forth on the cover page of this prospectus, the aggregate intrinsic value of vested and unvested stock options outstanding as of June 30, 2020 was $ million and $ million, respectively.
Estimating the Fair Value of Common Stock

We are required to estimate the fair value of the common stock underlying our share-based awards when performing the fair value calculations using the Black-Scholes option pricing model. Because our common stock is not currently publicly traded, the fair value of the common stock underlying our stock options has been determined on each grant date by our Board, with input from management, considering our most recently available third-party valuation of common stock. All options to purchase shares of our common stock are intended to be granted with an exercise price per share no less than the estimated fair value per share of our common stock underlying those options on the date of grant, based on the information known to us on the date of grant.

The third-party valuations of our common stock were performed using methodologies, approaches and assumptions consistent with the American Institute of Certified Public Accountants, or AICPA, Audit and Accounting Practice Aid Series: Valuation of Privately Held Company Equity Securities Issued as Compensation, or the AICPA Practice Guide. In addition, our Board considered various objective and subjective factors to estimate the estimated fair value of our common stock, including:

• the estimated value of each security both outstanding and anticipated;
• the anticipated capital structure that will directly impact the value of the currently outstanding securities;
• our results of operations and financial position;
• the status of our research and development efforts;
• the composition of, and changes to, our management team and Board;
• the lack of liquidity of our common stock as a private company;
• our stage of development and business strategy and the material risks related to our business and industry;
• external market conditions affecting the life sciences and biotechnology industry sectors;
• U.S. and global economic conditions;
• the likelihood of achieving a liquidity event for the holders of our common stock, such as an initial public offering, or IPO, or a sale of our company, given prevailing market conditions; and
• the market value and volatility of comparable companies.

Following the closing of this offering, the fair value of our common stock will be the closing price of our common stock on The Nasdaq Global Market as reported on the date of the grant.

Recent Accounting Pronouncements

See Note 2 to our financial statements found elsewhere in this prospectus for a description of recent accounting pronouncements applicable to our financial statements.

Qualitative and Quantitative Disclosures About Market Risk

Interest Rate Risk

We are exposed to market risk related to changes in interest rates. As of June 30, 2020, we had cash and cash equivalents and short-term investments of $147.5 million consisting of bank deposits, monies in a money market fund and U.S. Treasury securities. Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates, particularly because our investments are in marketable debt securities. Our available-for-sale securities are subject to interest rate risk and will fall in value if market interest rates increase. Due to the short-term duration of our investment portfolio and the low risk profile
of our investments, an immediate 10% change in interest rates would not have a material effect on the fair market value of our portfolio. We have the ability to hold our available-sale-securities until maturity and therefore, we would not expect our operating results or cash flows to be affected to any significant degree by the effect of a change in market interest rates on our investments.

**Effects of Inflation**

Inflation generally affects us by increasing our cost of labor and clinical trial costs. We do not believe that inflation and changing prices had a significant impact on our results of operations for any periods presented herein.

**JOBS Act Transition Period**

We are an emerging growth company as defined in the JOBS Act. Under the JOBS Act, an emerging growth company can take advantage of the extended transition period for complying with new or revised accounting standards and delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected to avail ourselves of this exemption from complying with new or revised accounting standards and, therefore, will not be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies. As a result, our financial statements may not be comparable to companies that comply with new or revised accounting pronouncements as of public company effective dates.

We are in the process of evaluating the benefits of relying on other exemptions and reduced reporting requirements under the JOBS Act. Subject to certain conditions, as an emerging growth company, we may rely on certain of these exemptions, including without limitation exemptions to the requirements for (1) providing an auditor’s attestation report on our system of internal controls over financial reporting pursuant to Section 404(b) of the Sarbanes-Oxley Act and (2) complying with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor’s report providing additional information about the audit and the financial statements, known as the auditor discussion and analysis. We will remain an emerging growth company until the earlier to occur of (a) the last day of the fiscal year (i) following the fifth anniversary of the completion of this offering, (ii) in which we have total annual gross revenues of at least $1.07 billion or (iii) in which we are deemed to be a “large accelerated filer” under the rules of the SEC, which means the market value of our common stock that is held by non-affiliates exceeds $700.0 million as of the prior June 30th, or (b) the date on which we have issued more than $1.0 billion in non-convertible debt during the prior three-year period.

We are also a “smaller reporting company,” meaning that the market value of our stock held by non-affiliates plus the proposed aggregate amount of gross proceeds to us as a result of this offering is less than $700.0 million and our annual revenue is less than $100.0 million during the most recently completed fiscal year. We may continue to be a smaller reporting company after this offering if either (i) the market value of our stock held by non-affiliates is less than $250.0 million or (ii) our annual revenue is less than $100.0 million during the most recently completed fiscal year and the market value of our stock held by non-affiliates is less than $700.0 million. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. Specifically, as a smaller reporting company we may choose to present only the two most recent fiscal years of audited financial statements in our Annual Report on Form 10-K and, similar to emerging growth companies, smaller reporting companies have reduced disclosure obligations regarding executive compensation.
BUSINESS

Overview

We are an innovative clinical-stage biotechnology company pioneering the development of dual-sided fusion proteins as an entirely new class of biologic medicine. We believe our approach has the potential to fundamentally transform the therapeutic modulation of the immune system. We have created a novel approach to immune-modulation by designing biologics with structural characteristics that are not achievable by existing therapeutic modalities. Compounds derived from our proprietary Agonist Redirected Checkpoint, or ARC, platform simultaneously inhibit checkpoint molecules and activate costimulatory molecules within a single therapeutic. Our initial product candidates are designed to be differentiated therapeutics addressing molecular targets that are well characterized and scientifically validated in immuno-oncology but are underexploited by current treatment modalities.

Our lead, wholly owned product candidate, SL-172154, has been rationally designed to simultaneously inhibit the CD47/SIRPa checkpoint interaction to restore an anti-tumor immune response and to activate the CD40 costimulatory receptor to bolster an immune response. We are currently conducting a Phase 1 clinical trial evaluating SL-172154 in patients with ovarian cancer and we expect to announce initial data from the dose-escalation portion of this trial in the second half of 2021. We plan to initiate a second Phase 1 trial evaluating SL-172154 in patients with cutaneous squamous cell carcinoma, or CSCC, or head and neck squamous cell carcinoma, or HNSCC, and we expect to announce data from the dose-escalation portion of this trial in the second half of 2022. Our second product candidate, SL-279252, which is being developed in collaboration with Takeda Pharmaceuticals, or Takeda, has been rationally designed to simultaneously inhibit the PD-1/PD-L1 interaction and activate the OX40 receptor. We are evaluating SL-279252 in a Phase 1 clinical trial in patients with advanced solid tumors and lymphoma, and we expect to announce data from the dose-escalation portion of the trial in the second half of 2021. In addition to our clinical-stage ARC product candidates, we possess a deep pipeline of preclinical immuno-oncology product candidates. Longer-term, we are pursuing additional disease areas, including autoimmune diseases, where our dual-sided fusion protein platforms may provide advantages over current treatment modalities.

Cancer is characterized by the uncontrolled proliferation of abnormal cells. The immune system typically recognizes and eliminates abnormal cells. However, cancer cells have the ability to evade the immune system through the expression of checkpoint molecules, which ward off an anti-tumor immune response that would otherwise lead to elimination of cancer cells. In an effort to leverage the immune system to promote an anti-tumor response, researchers have developed checkpoint inhibitor therapies, including anti-CTLA-4, anti-PD-1, and anti-PD-L1 antibodies, which have represented a revolutionary milestone in the treatment of cancer. These therapies generate deep and durable responses, translating into meaningful clinical benefit and have become the cornerstone of treatment paradigms for many cancers. However, the clinical benefit is limited to a minority of patients. This limitation highlights the need for novel modalities that may benefit a greater number of patients, such as a compound that simultaneously inhibits checkpoint molecules while activating costimulatory molecules to generate a beneficial immune response.

Driven by an increasing understanding of tumor biology, it is now well-established that the activation of costimulatory molecules can generate a more effective immune response where current checkpoint inhibitors have failed. To date, there has been limited clinical success in combining the inhibition of checkpoints with the activation of trimeric costimulatory molecules. We believe these efforts have had limited success due to the structural mismatch between existing bivalent antibodies and the trimeric costimulatory receptors of the tumor necrosis factor, or TNF, receptor superfamily, such as CD40 and OX40. TNF activation and downstream signaling require the assembly of three receptor molecules, or trimerization. Existing bivalent antibodies can only bind to two TNF receptors and are thus unable to trimerize TNF receptors, leading to weak signaling. Additionally, administration of two separate antibodies, which distribute in the body independent of one another, does not guarantee colocalization of their mechanisms of activity.
Our proprietary ARC platform is designed to overcome the limitations of existing bivalent antibodies. ARC compounds consolidate checkpoint blockade and immune costimulation within a single therapeutic. Additionally, ARC compounds possess a structure that matches the native structure of the target receptors and colocalizes both mechanisms of activity within the immune synapse to promote a coordinated immune response. As shown in Figure 1 below, one end of the ARC compound consists of a checkpoint receptor domain and the opposite end consists of a TNF ligand domain, connected by a scaffold such as an Fc domain. We design ARC compounds to self-assemble into a hexameric structure, as shown in Figure 1 below, comprising six distinct checkpoint receptor domains and six distinct TNF ligand domains, which form two trimerized costimulatory ligand domains. The hexameric structure of an ARC compound facilitates clusters of binding domains thus leveraging the strength of multiple individual binding interactions, known as affinity, into a greater collective strength of all binding interactions, known as avidity.

The unique dual-sided structure of our ARC compounds allows us to simultaneously and effectively target a wide array of pathways for the creation of a deep and differentiated product pipeline. We utilize our understanding of disease pathology and immune dysfunction to identify pairings of optimal domains. Initially, our efforts are concentrated on three broad target families:

- **Immune Checkpoints.** Immune checkpoints include a variety of receptor/ligand pairs that inhibit immune responses and are utilized by many cancers as a defense against anti-tumor immune responses. The blockade of immune checkpoints, such as CD47/SIRPa, PD-1/PD-L1, and TIGIT/PVR, has the potential to restore anti-tumor immune responses and improve survival in cancer patients.

- **TNF Superfamily.** The TNF superfamily consists of multiple structurally related receptors, such as CD40, OX40, 4-1BB, DR5, CD30, LTβR, and HVEM, as well as ligands that orchestrate the induction, magnitude, quality, and duration of immune responses. Individual TNF receptor/ligand pairs exhibit distinct expression patterns on immune cell subsets and can fine-tune both myeloid cell- and lymphocyte-mediated immunity.
Cytokines. Cytokines, chemokines, and interleukins include a broad range of soluble molecules that control a wide array of biological responses, including inflammation and immunity. We believe our platform’s ability to block or activate these pathways, including CSF1R/CSF1/IL-34 and TGFBR2/TGF-β and specific cytokines, expands our addressable target universe and potential therapeutic indications.

While therapeutic inhibition of immune checkpoints has been shown to improve overall survival in a minority of cancer patients, combining immune checkpoint blockade with activation of TNF superfamily receptors, or modulation of cytokines may deepen responses and increase the number of cancer patients that benefit from immunotherapy.

We believe that the following features represent the key advantages offered by compounds developed with the ARC platform:

- **Matching Native Structure of TNF Receptors.** TNF receptors and ligands require trimerization, or assembly into groups of three, for efficient signaling. A hexameric ARC compound contains two trimerized TNF ligand domains, which directly activate trimeric TNF receptors, thus overcoming the structural limitations of bivalent antibodies.

- **Target Specificity, High Affinity, and High Avidity.** ARC compounds incorporate twelve distinct binding domains, six for each of the two targets, enabling high-affinity and durable binding to specific cell surface targets.

- **Replacing Tumor Immune Evasion with Potent Immune Stimulation.** ARC compounds are designed to simultaneously reverse a tumor’s immune evasion and amplify anti-tumor immune responses locally within the tumor microenvironment. In preclinical models, the ability of our ARC compounds to colocalize checkpoint inhibition and costimulation demonstrated superior anti-tumor response as compared to the administration of separate antibody therapies.

- **Versatility.** Modularity of the ARC platform enables production of thousands of potential therapeutic candidates across oncology, autoimmune diseases, and other disease areas.

- **Speed from Concept to Compound to Clinic.** The ARC platform allows for a significantly compressed development timeline from “Concept to Compound to Clinic,” which has enabled us to clinical trials and generate over 300 unique, dual-sided fusion proteins and two clinical-stage assets in less than four years.

- **Accelerated Lead Selection Process.** We are able to identify and select optimal therapeutic constructs during the design and discovery phase of product candidate development through the rational pairing of optimized domains, enabling the efficient transition from discovery to the clinic. The rapid development path of ARC compounds permits systematic and simultaneous comparison of multiple ARC compound variants prior to lead selection.

We believe these collective advantages create the potential for the capital-efficient identification and pursuit of differentiated product candidates.

We are also leveraging our expertise and intellectual property to build novel platforms beyond our ARC platform, where dual-sided fusion proteins may provide advantages over existing therapeutic antibodies. One such platform is our Gamma Delta T Cell Engager platform, known as GADLEN. A majority of T cells in the human body bear an alpha beta T cell receptor, which recognizes tumor antigens via major histocompatibility complex, or MHC, molecules. Some cancer cells reduce the expression of MHC molecules, rendering those cancer cells invisible to most alpha beta T cells. Gamma delta T cells represent approximately 2% to 5% of the total T cell population and, unlike alpha beta T cells, are not dependent on MHC molecules to recognize and kill tumor cells. The therapeutic utilization of gamma delta T cells represents a novel approach for the treatment of cancer. This approach may be particularly beneficial in targeting tumors that are not addressable by alpha beta T cells. Additionally, as immunotherapies that stimulate alpha beta T cell-dependent immune responses are increasingly utilized across cancer treatment paradigms, the proportion of patients who may become refractory to...
alpha beta T cell-mediated therapies will also increase over time, creating an absence of effective treatment options that may be addressed by the utilization of gamma delta T cells.

While we believe compounds developed with our ARC and GADLEN platform may provide significant key advantages, we are in an early stage of development using novel technologies and cannot assure you that our approach will lead to the development of marketable products. For example, SL-279252 is in Phase 1 development and although data as of September 9, 2020 has shown it has been well tolerated, with no dose-limiting toxicities observed, additional data from any of our dual-sided fusion protein product candidates may result in unanticipated safety and efficacy outcomes or unexpected biological interactions that could delay or prevent their development. Moreover, we are aware that others have experienced limited clinical success when attempting to combine the inhibition of checkpoint molecules with the activation of trimeric costimulatory molecules. We believe this limited success is attributable to a structural mismatch between the bivalent antibodies and trimeric costimulatory receptors, which we have attempted to address in the design of our ARC platform compounds.

Our Pipeline

We are leveraging our proprietary ARC and GADLEN platforms to discover and develop dual-sided, bi-functional fusion protein product candidates. We own or have exclusively licensed the intellectual property rights to our product candidates.

The following table highlights our two clinical-stage assets that have been derived from our ARC platform:

<table>
<thead>
<tr>
<th>Program</th>
<th>Domain 1</th>
<th>Domain 2</th>
<th>Indication</th>
<th>Stage of Development</th>
<th>Anticipated Milestone</th>
<th>Collaborator</th>
</tr>
</thead>
<tbody>
<tr>
<td>SL-172154</td>
<td>SRC1</td>
<td>CD40L</td>
<td>Ovarian Cancer(^{11})</td>
<td>Discovery Preclinical Phase 1 Phase 2 Phase 3</td>
<td>Initial Dose Escalation Data 2/2021</td>
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<tr>
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<td>CD40L</td>
<td>Advanced Solid Tumors(^{21}) and Lymphoma</td>
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<td></td>
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(1) Includes patients with Ovarian, Fallopian Tube, and Peritoneal Cancers
(2) Includes patients with Cutaneous Squamous Cell Carcinoma (CSCC) and Head and Neck Squamous Cell Carcinoma (HNSCC)
(3) Includes patients with Melanoma, Non-Small Cell Lung Carcinoma (NSCLC), Head and Neck Squamous Cell Carcinoma (HNSCC), Skin Squamous Cell Carcinoma (Skin-SCC), Gastric Cancer (GC), Rectal Cell Carcinoma (RCC), Squamous Cell Carcinoma of the Anus (SCCA), Hodgkin’s lymphoma (HL), Diffuse Large B-cell lymphoma (DLBCL), Solid Tumors with Rhabdoid features, high-risk (HRD), or NAbrixia patient eligibility (NMPA) excluding Central Nervous System tumors

Our lead product candidate, SL-172154, simultaneously inhibits CD47 and activates the CD40 receptor. We believe SL-172154 has the potential to offer a differentiated approach to targeting CD47. Other approaches solely focus on activating the innate immune system by blocking the CD47 macrophage “don’t eat me” signal. In addition to inhibiting CD47, SL-172154 is designed to bridge the innate and adaptive immune response by subsequently activating CD40 signaling to upregulate antigen presentation machinery. In preclinical studies of SL-172154, we observed superior tumor rejection as compared to CD47 and CD40 antibodies, a durable receptor occupancy, a dose-dependent lymphocyte migration into lymphoid tissues and no occurrence of anemia. We have initiated a Phase 1 clinical trial of SL-172154 administered by intravenous injection in patients with ovarian, fallopian tube, and peritoneal cancers, referred to collectively as ovarian cancer, and we expect to announce initial data from the dose-escalation portion of this trial in the second half of 2021. We plan to initiate a second Phase 1 clinical trial of SL-172154 administered by intratumoral injection in patients with CSCC or HNSCC and we expect to announce data from the dose-escalation portion of this trial in the second half of 2022. These tumors were selected due to their particularly high expression of CD47, a high presence of macrophages in the tumor microenvironment, and a lack of effective treatment options for these indications.
Our second product candidate, SL-279252, being developed in collaboration with Takeda, simultaneously inhibits PD-1 and activates the OX40 receptor. We believe SL-279252 has the potential to offer a differentiated approach to targeting PD-1 and OX40, as compared to existing antibody therapies, either as individual monotherapies or in combination. Antibodies targeting OX40 have not demonstrated sufficient efficacy in clinical trials, a result that we believe is due to a structural mismatch between bivalent antibodies and trimeric OX40 receptors. The unique hexameric structure of SL-279252 is designed to more effectively bind to and activate OX40 receptors, leading to optimized signaling and resulting in T cell activation and proliferation. Together, these properties are intended to replace PD-L1-mediated immune inhibition with OX40 costimulation to synergistically enhance anti-tumor response. In preclinical models, compared to the combination of anti-PD-1 and OX40-agonist antibodies, SL-279252 demonstrated superior tumor reduction and lymphocyte proliferation and migration to tissues. Our ongoing Phase 1 trial is evaluating SL-279252 in patients with advanced solid tumors and lymphoma. We expect to announce dose-escalation data in the second half of 2021. Takeda has an option to exercise a license of SL-279252 prior to initiation of a Phase 2 clinical trial.

In addition to our lead product candidates, we have an extensive discovery pipeline consisting of over 300 unique fusion proteins that we have manufactured and characterized in both in vitro and in vivo studies. We intend to nominate additional lead candidates in oncology, as well as autoimmune disease, to further broaden our pipeline. In accordance with our prioritization strategy, we intend to develop these compounds as data emerge that clinically validate the targets. Our long-term plan also includes the development of product candidates for novel targets. We plan to nominate clinical product candidates from our ARC or GADLEN platforms. We anticipate submitting additional Investigational New Drug Applications, or INDs, in both the second half of 2021 and in the first half of 2022.

The following table highlights the preclinical programs from which we may select our next clinical candidates to be developed independently or in collaboration with a partner:

<table>
<thead>
<tr>
<th>Platforms</th>
<th>Program</th>
<th>Domain 1</th>
<th>Domain 2</th>
<th>Indication</th>
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<td>Manufacturing</td>
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<tr>
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<td>TiQIT</td>
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<td>Oncology</td>
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<tr>
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<td>Autoimmune</td>
<td>Lead Selection</td>
<td></td>
<td>Polaris WorldWide Rights</td>
<td></td>
</tr>
</tbody>
</table>

**Our Team**

Our management team and Board possess decades of experience in cancer immunotherapy, autoimmune disease, targeted therapeutics, protein engineering, biologics manufacturing, clinical development, regulatory strategy, and commercialization. Members of our team were involved with, or led, drug development programs leading to the approval of drugs including Votrient, Tafinlar, Mekinist, Enbrel, Nucala, Valtrex, Arranon, Tykerb, Avastin, Revlimid, Pomalyst, and others. Our team members have held senior leadership positions at leading companies including GlaxoSmithKline, Celgene, Pfizer, Novartis, Takeda, Alexion, Medarex, Amgen, Merck KGaA, OSI Pharmaceuticals, and Reata Pharmaceuticals.

Since our founding in 2016, we have raised approximately $239.1 million through redeemable convertible preferred stock financings and non-dilutive partnership funds. Our key investors include Redmile Group, Fidelity
Our Strategy

Our goal is to become the world leader in the discovery, development, and commercialization of dual-sided, bi-functional fusion proteins for the treatment of cancer and autoimmune diseases. We plan to achieve this by utilizing our proprietary ARC and GADLEN platforms to create novel therapeutics to treat patients who lack effective treatment options. Key elements of our strategy include:

- **Rapidly advancing our clinical-stage ARC product candidates, SL-172154 and SL-279252, through clinical development and marketing approval.** SL-172154, our lead wholly owned program, is currently in a Phase 1 trial for the treatment of ovarian cancer, and we plan to initiate a second Phase 1 trial for the treatment of CSCC and HNSCC in the second half of 2020. We expect to announce initial data from the dose-escalation portion of the SL-172154 trial in patients with ovarian cancer in the second half of 2021 and data from the dose-escalation portion of the SL-172154 trial in patients with CSCC or HNSCC in the second half of 2022. Further development may include other solid tumors and hematological malignancies. SL-279252, which we are developing in collaboration with Takeda, is also in a Phase 1 trial for the treatment of advanced solid tumors and lymphoma. We expect to announce data from the dose-escalation portion of the SL-279252 trial in the second half of 2021. If the data obtained in these trials are highly compelling, accelerated registration paths and other regulatory designations will be discussed with regulatory agencies. However, any such determination will be made in the sole discretion of such regulatory agencies and there can be no guarantee that any of our product candidates will be granted a differentiated regulatory path or designation.

- **Leveraging our ARC and GADLEN platforms to rapidly advance additional product candidates into clinical development.** Our platforms allow us to rapidly identify and develop pipeline product candidates. Since our inception in 2016, we have generated more than 300 unique, dual-sided fusion proteins. Our initial focus is on targets that are well characterized and scientifically validated in immuno-oncology but are underexploited by current treatment modalities. Longer-term, we plan to pursue novel targets in immuno-oncology and also pursue additional diseases areas, including autoimmune diseases, where our dual-sided fusion proteins may provide advantages as compared to current treatment modalities.

- **Continuing to augment our fusion protein manufacturing capabilities.** We are pioneers in the field of therapeutic bi-functional fusion proteins. Manufacturing these biologic drugs involves substantial internally-developed know-how and trade secrets. To date, we have invested major resources in the development and optimization of our purification process, as well as other aspects of the manufacturing process. We intend to continue investing in our internal manufacturing capabilities so as to provide sufficient supply for our clinical trials and eventually scale production up to meet commercial requirements. The continual improvement of our manufacturing capabilities will be important to driving efficiency, maintaining high standards of quality control, and ensuring that investigators, physicians, and patients have adequate access to our approved products.

- **Collaborating with leading biopharmaceutical companies.** Similar to our collaboration agreement with Takeda, we intend to broaden the global reach of our bi-functional fusion protein platforms by selectively collaborating with leading biopharmaceutical companies. We intend to retain significant economic and commercial rights to our programs in key geographic areas that are core to our long-term strategy.

- **Deepening our intellectual property portfolio to continue to protect our platform technologies and product candidates.** We have built a global intellectual property portfolio consisting of patents and patent applications, trade secrets, trademarks, and know-how to protect the product candidates developed from our bi-functional fusion protein platforms. We plan to expand our intellectual property portfolio as we continue to advance and develop existing product candidates and platforms, as well as create novel platform technologies.
Building on our culture of R&D excellence and continuing to out-innovate ourselves. Our people, and the culture that we foster, have been instrumental to our success. We have assembled a world-class team of professionals whose track records include the successful development of several commercial products at major biopharmaceutical companies. The expertise that we have assembled has enabled us to develop two novel platforms to date and will allow us to maintain our leadership position in the field of bi-functional fusion proteins.

Overview of Immuno-oncology Therapeutics

Over the past decade, a growing understanding of the molecular mechanisms that allow cancer cells to evade detection by the immune system has led to the advent of immuno-oncology, a treatment paradigm that seeks to stimulate or supplement a person’s own immune system to selectively attack cancer cells. Immune responses are initiated through antigen presentation by innate immune cells, including macrophages, and dendritic cells. The ensuing adaptive immune response is mediated by T cells. Both innate and adaptive immune responses are governed by the balance of signals that inhibit the immune response, or checkpoint pathways, and signals that accelerate the immune response, or costimulatory pathways. Checkpoint inhibition is focused on releasing the “brakes” on the immune system to allow T cells to recognize and eradicate tumors. In certain types of tumors, checkpoint inhibitors have demonstrated higher response rates, improved overall survival, and a better safety profile as compared to other available treatments. One subset of checkpoint inhibitors, PD-1 inhibitors, achieved $19.4 billion in global sales in 2019 and are expected to garner over $36.0 billion in global annual sales by 2024.

Checkpoint inhibitors have demonstrated clinical benefit for a subset of cancer patients, but there remains room for improvement. It is estimated that less than 13% of all cancer patients in the United States respond to checkpoint inhibitors. Approximately 44% of U.S. patients with cancer are eligible for checkpoint inhibitor therapies and only 28% of these patients respond to therapy, underscoring the lack of effective treatment options. Multiple mechanisms contribute to preventing anti-tumor activity and, consequently, it is critical to simultaneously modulate several immune processes in order to circumvent the various adaptations tumors employ to evade the immune system. One such approach has been to activate costimulatory molecules in combination with checkpoint inhibition. One prominent class of costimulatory molecules is the TNF superfamily, which includes many receptors such as CD40 and OX40. The diversity of receptors within the TNF superfamily allows the immune system to fine-tune the magnitude, quality and duration of specific immune responses. This diversity can be leveraged to purposefully build therapeutics to modulate the specific TNF pathways which are most relevant for the underlying disease biology.

While many TNF receptor agonist antibodies have been developed and tested in human clinical trials, most have been discontinued after Phase 1 testing and only in a rare instance have they advanced to pivotal studies. Activation and downstream signaling require the assembly of three receptor molecules, or trimerization. As shown in Panel A of Figure 2 below, there is a structural mismatch between bivalent antibody therapeutics and trimeric TNF receptors, such as OX40. Traditional bivalent antibodies can only bind to two TNF receptors and are thus unable to individually trimerize a TNF receptor, leading to weak signaling of TNF pathways. As shown in Panel B of Figure 2, in order for TNF receptor agonist antibodies to trimerize a TNF receptor, multiple antibodies must be cross-linked through Fc receptors located on accessory cells. As shown in Panel C of Figure 2, this mechanism becomes less effective at increasing antibody doses due to saturation of TNF receptors and Fc receptors independently of each other. Consequently, there is no free Fc receptor available to cross-link the TNF receptor bound antibody. This effect manifests in clinical trials as an atypical dose-response relationship.
Additionally, expression levels of TNF superfamily receptors fluctuate throughout the course of a patient’s immune response and vary from patient to patient. For example, OX40 could be expressed in 2% of a patient’s T cells prior to inducing an immune response, but could rise to 25% of T cells shortly following induction of an immune response. Effective trimerization of a TNF receptor such as OX40 requires a sub-saturating dose of an existing TNF receptor antibody in order to avoid ineffective signaling as shown in Panel C of Figure 2 above. However, an optimal sub-saturating dose cannot be accurately determined given the fluctuation of TNF receptor expression throughout the course of a patient’s immune response and the variation in TNF receptor expression from patient to patient. The need remains for a molecule that does not require exogenous Fc receptor-mediated cross-linking in order to induce trimerization of TNF receptor targets and drive a costimulatory signal.

Our ARC Platform

Our proprietary Agonist Redirected Checkpoint, or ARC, platform has the potential to create therapeutics that can dramatically change the way we treat cancer and other diseases. We developed the ARC platform to address the need for a single therapeutic that consolidates multiple immune functions. Compounds developed from our ARC platform simultaneously block immune checkpoint receptors and activate costimulatory molecules.

Structure of an ARC Compound

We designed the ARC platform as a modular scaffold wherein three principal components are fused together, comprising a human Type 1 extracellular domain protein, an Fc domain, and a human Type 2 extracellular domain protein. A vector carrying a sequence of the dual-sided construct is then transfected into mammalian cells, which are used as the ARC production cell line. Once purified, the proteins secreted by the cell then self-assemble via a step-wise process, first dimerizing via disulfide bonds in the Fc domain, followed by trimerization on the costimulatory factor ligand domains, as shown in Figure 3 below.
As shown on the left in Figure 4 below, these components form a compound with a unique hexameric structure, incorporating six distinct binding domains for each of two targets, for a total of twelve binding sites. This property endows each ARC compound with the ability to bind multiple targets with higher affinity and avidity than is achievable by antibody-based therapeutics. The image on the right in Figure 4 below provides a high-resolution electron micrograph representing a birds-eye view of SL-279252, with the six white spots representing each of the six OX40L binding domains of the compound.

The functional domains of ARC compounds are derived from native human proteins, rather than antibody binding domains. This enables the rapid generation of new constructs, given that the starting template for distinct ARC compounds is the human genome. Therefore, an ARC compound can be taken from the conception stage to a manufactured purified protein in approximately six weeks, whereas it can take approximately six months to...
reach the same stage for an antibody therapeutic candidate. This rapid reduction in discovery processing time, has allowed us to generate more than 300 unique, dual-sided fusion proteins.

Despite the strong scientific rationale for targeting the TNF receptor superfamily, clinical trials evaluating existing bivalent antibodies have failed to demonstrate meaningful clinical benefit, which we believe is due to the structural mismatch between bivalent antibodies and the native trimeric structure of TNF receptors. As shown in Figure 4 above, the hexameric structure of our ARC compounds uniquely allows for effective binding and activation of trimeric receptors without the need for Fc receptor-mediated cross-linking.

Figure 5—ARC Compounds Uniquely Facilitate Trimerization

Beyond its unique ability to effectively activate the TNF receptor superfamily, we believe the ARC compound possesses several additional advantages over existing antibody therapeutics. Unlike IgG and IgM antibodies, which can only bind to a single target, an ARC compound can bind to two distinct targets. While bispecific antibodies can also bind to two unique targets, they do so in a monovalent fashion, whereas ARC compounds can do so in a multivalent fashion. The hexameric structure of an ARC compound represents a differentiated approach, including two sets of six binding domains, allowing for high-avidity binding to two distinct targets. The ARC platform thus enables the synergistic colocalization of checkpoint blockade and costimulatory molecule activation, which has been shown in vitro and in vivo to be superior on several measures to co-administration of two separate bivalent antibodies or single-sided fusion proteins.
Figure 6 below compares our ARC compound with several antibody formats, including IgG antibodies, bispecific antibodies, and IgM antibodies:

**Figure 6—Comparative Attributes of Antibodies and ARC Compounds**

<table>
<thead>
<tr>
<th></th>
<th>IgG</th>
<th>Bispecifics</th>
<th>IgM</th>
<th>ARC</th>
</tr>
</thead>
<tbody>
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<td>150 kDa</td>
<td>≥ 960 kDa</td>
<td>~ 400-700 kDa</td>
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**Hexameric Structure and Checkpoint/Costimulatory Colocalization of ARC Compounds Provide Enhanced Anti-Tumor Activity Compared to Existing Antibodies**

We employ a rigorous preclinical framework to ensure that only the most promising product candidates are selected for clinical development. Before advancing an ARC product candidate into clinical development, both human and mouse variants for each product candidate are generated and systematically evaluated in parallel through a battery of analytical assays, comparing the anti-tumor activity of an ARC product candidate to antibodies targeting the same pathways in head-to-head *in vitro* and *in vivo* animal studies. For example, as shown in Figure 7 below, we evaluated the anti-tumor activity of murine SIRPα-Fc-CD40L in the left panel, and murine PD-1-Fc-OX40L in the right panel, against antibodies targeting the same pathways. Individual mice with rapidly growing tumors were treated with checkpoint blocking antibodies and costimulatory agonist antibodies, either alone or in combination, in comparison with the corresponding ARC compounds. The dosing regimen was fixed in these studies across all groups to facilitate a controlled comparison of the efficacy of each treatment. These results demonstrate that ARC compounds were able to control tumor growth in mice to a greater degree than the corresponding existing antibodies, either alone or in combination. The primary columns in Figure 7 below represents the number of mice that rejected the primary tumor. The re-challenge columns in Figure 7 below represents the number of mice that rejected the primary tumor and were also capable of rejecting a second tumor challenge without repeat treatment. For example, of the five mice that rejected their primary tumors after treatment with murine SIRPα-Fc-CD40L, three had demonstrated a durable, adaptive immune response by rejecting a second tumor challenge without the administration of an additional dose. We believe the superior tumor control in mice treated with ARC compounds is due to the colocalization of a trimerized TNF ligand to the site of checkpoint blockade and is a distinguishing characteristic that we expect will be observed across the platform.
Once we have established the anti-tumor activity of an ARC product candidate, the next phase of preclinical development consists of additional *in vitro* studies further comparing the ARC product candidate against benchmark antibodies targeting the same pathways. For example, we used a standard potency assay previously used to support the approval of anti-PD-1 antibodies. This assay compared the amount of interleukin-2, or IL-2, secreted by lymphocytes following treatment with *staphylococcal enterotoxin B*, or SEB, a bacterial toxin, in the presence of SL-279252 and other anti-PD-1 or OX40 agonist antibodies. Secretion of IL-2 by human lymphocytes is an indicator of adaptive immune activation. As shown in Figure 8 below, when primary human lymphocytes were exposed to the anti-PD-1 antibodies nivolumab and pembrolizumab in the presence of SEB, both anti-PD-1 antibodies stimulated a dose-dependent increase in the concentration of IL-2 in the cell cultures. In contrast, tavolixizumab, an OX40 agonist antibody, did not stimulate an increase in the concentration of measured IL-2 in the cell cultures, and did not increase the quantity of IL-2 secretion stimulated by nivolumab or pembrolizumab alone. We believe the lack of activity of tavolixizumab in this assay is due to the dependence of the antibody on Fc receptor mediated cross-linking for activity. SL-279252 also stimulated dose-dependent increases in the concentration of IL-2 secreted by human lymphocytes in the cultures, and a higher concentration of IL-2 was observed in cultures treated with SL-279252 than with nivolumab or pembrolizumab. These data indicate that SL-279252 is a more potent stimulator of IL-2 secretion by human lymphocytes as compared to nivolumab or pembrolizumab. In addition to the two assay systems described above, we utilize a multitude of other criteria to further assess preclinical safety and efficacy.
Primary human peripheral blood mononuclear cells, or PBMC, were harvested and treated with SEB and SL-279252 and benchmark antibody controls. Because antibodies contain two target binding domains, molar comparisons to ARC compounds were made on the basis of a matched number of ARC binding sites, using the molecular weight of a dimeric ARC.

Once ARC product candidates demonstrate superior performance as compared to the relevant antibody comparators in both mouse tumor models and human in vitro assays, we may advance our ARC product candidates to studies in non-human primates, or NHP. We have evaluated eight different ARC compounds in NHP to date and have observed unique on-target activity between ARC compounds. As an example, NHP treated with SL-172154 were observed to have dose-dependent migration of CD40+ lymphocytes from the peripheral blood into secondary lymphoid organs including the lymph nodes and spleen. We observed extensive expansion of lymphoid-rich cells in the spleen from a NHP treated with SL-172154 as compared to a control from the same study. In contrast to SL-172154, NHP treated with SL-279252 were observed to have dose-dependent migration of lymphocytes to the liver, gastrointestinal tract, and lungs. In addition, we observed infiltration of both local lymph nodes and the areas surrounding blood vessels in the lung of a NHP treated with SL-279252, as compared to a control animal from the same study. To our knowledge, similar observations have not been reported in NHP studies utilizing TNF-agonist antibodies. We believe these observations, which were accompanied by serum cytokine changes, provide evidence of on-target biology driven by ARC compound-mediated stimulation of CD40 or OX40.

We believe that by systematically evaluating ARC compounds targeting clinically validated checkpoints through a series of preclinical studies comparing ARC compounds to the relevant benchmark antibodies, we are able to prioritize ARC product candidates that are best positioned to provide a clinical benefit.

Versatility of the Platform

The modularity of our dual-sided fusion protein platforms, including our ARC platform, facilitates a vast repertoire of potential dual-sided fusion proteins that can be synthesized and developed. In the human genome, there are more than 1,400 Type 1 membrane proteins, which are characterized by an extracellular amino terminal domain, and more than 450 Type 2 membrane proteins, which are characterized by an extracellular carboxy terminal domain. ARC compounds are assembled from any combination of Type 1 and Type 2 membrane proteins and, therefore, have significant diversity, with more than 630,000 possible combinations. Within this vast set of possible combinations, we have chosen to focus initially on three classes of targets that have already shown significant clinical relevance for the treatment of cancer comprising immune checkpoints, the TNF superfamily, and cytokines. We utilize our understanding of disease pathology and immune dysfunction to identify pairings of optimal targets within a single therapeutic.
Examples of notable targets that we are currently utilizing, or may in future elect to utilize, our ARC compounds are described in the table below.

### Potential Targets for ARC Compounds

<table>
<thead>
<tr>
<th>Type 1 Membrane Proteins ( &gt;1,400 potential targets)</th>
<th>Type 2 Membrane and Soluble Proteins ( &gt;450 potential targets)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Checkpoint Molecules</strong></td>
<td><strong>Cytokine Receptors</strong></td>
</tr>
<tr>
<td>SIRPa</td>
<td>CSF1R</td>
</tr>
<tr>
<td>PD-1</td>
<td>TGFBR1</td>
</tr>
<tr>
<td>TIGIT</td>
<td>FLT3L</td>
</tr>
<tr>
<td>VSIG8</td>
<td>Others</td>
</tr>
</tbody>
</table>

In addition to targeting immune checkpoints and TNF superfamily receptors, we are also targeting cytokines, which are largely responsible for promoting and regulating an immune response. Cytokines are proteins synthesized and secreted by immune cells and which mediate immune stimulation or suppression, thereby driving autoimmune diseases and participating in immune evasion and progression of cancers. In cancer, cytokines such as IL-2 and interferons have been shown to stimulate antitumor immune response, whereas cytokines such as TGF-β, CSF1, and IL-34 have been shown to promote tumor progression. In autoimmune diseases, IL-6 and TNFa are highly implicated in disease development and progression. We have leveraged the versatility of our ARC platform to construct ARC compounds that target cytokines implicated in cancer as well as cytokines implicated in autoimmune diseases. For example, SL-115154 binds soluble CSF1 and IL-34 and simultaneously activates CD40 receptors. Some of our early stage product candidates bind TGF-β and simultaneously activate a variety of costimulatory receptors. Similar to our cancer product candidates, our autoimmune product candidates are designed to influence disease pathways by simultaneously trapping inflammatory signals and promoting immunosuppressive functions.

### Our GADLEN Platform

Our expertise in engineering dual-sided, bi-functional fusion proteins has enabled the development of our Gamma Delta T Cell Engager, or GADLEN, platform to leverage gamma delta T cells for the treatment of cancer. We expect to nominate product candidates from our GADLEN platform in 2021 to support our clinical-stage pipeline in 2022 and beyond.

The therapeutic utilization of gamma delta T cells represents a novel approach for the treatment of cancer. This approach may be particularly beneficial in targeting tumors that are not addressable by alpha beta T cells. Additionally, as immunotherapies that stimulate alpha beta T cell-dependent immune response are increasingly utilized across cancer treatment paradigms, we expect the proportion of patients who will become refractory to alpha beta T cell-mediated therapies will also increase over time, creating an absence of effective treatment options that may be addressed by the utilization of gamma delta T cells.

A majority of T cells in the human body bear an alpha beta T cell receptor, which recognizes tumor antigens presented on major histocompatibility complex, or MHC, molecules. Some cancer cells reduce the expression of MHC molecules or tumor antigens, rendering those cancer cells invisible to most alpha beta T cells. Gamma delta T cells represent approximately 2% to 5% of the total T cell population and their presence within tumors is strongly correlated with increased survival in cancer patients. Unlike alpha beta T cells, gamma delta T cells are not dependent on MHC molecules, or a single antigen, to recognize and kill tumor cells. Instead, the gamma delta
T cell receptor is activated by a newly-identified, tissue-specific complex of two heterodimerized butyrophilin proteins. Thus, biologic therapies comprising a heterodimer of butyrophilin proteins may provide a tool to therapeutically modulate gamma delta T cells. Our GADLEN platform has the potential to expand the range of addressable indications for cancer immunotherapy and treat historically difficult to treat patients. We have leveraged our expertise in engineering dual sided bi-functional fusion proteins to develop a suite of heterodimerized butyrophilin proteins connected to antigen-targeted single chain antibody fragments.

GADLEN compounds are comprised of two distinct fusion protein chains, and an engineered Fc linker domain that facilitates heterodimerization between the two chains. As shown in the left panel of Figure 9A below, the assembled GADLEN compound contains the extracellular domains of heterodimerized butyrophilin proteins on one side and is linked to tumor antigen specific single chain antibody fragments on the opposite side. The gamma delta T cell receptors recognize and are activated by specific butyrophilin protein heterodimers. Thus, the GADLEN construct is designed to facilitate targeting of specific gamma delta T cells to tumor cells expressing a defined antigen, as shown in the right panel of Figure 9A below.

To demonstrate the feasibility of the GADLEN approach, a murine GADLEN construct was developed incorporating a butyrophilin 1, or BTNL1, and butyrophilin 6, or BTNL 6, heterodimer and an scFv domain targeting the CD19 antigen. In both mice and humans, gamma delta T cells represent approximately 2% to 5% of the total T cell population, as shown in Figure 9B in a murine model. We treated mice on Days 0, 3, and 6 with the murine GADLEN, mBTNL1/6-Fc-CD19scFv. We observed dose-dependent expansion of the endogenous gamma delta T cell compartment to approximately 12% of all T cells 24 hours after the second treatment. Concurrent with expansion, mBTNL1/6-Fc-CD19scFv also caused activation of murine gamma delta T cells, as demonstrated by upregulation of the CD69 activation marker, shown in Figure 9B. Murine B cells express CD19, and therefore were a potential target of gamma delta T cells following treatment with mBTNL1/6-Fc-CD19scFv. Accordingly, we observed depletion of the endogenous B cell compartment concurrent with gamma delta T cell expansion and activation following treatment with mBTNL1/6-Fc-CD19scFv, as shown in Figure 9B. We believe these studies indicate that GADLEN compounds enable therapeutic modulation of gamma delta T cells in vivo, and that GADLEN compounds may be designed to activate tissue-restricted populations of endogenous gamma delta T cells to target specific tumor antigens in both solid and liquid tumors.
Our ARC Product Candidates

We believe the collective advantages of our ARC platform and our internal capabilities allow for the capital-efficient identification and pursuit of differentiated product candidates. Our lead product candidates, SL-172154 and SL-279252, are designed to address molecular targets that are well-characterized and clinically validated in immuno-oncology, but are under-exploited by current treatment modalities.

**SL-172154: A Dual CD47/SIRPα Blocking and CD40-Activating ARC Compound**

Our lead product candidate, SL-172154, simultaneously inhibits CD47 and activates the CD40 receptor. In preclinical studies of SL-172154, we have observed no occurrence of anemias, a durable receptor occupancy, and dose-dependent lymphocyte migration into lymphoid tissues. We have initiated a Phase 1 clinical trial of SL-172154 administered by intravenous injection in patients with ovarian, fallopian tube, and peritoneal cancers, collectively referred to as ovarian cancer, and we plan to initiate a second Phase 1 clinical trial of SL-172154 administered by intratumoral injection in patients with CSCC or HNSCC in the second half of 2020. These tumors were selected due to their particularly high expression of CD47, a high presence of macrophages in the tumor microenvironment, and a lack of effective treatment options for these indications. For the Phase 1 clinical trial evaluating SL-172154 in ovarian cancer patients, we expect to announce initial data from the dose-escalation portion of the trial in the second half of 2021. We plan to announce data from the dose-escalation portion of the Phase 1 trial evaluating SL-172154 in CSCC and HNSCC patients in the second half of 2022.

**Improving upon Existing Therapeutics Targeting CD47/SIRPα**

In order for CD47/SIRPα blockade to effectively inhibit tumor growth, the CD47/SIRPα “don’t eat me” signal must be blocked and an “eat me” signal must be present to stimulate macrophage-mediated phagocytosis. While CD47 and SIRPα therapeutics have demonstrated anti-tumor activity in a range of tumor types including diffuse large B-cell lymphoma, or DLBCL, myelodysplastic syndrome, acute myeloid leukemia, gastric cancer, and ovarian cancer, we believe there are a number of factors that limit the potential of existing antibody therapeutics. For example, antibodies that block the CD47 "don’t eat me" signal and provide an “eat me” signal via the Fc domain, can result in toxicities including anemia and other cytopenias, which have been observed clinically with magrolimab, TTI-621, and SRF231. In preclinical studies in NHP, administration of the CD47 blocking antibody known as magrolimab, or 5F9-G4, caused blood hemoglobin concentrations to drop into the transfusion range for most animals that received a dose of 1 mg/kg or greater. We believe these observations were due to residual effector function in the FC domain of magrolimab, which caused red blood cell destruction following binding of CD47 on red blood cells. This has limited development of these antibodies in the absence of the low-dose priming regimen developed for magrolimab. Other CD47 blocking agents, including the SIRPα-Fc fusion protein known as ALX-148, contain an Fc domain that does not bind Fc receptors, and therefore blocks CD47 without providing an “eat me” signal that leads to anemia or other cytopenias. While the avoidance of cytopenias is a major benefit of CD47 targeted therapies that do not engage Fc receptors, in order for those
agents to provide anti-tumor benefit they must be paired with a strategy that directs macrophages to specifically “eat” tumor cells. These tumor-targeted “eat me” signals can be provided by ADCP-competent antibodies, such as rituximab, cetuximab, or trastuzumab, that bind to tumor antigens. Antibody-dependent cellular phagocytosis, or ADCP, is a highly regulated process in which an antibody binds to and marks a target, in this case a tumor cell, for phagocytosis. In addition, natural “eat me” signals can be induced by certain chemotherapies that increase expression of calreticulin, a well-established “eat me” signal expressed on the surface of cells marked for phagocytosis, on the surface of tumor cells. Preclinical studies have shown that the anti-tumor response to CD47/SIRPa blockade is completely dependent upon macrophage engagement of an adaptive immune response following tumor cell phagocytosis, specifically following engagement and activation of CD8+ T cells. Thus, strategies that not only enhance innate immunity via CD47/SIRPa blockade, but also enhance an adaptive immune response may be synergistic. To our knowledge, there are no other CD47/SIRPa targeted agents in clinical development that include a second functional domain to stimulate an adaptive immune response.

Our Approach to Bridging Innate and Adaptive Immunity by Simultaneously Targeting CD47 and CD40

While competing CD47 and SIRPa programs solely focus on activating the innate immune system by inhibiting CD47, SL-172154 is designed to bridge the innate and adaptive immune response by simultaneously blocking the CD47 macrophage “don’t eat me” signal and activating CD40 signaling. We believe that incorporating a CD40 agonist domain into a CD47 blocking therapeutic will stimulate macrophages not to just “eat” tumor cells, but will also drive those macrophages to more effectively present the tumor antigens that they have consumed to T cells.

As shown in Figure 10 below, when macrophages consume tumor cells in the setting of CD47/SIRPa blockade, they must then digest and display tumor antigens on their surface to catalyze an adaptive, T cell-mediated immune response. Macrophage consumption of tumor cells is critical to the mechanism of CD47/SIRPa blockade, but T cells are responsible for tumor shrinkage. Thus, strategies that enhance the processing and display of tumor antigens on the surface of macrophages and other antigen presenting cells are likely to enhance the effectiveness of CD47/SIRPa blockade. CD40 is a TNF receptor expressed by antigen-presenting cells, including macrophages. Stimulation of CD40 substantially enhances antigen presentation and subsequent T cell-activation by antigen-presenting cells. Accordingly, we have demonstrated in preclinical studies that the stimulation of CD40 in coordination with CD47/SIRPa blockade using murine SIRPa-Fc-CD40L controls tumor growth and improves survival to a greater degree than either CD47- or CD40-targeted antibodies either alone or in combination, and these effects were attributed to enhanced tumor cell killing by T cells.
Clinical Development Strategy

We are currently conducting a Phase 1 clinical trial evaluating the intravenous administration of SL-172154 in patients with ovarian cancer and plan to initiate a second Phase 1 trial evaluating the intratumoral administration of SL-172154 in patients with CSCC or HNSCC. The primary objective of each Phase 1 trial is to assess the safety and tolerability of SL-172154. The secondary objectives include evaluation of the pharmacokinetic and pharmacodynamic profiles as well as the anti-tumor activity of SL-172154. We expect to identify the recommended Phase 2 dose for SL-172154 as a monotherapy. We expect to provide initial data from the monotherapy dose-escalation portion of our intravenous and intratumoral Phase 1 trials in the second half of 2021 and the second half of 2022, respectively.

A Phase 1 trial of SL-172154 administered intravenously is being conducted in patients with advanced ovarian, fallopian tube, and primary peritoneal cancers, collectively referred to as ovarian cancer, patients who have failed and are ineligible for further platinum-based therapies. We believe that ovarian cancer represents a first-in-class opportunity in an indication that lacks effective treatment options. Ovarian cancer expresses the highest levels of CD47 of any solid tumor and is a tumor type with a high presence of macrophages, which express CD40.

In the Phase 1A dose-escalation portion of the trial, three or more patients will be enrolled through each of five dose levels. Following the identification of a recommended Phase 2 dose, or RP2D, for monotherapy, we plan to evaluate SL-172154 in two Phase 1B expansion cohorts in ovarian cancer, including in combination with cetuximab, an ADCP-competent antibody targeting EGFR, and in combination with doxorubicin. We conducted a study with an academic collaborator to investigate the expression of EGFR on tumor biopsies from ovarian cancer patients. From a total of 594 biopsies analyzed, the majority were greater than 50% positive for EGFR. Doxorubicin is the standard of care chemotherapy that stimulates upregulation of calreticulin on tumor cells. We anticipate enrolling a total of approximately 70 patients across the dose-escalation and expansion portions of the
As of September 9, 2020, two patients have completed the first cycle of treatment with SL-172154 at the first dose level and tolerated the drug well. An overview of the initial clinical development strategy for evaluating SL-172154 administered intravenously in patients with advanced ovarian cancer is below:

**Figure 11 — Initial Clinical Development Strategy of SL-172154 in Ovarian Cancer**

In the second half of 2020, we plan to initiate a Phase 1 trial of SL-172154 administered intratumorally in patients with locally advanced or metastatic CSCC and HNSCC not amenable to further treatment with surgery, radiation, or standard systemic therapies. In the Phase 1A dose-escalation portion of the study, three or more patients will be enrolled through each of four dose levels. Following the identification of a monotherapy RP2D, we plan to evaluate SL-172154 in one or more Phase 1B expansion cohorts in combination with cetuximab or one or more other combinations. We anticipate enrolling a total of approximately 45 patients across the dose-escalation and expansion portions of the trial. An overview of the initial clinical development strategy for evaluating SL-172154 administered intratumorally in patients with locally advanced or metastatic CSCC and HNSCC is below:

**Figure 12 — Initial Clinical Development Strategy of SL-172154 in CSCC and HNSCC**
Following the completion of Phase 1 development, we plan to select one or more combination regimens, routes of administration and tumor types to advance into Phase 2 development. In addition, we plan to also evaluate SL-172154 in patients with other solid tumors and hematologic malignancies.

Preclinical Experience

To date, we have conducted extensive preclinical studies of SL-172154 that have demonstrated the following:

- A significant increase in macrophage-mediated phagocytosis of tumor cells
- The activation of antigen presenting cells by a CD40-induced type I interferon response
- Dose-dependent increases in IL-2 by human lymphocytes
- Dose-dependent activation of a CD8+ T cell response, which was responsible for tumor cell killing

Taken together, these data demonstrate the potential ability of SL-172154 to activate and bridge the adaptive and innate immune responses.

In *in vitro* studies, murine SIRPa-Fc-CD40L was shown to bind CD47 and CD40 with high, picomolar affinity. As predicted from the hexameric structure of the compound, the CD40L domain stimulated CD40 signaling in the absence of Fc receptor cross-linking. In *in vivo* studies, administration of murine SIRPa-Fc-CD40L resulted in dose-dependent activation of antigen presenting cells.

We performed standard *in vitro* tumor cell phagocytosis assays to demonstrate whether SL-172154 enhanced macrophage-mediated phagocytosis of various tumor cell lines both alone and in combination with tumor-targeted ADCP-competent antibodies. As shown in Figure 13 below, consistent with the mechanism of action of CD47 blocking agents, SL-172154 significantly enhanced the ability of macrophages to phagocytose tumor cells in the presence of tumor-targeted ADCP-competent antibodies. Additionally, SL-172154 potentiates macrophage-mediated phagocytosis of tumor cells that expressed calreticulin, a well-established “eat me” signal expressed on the surface of cells marked for phagocytosis.
Human monocyte derived macrophages were co-cultured with HCC1954, A431, HCC827, or Caov-3 cells in the presence of an IgG negative control, SL-172154, an ADCP-competent tumor-targeted antibody, including Trastuzumab or Cetuximab, or the combination of SL-172154 and the ADCP-competent tumor-targeted antibody. After two hours, the proportion of tumor cells phagocytosed by human macrophages was determined and reported as the phagocytosis index.

CD40 is known to stimulate proliferation of B cells and CD4+ T cells from human PBMC in the presence of cross-linked anti-CD40 antibodies or CD40L. To evaluate this effect, CD8+ T cell-depleted PBMC were isolated from a total of 50 different human blood donors and cultured in the presence of a dose-titration of SL-172154. As shown in Figure 14 below, as compared to both positive and negative controls, soluble SL-172154 stimulated dose-dependent proliferation of human PBMC over seven days. In addition, SL-172154 was observed to stimulate a dose-dependent increase in the number of IL-2 secreting PBMC on day eight, which is a downstream indicator of CD40 activation.
CD8-depleted PBMC from 50 distinct human blood donors, each indicated as a single spot in each figure, were cultured with media only, the positive control KLH, the non-activating control Exenatide, or 0.3, 3, 30, or 300 nM of SL-172154. On Days 5, 6, and 7, proliferation was assessed via \( ^{3}H \)-Thymidine incorporation as shown in the left panel, and on Day 8, IL-2 positive cells were assessed by ELISpot as shown in the right panel.

We conducted dose-range finding and repeat dose GLP toxicity studies in NHP to evaluate the safety and pharmacologic effects of SL-172154. In these studies, SL-172154 was administered as five once-weekly doses across a dose range of 0.1 mg/kg to 40 mg/kg, followed by a recovery period. Data from these studies indicated that SL-172154 induced a potent immune response in NHP. Figure 15 below shows dose-dependent saturation of CD47 positive red blood cells, which was durable for greater than seven days. In addition, SL-172154 bound CD40-expressing B cells in the peripheral blood and stimulated a dose-dependent migration of lymphocytes from the peripheral blood within 24 hours of treatment, as shown in Figure 16 below. We believe these data are supportive of either a once weekly or every other week dosing schedule. Histology samples demonstrated that the post-dose decreases in peripheral blood lymphocytes were accompanied by accumulation of proliferating lymphocytes in lymph nodes and spleen. Administration of SL-172154 was also associated with dose-dependent post-treatment increases in multiple serum cytokines, such as CCL2, as shown in Figure 16 below. The observed toxicities were consistent with cytokine release syndrome. No evidence of anemia was observed.
Cynomolgus monkeys were treated on Day 1 and 8 with 0.1 mg/kg, 1 mg/kg, 10 mg/kg, and 40 mg/kg of SL-172154 or a vehicle control. Receptor occupancy was evaluated at the indicated time points by flow cytometry. SL-172154 occupancy on red blood cell CD47 is plotted as the proportion of total CD47 expression minus the proportion of CD47 detected using an antibody that is prevented from binding when CD47 is occupied by SL-172154.

Cynomolgus monkeys were treated with SL-172154 on Day 1, 8, and 15 with 0.1 mg/kg, 1 mg/kg, 10 mg/kg, and 40 mg/kg of SL-172154 or a vehicle control. Serum cytokine concentrations were collected and the pre- and post-dose concentrations of CCL2, IL-8, and CXCL9 are indicated in the left panel. Pre- and post-dose lymphocyte counts were obtained on Day 15 prior to the third dose, and on Day 16 approximately 24 hours after the third dose. The number of peripheral blood lymphocytes was observed to decrease in a dose-dependent manner following the Day 15 dose, and is plotted in the right panel above as the percent decrease in peripheral blood lymphocytes on Day 16 as compared to Day 15. Each data point indicates an individual animal.
SL-279252: A Dual PD-1 Blocking and OX40-Activating ARC Compound

Overview

Our second product candidate, SL-279252, is a dual-sided, bi-functional fusion protein that both inhibits PD-1 and acts as an agonist for the OX40 costimulatory receptor. We are currently evaluating SL-279252 in a global Phase 1 dose-escalation and dose-expansion clinical trial in patients with advanced solid tumors and lymphoma. We expect to report data from the dose-escalation portion of this trial in the second half of 2021 and data from the dose-expansion portion of this trial in the first half of 2022.

Shortcomings of Existing PD-1/PD-L1 Inhibition Strategies

Programmed cell death protein 1, or PD-1, is a cell surface protein present on T cells and other white blood cells. It binds to two ligands, PD-L1 and PD-L2, which can be expressed by tumor cells as well as other immune cells in the tumor microenvironment. When PD-L1 binds to PD-1, the resulting PD-1 signaling limits the capacity of T cells to kill tumor cells. Anti-PD-1 antibodies disrupt binding of PD-1 to PD-L1 to restore baseline tumor cell-killing activity of T cells. While anti-PD-1/PD-L1 antibodies have achieved significant clinical and commercial success, a majority of patients with cancer do not benefit from this class of therapy, as evidenced by a response rate of 35% or less in patients with melanoma, NSCLC, bladder cancer, HNSCC, and other cancers. A limitation of anti-PD-1/PD-L1 antibodies is their inability to provide a signal that directly amplifies the ability of T cells to kill tumor cells. Achieving this enhanced tumor-killing effect necessitates the introduction of a distinct mechanism to complement checkpoint blockade. One such approach is the stimulation of costimulatory receptors. Most current approaches attempt to simultaneously exploit both pathways by co-administering anti-PD-1/PD-L1 antibodies with costimulatory receptor agonists. However, these attempts have not been successful in clinical trials, which we believe is due to the structural mismatch between existing bivalent antibodies and the trimeric TNF receptor superfamily.

Our Approach to Enhancing PD-1 Blockade by Simultaneously Targeting OX40

While other programs sought to block PD-1 and activate OX40 signaling by administering multiple therapeutics, SL-279252 seeks to do so within a single therapeutic. Importantly, unlike the bivalent structure of existing antibodies, the hexameric structure of SL-279252 is designed to effectively trimerize and directly activate OX40 receptors. In preclinical studies, SL-279252 was found to be a highly potent stimulator of an adaptive immune response, and also demonstrated greater anti-tumor activity than anti-PD-1 antibodies or OX40-agonist antibodies, either alone or in combination.
Clinical Development Strategy

In collaboration with Takeda, we are currently conducting a Phase 1 dose-escalation and dose-expansion trial of SL-279252 in patients with advanced solid tumors and lymphoma. The primary objective of the Phase 1 trial is to assess the safety and tolerability of SL-279252. The secondary objectives include evaluation of the pharmacokinetic and pharmacodynamic profiles as well as the anti-tumor activity of SL-279252. We are evaluating anti-tumor response according to immune Response Evaluation Criteria in Solid Tumors or Response Evaluation Criteria in Lymphoma 2017. These are standard, widely accepted criteria to evaluate tumor response in oncology clinical trials. An RP2D and schedule will be identified for SL-279252 following the completion of the Phase 1 trial. We expect to provide data from the dose-escalation portion of this Phase 1 trial in the second half of 2021.

Patients with relapsed, advanced, or metastatic solid tumors or lymphoma who have received standard of care therapies, including anti-PD-1/PD-L1 antibodies, are eligible to enroll in the trial. In the dose-escalation portion of this study, up to six patients will be treated at each of ten dose levels ranging from 0.0001 mg/kg to 6 mg/kg. Patient samples will be evaluated to determine the pharmacokinetic profile, receptor occupancy on PD-L1 and OX40 peripheral blood immune phenotyping, changes in immune cell infiltration in tumor biopsies, and evidence for elevation in multiple serum cytokines.

Following completion of the dose-escalation portion of the study, a dose and schedule will be selected for evaluation in up to two expansion cohorts. We anticipate treating a total of approximately 80 patients in the dose-escalation and dose-expansion portions of this clinical trial. An overview of the Phase 1 trial design evaluating SL-279252 in patients with advanced solid tumors and lymphoma is below:

Figure 18—Phase 1 Trial Design of SL-279252

As of September 9, 2020, a total of 29 patients have received treatment with SL-279252 up to a dose of 6 mg/kg in the dose-escalation portion of the Phase 1 trial. Overall, SL-279252 has been observed to be well tolerated as of September 9, 2020. Treatment-related adverse events, including immune-related events, have been reported in some patients, but there have not been any dose-limiting toxicities as of September 9, 2020, as shown in Figure 19 below. A maximum tolerated dose has not been reached. Preliminary pharmacokinetic activity has been evaluated in 22 patients treated across a dose range of 0.0001 to 3 mg/kg. Exposure of SL-279252 as determined by the maximum peak drug concentration, or Cmax, and the area under the curve, or AUC, increased with dose escalation in a linear fashion. The pharmacokinetic profile consists of a distribution phase and an elimination phase. We believe this distribution phase indicated rapid binding to the target receptors. Following
repeat dosing, a consistent Cmax and AUC was observed without evidence of accelerated drug clearance. The volume of distribution of drug indicated that SL-279252 distributed beyond the circulatory compartment into tissues.

Preliminary pharmacodynamic activity has also been evaluated in 22 patients treated across a dose-range of 0.0001 to 3 mg/kg. Post-dose receptor occupancy on OX40-positive lymphocytes was observed in a dose-dependent fashion, and the total number of OX40-positive cells in the blood declined rapidly post-infusion of SL-279252. We believe the post-infusion decreases in OX40-positive lymphocytes provides evidence of on-target biology. In NHP, similar post-infusion decreases in lymphocytes were associated with migration of lymphocytes into tissues. We expect to select a dose and either a weekly or bi-weekly schedule to advance into the expansion cohorts, and to report safety, pharmacokinetic and pharmacodynamic data from the dose-escalation portion of this clinical trial in the second half of 2021.

Adverse events, or AEs, were classified according to National Cancer Institute Common Terminology Criteria for Adverse Events (NCI-CTCAE—version 5.0). As of September 9, 2020, treatment-related AEs have been reported in 13 patients. In 12 patients, these AEs have been Grade 1 or 2 in severity. One patient experienced a Grade 3 treatment-related AE. No treatment-related Grade 4 or 5 adverse events, treatment-related serious adverse events or dose limiting toxicities have been reported.

Figure 19—Summary of Treatment-Related Adverse Events and Series Adverse Events

Overall summary for Adverse Events (total number of patients = 29)

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</tr>
<tr>
<td>Grade 1 AE3</td>
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</tr>
</tbody>
</table>

1 Grade 3 treatment-related AE: neutropenia (transient, self-limiting)
2 Grade 2 treatment-related AE: rash maculo-papular (n=2), pruritus (n=1), neutrophil count decreased (n=1), and infusion reaction (n=1).
3 Grade 1 treatment-related AE: night sweats (n=2), constipation (n=2), rash maculo-papular (n=1), asthenia (n=1), decreased appetite (n=1), diarrhea (n=1), dizziness (n=1), fatigue (n=1), headache (n=1), hyperkalemia (n=1), hypothyroidism (n=1), localized edema (n=1), neuropathy peripheral (n=1), pyrexia (n=1), vertigo (n=1).

To date, we have experienced delays in our clinical trial of SL-279252 as a result of the ongoing COVID-19 pandemic, including delays with certain third-party vendors supporting this trial. We temporarily paused enrollment of patients for our clinical trial of SL-279252 between March and May 2020 and we resumed enrollment in June 2020. As “shelter in place” orders and other public health guidance measures are reinstated in the locations of our clinical trial sites, we expect that some patients may also choose to forego one or more doses in our clinical trials, due to challenges faced by such patients in travelling to our clinical trial sites, which may negatively affect the study results. As of September 9, 2020, only one patient has missed scheduled treatments in connection with a clinical trial due to travel restrictions.
Preclinical Experience

In our preclinical studies in mice with rapidly growing tumors, murine PD-1-Fc-OX40L achieved superior tumor growth inhibition and improved survival compared with an anti-PD-1 antibody and an OX40 agonist antibody, either alone or in combination, as shown in Figure 7 above.

We conducted dose-range finding and repeat dose GLP toxicity studies in NHP to evaluate the safety and pharmacologic effects of SL-279252. In these studies, SL-279252 was administered as five once-weekly doses, across a dose range of 0.1 mg/kg to 100 mg/kg. Data from these studies indicated that SL-279252 induced a potent immune response in NHP. Figure 20 below shows a dose-dependent expansion in the total number of lymphocytes in NHP and post-dose migration of lymphocytes into specific tissue sites, including the liver, the lung, and the GI tract. Figure 21 below shows increased serum cytokine concentrations, including IL-6 and IL-10, following repeated administration of SL-279252.

Figure 20—Lymphocyte Expansion Between Weekly SL-279252 Treatments and Rapid Post-dose Migration of Lymphocytes from the Blood

Cynomolgus monkeys were treated on Day 1, 8, and 15 with 10 mg/kg, 40 mg/kg, and 80 mg/kg of SL-279252. Pre- and post-dose lymphocyte counts were obtained on Day 1 prior to the first dose and on Day 15 prior to the third dose. The fold increase in total lymphocytes in the peripheral blood from Day 1 to Day 15 is plotted on the left panel for each dosing group. Within 24 hours of SL-279252 treatment on Day 15, the number of peripheral blood lymphocytes was observed to decrease in a dose-dependent manner. The percent decrease in peripheral blood lymphocytes from the third dose on Day 15 to Day 16 is shown on the right panel. Each data point indicates an individual animal.
Figure 21—Increased Serum Cytokine Concentrations Following Administration of SL-279252

Cynomolgus monkeys were treated on Day 1, 8, 15, 22 and 29 with 10 mg/kg, 40 mg/kg, and 80 mg/kg of SL-279252. Serum cytokine concentrations were collected and the pre- and post-dose concentrations of IL-6 and IL-10 are indicated in the panel above for the 40mg/kg dose group following repeated administration.

Collaboration and License Agreements

Collaboration Agreement with Takeda

On August 8, 2017, we entered into a Collaboration Agreement with Millennium Pharmaceuticals, Inc., or Takeda, a wholly owned subsidiary of Takeda Pharmaceutical Company, Ltd., or the Collaboration Agreement. The Collaboration Agreement was subsequently amended in April 2018, October 2018, and March 2020.

Pursuant to the Collaboration Agreement, we are required to use our commercially reasonable efforts to conduct preclinical and Phase 1 clinical trials for two molecules, PD-1-Fc-OX40L and CSF1R-Fc-CD40L, and Takeda has an exclusive option to license one or both of these clinical-stage ARC compounds for a specified amount of time up to and following the conclusion of each respective Phase 1 trial. While we are currently evaluating PD-1-Fc-OX40L in a Phase 1 clinical trial, we have not yet conducted a Phase 1 clinical trial for CSF1R-Fc-CD40L. During the development phase of the Collaboration Agreement, we may not, by ourselves or through a third party, develop or commercialize a compound, molecule, or product that targets both PD-1 and OX40L, or a compound, molecule, or product that targets both CSF1R and CD40L.

Further, pursuant to the Collaboration Agreement, we agreed to conduct certain preclinical studies on four additional preclinical ARC molecules, and Takeda had an option to license up to two of the four preclinical molecules. We completed our research and development activities related to the four preclinical molecules and delivered a final report to Takeda. Takeda elected to not exercise its option to enter into up to two licenses for such molecules, and Takeda’s option period for such molecules has now lapsed. As a result, the Collaboration Agreement is terminated as to the four preclinical molecules and Takeda does not have any rights to participate in the development or commercialization of such molecules.
Under the Collaboration Agreement, Takeda is granted a right of first negotiation to enter into licenses for each molecule within a specified class of ARC molecules. To exercise its right of first negotiation, Takeda will be required to provide a notice within a specified time, and if the parties do not conclude a license agreement within a set timeframe, we will be entitled to enter into licenses with third parties, subject to certain conditions.

Thus far under the Collaboration Agreement, we have received approximately $75.7 million in option payments, milestone payments, and expense reimbursements from Takeda. If Takeda exercises its exclusive option to license one or both of the clinical-stage ARC compounds (PD-1-Fc-OX40L and CSF1R-Fc-CD40L), we will enter into a license agreement with Takeda with respect to such compound. Any such license agreement would, among other things, require Takeda to use its commercially reasonable efforts to develop the licensed compound and seek approval for the compound. In addition, Takeda would be solely responsible, at its costs, for the development, manufacture, and commercialization of the licensed ARC compounds. If both ARC compounds are licensed, we would be entitled to additional payments consisting of up to an aggregate of $78.75 million in license fee payments and up to an aggregate of $450 million in clinical, regulatory, and sales milestone payments. In addition, we would be eligible for tiered royalty payments on net sales of licensed products at percentages ranging from the high single digits to sub-teens, subject to specified reductions, during the royalty term.

If Takeda exercises its option to enter into a license agreement, the royalty term with respect to the licensed product would extend, on a country-by-country basis, from the period commencing on the first commercial sale of the product in such country and ending on the later of (i) the expiration of the last to expire of the valid claims on the applicable licensed patent rights covering the product in such country or (ii) the tenth anniversary of the first commercial sale of the product in such country.

Unless sooner terminated, the Collaboration Agreement will continue until the later of (a) February 8, 2021, (b) the earlier of (i) the 90th day following delivery of a report detailing certain results of the PD-1-Fc-OX40L Phase 1 clinical trial and (ii) the exercise by Takeda of its right to an exclusive license with respect to PD-1-Fc-OX40L, and (c) the earlier of (i) the 90th day following delivery of a report detailing certain results of the CSF1R-Fc-CD40L Phase 1 clinical trial and (ii) the exercise by Takeda of its right to an exclusive license with respect to CSF1R-Fc-CD40L. Either party may terminate the Collaboration Agreement prior to expiration upon the insolvency or uncured material breach of the other party.

**Heat License Agreement**

In June 2016, we entered into an Exclusive License Agreement, or the Heat License Agreement, with Heat Biologics Inc., or Heat. The Heat License Agreement was subsequently amended in November 2016, December 2016, and March 2017. Pursuant to the Heat License Agreement, Heat granted to us (1) a worldwide, sublicensable exclusive license to research, develop, manufacture, and commercialize products under three provisional patent applications, including all patents issuing from such applications, or the Fusion Protein Patent Rights, and (2) a worldwide, sublicensable nonexclusive license to research, develop, manufacture, and commercialize certain know how owned and controlled by Heat related to the Fusion Protein Patent Rights.

Under the Heat License Agreement, Heat was required to conduct certain research and development services under a mutually-agreed upon research and development plan and Heat was eligible to receive financial support from us for these efforts. Effective March 2017, Heat completed all research and development services under the Heat License Agreement and assigned to us three patent applications and all data derived from the research and development activities, referred to collectively as the Research Services Inventions. Pursuant to the terms of the Heat License Agreement, we are obligated to use commercially reasonable efforts to diligently research and develop at least one product covered by the Fusion Protein Patent Rights, including the obligation to file an IND application for such product. Our development, including the development of SL-279252 and certain other ARC compounds, efforts to date satisfy these obligations. In addition, we are to provide annual reports to Heat on or before the anniversary of the effective date of the Heat License Agreement to inform Heat of our progress.
Unless sooner terminated or extended, the term of the Heat License Agreement continues until the later of (1) 20 years following the effective date, and (2) the expiration of the last-to-expire royalty term. Either party may terminate the agreement due to a material breach by the other party (subject to a 90-day cure period) or if the other party files for bankruptcy. In the event we terminate the Heat License Agreement due to a material breach by Heat, Heat must assign to us all right, title, and interest in the patent rights licensed under the Heat License Agreement.

In addition to an upfront payment of $50,000, the Heat License Agreement requires us to make further payments to Heat of up to $20.6 million in the aggregate, for the achievement of specified development, regulatory, and commercial sale milestones for certain licensed products. We are also required to pay Heat a percentage of certain upfront fees or other non-royalty payments we receive that are not tied to milestone events under any sublicense of the Fusion Protein Patent Rights. We are also required to pay Heat a royalty on all worldwide net sales by us, our affiliates, and sublicensees of certain licensed products in the low single digits. Royalties are payable, on a product-by-product and country-by-country basis, commencing on the first commercial sale of such product and continuing until the last-to-expire valid patent claim to the licensed patent rights that cover such product in that country.

Manufacturing and Supply

We do not own or operate any manufacturing facilities designed to comply with current good manufacturing practice, or cGMP, requirements. We have invested significant resources to identify and scale up a suitable manufacturing process for ARC compounds, including SL-172154 and SL-279252. Currently, ARC compounds are produced by mammalian cell lines commonly used in the manufacture of monoclonal antibodies, including Chinese hamster ovary, or CHO, cells. Both SL-172154 and SL-279252 have achieved cell culture titer greater than 2 grams per liter, and another ARC compound has achieved titers exceeding 7 grams per liter. Purification of ARC compounds initially utilizes affinity chromatography directed to the Fc domain for capture, and subsequent chromatography steps are designed to remove process-related impurities including CHO derived DNA and proteins. We expect to continue to devote, significant resources to process development and optimization of the manufacture of our product candidates. To our knowledge, no other company has successfully scaled up commercial manufacturing of dual-sided fusion proteins. Due to the novelty of our product candidates, we may face challenges in developing large-scale manufacturing processes. Moreover, the nature of our dual-sided fusion proteins could create challenges for the stability of the drug substance. These challenges may result in timeline delays and higher costs.

To date, we have obtained bulk drug substance, or BDS, for each of our product candidates from a single-source third-party contract manufacturer. We maintain a long-term master services agreement with KBI Biopharma, Inc., or KBI, pursuant to which we may purchase BDS and other products on a per project basis. We may terminate the master services agreement at any time for convenience in accordance with the terms of the agreement. Either KBI or we may also terminate the master services agreement with respect to an uncured breach by the other party in accordance with the terms of the agreement. The agreement includes confidentiality and intellectual property provisions to protect our proprietary rights related to our product candidates. We do not currently have arrangements in place for redundant supply. While any reduction or halt in supply of BDS from KBI could limit our ability to develop our product candidates until a replacement contract manufacturer is found and qualified, we believe that we have sufficient BDS to support our current clinical trial programs. We currently work with two drug manufacturers to produce our product candidates.

All of our product candidates are manufactured from a master cell bank of that protein’s production cell line. We have or intend to have one master cell bank for each product candidate that was or will be produced and tested in accordance with current good manufacturing practices, or cGMPs, and applicable regulations. Each master cell bank is or will be stored in two independent locations, and we intend to produce working cell banks for each product candidate later in product development. It is possible that we could lose multiple cell banks from multiple locations and have our manufacturing severely impacted by the need to replace the cell banks. However, we believe we have adequate backup should any particular cell bank be lost in a catastrophic event.
Competition

The pharmaceutical and biotechnology industries are characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary products. While we believe that our technology, development experience and scientific knowledge provide us with competitive advantages, we face potential competition from many different sources, including large pharmaceutical and biotechnology companies, academic institutions, government agencies and other public and private research organizations that conduct research, seek patent protection and establish collaborative arrangements for the research, development, manufacturing, and commercialization of cancer therapies. Any product candidates that we successfully develop and commercialize will compete with existing therapies and new therapies that may become available in the future.

We compete in the segments of the pharmaceutical, biotechnology, and other related markets that develop cancer therapies. There are many other companies that have commercialized or are developing cancer therapies, including large pharmaceutical and biotechnology companies, such as AstraZeneca/MedImmune, Bristol Myers Squibb, Merck, Novartis, Pfizer, and Roche/Genentech.

We face significant competition from pharmaceutical and biotechnology companies that target specific tumor-associated antigens using immune cells or other cytotoxic modalities. These generally include immune cell redirecting therapeutics (e.g., T cell engagers), adoptive cellular therapies (e.g., CAR-Ts), antibody drug conjugates, targeted radiopharmaceuticals, targeted immunotoxin, and targeted cancer vaccines.

With respect to our lead wholly owned product candidate, SL-172154, we are aware of other competing clinical-stage therapeutics that target the CD47 pathway or the CD40 pathway, which include, but are not limited to magrolimab, ALX148, TTI-621, and APX005M.

With respect to our second lead product candidate, SL-279252, we are aware of other competing clinical-stage therapeutics, that target the PD-1 pathway or the OX40 pathway, which include, but are not limited to PF-04518600, BMS-986178, pembrolizumab, nivolumab, avelumab, and atezolizumab.

Many of the companies against which we are competing or against which we may compete in the future have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals and marketing approved drugs than we do. Mergers and acquisitions in the pharmaceutical, biotechnology, and diagnostic industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial sites and enrolling subjects for our clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs.

We could see a reduction or elimination of our commercial opportunity if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we or our collaborators may develop. Our competitors also may obtain FDA or foreign regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we or our collaborators are able to enter the market. The key competitive factors affecting the success of all our product candidates, if approved, are likely to be their efficacy, safety, convenience, price, the effectiveness of companion diagnostics, if required, the level of biosimilar or generic competition, and the availability of reimbursement from government and other third-party payors.

Intellectual Property

We strive to protect and enhance our proprietary technology, inventions, and improvements that we consider commercially important to the development of our business, including by seeking, maintaining, and defending
U.S. and foreign patent rights, including patents covering our platform technologies, product candidates, and methods of using the same, whether
developed internally or licensed from third parties. We also rely on trade secrets, know-how, and continuing technological innovation to develop,
strengthen and maintain our proprietary position in our field. Additionally, we intend to rely on regulatory protection afforded through data exclusivity
and market exclusivity, among others, as well as patent term extensions, where available.

Our future commercial success depends, in part, on our ability to obtain and maintain patent and other proprietary protection for commercially
important technology, inventions, and know-how related to our business, including our platform technologies and product candidates, defend and
enforce our intellectual property rights, in particular our patents rights, preserve the confidentiality of our trade secrets, and operate without infringing,
misappropriating, or violating the valid and enforceable patents and proprietary rights of third parties. Our ability to stop third parties from making,
using, selling, offering to sell, or importing our products may depend on the extent to which we have rights under valid and enforceable patents or trade
secrets that cover these activities.

The patent positions of biotechnology companies like ours are generally uncertain and can involve complex legal, scientific, and factual issues. We cannot predict whether the patent applications we are currently pursuing, or those we will file or license from others, will grant as patents in any
particular jurisdiction or whether the claims of any granted patents will provide sufficient proprietary protection from competitors.

In addition, the coverage claimed in a patent application may be significantly reduced before a patent is granted, and its scope can be reinterpreted
and even challenged after issuance. As a result, we cannot guarantee that any of our products will be protected or remain protectable by enforceable
patents. Moreover, any patents that we hold may be challenged, circumvented, or invalidated by third parties. In addition, because of the extensive time
required for clinical development and regulatory review of a product candidate we may develop, it is possible that, before any of our product candidates
can be commercialized, any related patent may expire or remain in force for only a short period following commercialization, thereby limiting the
protection such patent would afford the respective product and any competitive advantage such patent may provide. See “Risk Factors—Risks Related
to Our Intellectual Property” for a more comprehensive description of risks related to our intellectual property.

For any individual patent, the term depends on the applicable law in the country in which the patent is granted. In most countries where we have
filed patent applications or in-licensed patents and patent applications, patents have a term of 20 years from the application filing date or earliest claimed
nonprovisional priority date. In the United States, the patent term is 20 years from the application filing date or earliest claimed nonprovisional priority
date, but may be shortened if a patent is terminally disclaimed over another patent that expires earlier. The term of a U.S. patent may also be lengthened
by a Patent Term Adjustment in order to address administrative delays by the U.S. Patent and Trademark Office in granting a patent.

In the United States, the term of a patent that covers an FDA-approved drug or biologic may be eligible for Patent Term Extension in order to
restore the period of a patent term lost during the premarket FDA regulatory review process. The Drug Price Competition and Patent Term Restoration
Act of 1984, or the Hatch-Waxman Act, permits a Patent Term Extension of up to five years beyond the natural expiration of the patent (but the total
patent term, including the extension period, must not exceed 14 years following FDA approval). The term extension period granted on a patent covering
a product is typically one-half the time between the effective date of a clinical investigation involving human beings is begun and the submission date of
an application, plus the time between the submission date of an application and the ultimate approval date. Only one patent applicable to an approved
product is eligible for the extension, and only those claims covering the approved product, a method for using it, or a method for manufacturing it may
be extended. The application for the extension must be submitted prior to the expiration of the patent. The United States Patent and Trademark Office
reviews and approves the application for any Patent Term Extension in consultation with the FDA. In the future, we may decide to apply for restoration
of patent term for one of our currently owned or licensed patents to extend its current expiration date, depending on the expected length of the clinical
trials and other factors involved in the filing of the relevant biologies license application.

130
We generally file patent applications directed to our key technologies and programs in an effort to secure our intellectual property positions. As of August 6, 2020, we exclusively licensed ten U.S. patents and about 25 pending non-provisional patent applications (U.S. and foreign), and we owned one U.S. patent, about 60 pending non-provisional patent applications (U.S. and foreign), about ten pending Patent Cooperation Treaty, or PCT, applications, and various provisional patent applications covering our key programs and pipeline.

The intellectual property portfolio for our most advanced programs as of August 6, 2020, is summarized below. Prosecution is a lengthy process, during which the scope of the claims initially submitted for examination by the U.S. Patent and Trademark Office and other patent offices may be significantly revised before issuance, if granted at all.

**ARC Platform**

The patent portfolio for our ARC platform is based upon our in-licensed patent portfolio, which includes patents and patent applications directed generally to compositions of matter, pharmaceutical compositions, and methods of treatment. The earliest provisional patent application relating to the ARC platform was filed in October 2015. Patent applications are pending in the United States and various foreign jurisdictions and regions, including Australia, Brazil, Canada, China, Europe, Hong Kong, Indonesia, Israel, India, Japan, Korea, Mexico, Malaysia, Philippines, Russia, Saudi Arabia, Singapore, Thailand, Ukraine, and Vietnam. Patent applications in this family, if granted, are expected to expire in 2036, without taking potential patent term extensions or patent term adjustment into account.

To date, the in-licensed ARC platform patent portfolio has been prosecuted in the United States to generate issued U.S. patents on various product candidates and preclinical product candidates as outlined below.

The Company also owns two PCT applications covering subgenera of ARC compounds relevant to different cellular types. Patent applications in this family, if granted, are expected to expire in 2040, without taking potential patent term extensions or patent term adjustment into account.

**GADLEN Platform**

The patent portfolio for our GADLEN platform is based upon our owned patent portfolio, which includes patent applications directed generally to compositions of matter, pharmaceutical compositions, and methods of treatment. We have one pending PCT application and two pending U.S. applications to date, with various foreign patent filings planned. Patent applications in this family, if granted, are expected to expire in 2040, without taking potential patent term extensions or patent term adjustment into account.

**SL-279252 Product Candidate**

The patent portfolio for our SL-279252 product candidate is based upon our owned and in-licensed patent portfolio, which includes patents and patent applications directed generally to compositions of matter, pharmaceutical compositions, and methods of treatment. We have two granted patents in the United States, from the in-licensed patent portfolio, covering compositions of matter of a genus of molecules, and the SL-279252 product candidate molecule specifically, pharmaceutical compositions, and methods of treating cancer. Patent applications are pending in the United States and various foreign jurisdictions and regions, including Australia, Brazil, Canada, China, Europe, Hong Kong, Indonesia, Israel, India, Japan, Korea, Mexico, Malaysia, Philippines, Russia, Saudi Arabia, Singapore, Thailand, Ukraine, and Vietnam. Patent applications in this family, if granted, are expected to expire in 2036, without taking potential patent term extensions or patent term adjustment into account.

Pending coverage, from the Company-owned patent portfolio, that relates to our SL-279252 product candidate also includes methods of treatment with various combination agents (one pending PCT application). Patent applications in this family, if granted, are expected to expire in 2039, without taking potential patent term extensions or patent term adjustment into account.

131
Takeda holds an exclusive option to these patent families in connection with the Collaboration Agreement discussed elsewhere herein.

**SL-172154 Product Candidate**

The patent portfolio for our SL-172154 product candidate is based upon our owned and in-licensed patent portfolio, which includes patents and patent applications directed generally to compositions of matter, pharmaceutical compositions, and methods of treatment. We have two granted patents in the United States, from the in-licensed patent portfolio, covering compositions of matter of a genus of molecules, and the SL-172154 product candidate specifically, pharmaceutical compositions, and methods of treating cancer. Patent applications are pending in the United States and various foreign jurisdictions and regions, including Australia, Brazil, Canada, China, Europe, Hong Kong, Indonesia, Israel, India, Japan, Korea, Mexico, Malaysia, Philippines, Russia, Saudi Arabia, Singapore, Thailand, Ukraine, and Vietnam. Patent applications in this family, if granted, are expected to expire in 2036, without taking potential patent term extensions or patent term adjustment into account.

Pending coverage, from the Company-owned patent portfolio, that relates to our SL-172154 product candidate also includes methods of treatment with various combination agents (one pending PCT application, and pending applications in the United States, Canada, China, Europe, and Japan). Patent applications in these families, if granted, are expected to expire in 2038 or 2039, without taking potential patent term extensions or patent term adjustment into account.

**Preclinical Product Candidates**

The Company also has taken steps to protect various preclinical product candidates. The Company owns or exclusively licenses various granted U.S. patents, and pending U.S., foreign and PCT applications covering ARC compounds that may develop into product candidates.

Six licensed U.S. granted patents and one Company-owned U.S. granted patent cover PD-1-, CSF1R-, TIM3-, SIRP1a-, and TIGIT-based ARC compounds, with OX40L, CD40L, and 4-1BBL, covering compositions of matter of a genus of compounds, and the preclinical product candidates specifically, pharmaceutical compositions, and methods of treating. Patent applications are pending in the United States and various foreign jurisdictions and regions, including Australia, Brazil, Canada, China, Europe, Hong Kong, Indonesia, Israel, India, Japan, Korea, Mexico, Malaysia, Philippines, Russia, Saudi Arabia, Singapore, Thailand, Ukraine, and Vietnam that could cover various product candidates. Patent applications in these families, if granted, are expected to expire in 2038 or 2039, without taking potential patent term extensions or patent term adjustment into account.

**Trademark Protection**

As of September 1, 2020, we owned an allowed trademark application for “ARC” and a pending application for “GADLEN” with the U.S. Patent and Trademark Office. We plan to register trademarks in connection with our biological products.

**Licensed Intellectual Property from Heat Biologics, Inc.**

In June 2016, we entered into an exclusive license agreement with Heat, pursuant to which we received an exclusive (as to the patent rights), non-transferable, sublicensable, worldwide, royalty-bearing, non-field restricted license to certain patent rights and know-how, including rights related to the ARC platform. We paid Heat an initial license fee of $50,000, and we are obligated to pay Heat fees upon receipt of certain sublicensing income, achievement of certain milestones, and royalties upon sales of commercial products. The Heat license provides us rights in the patent family that arose from PCT/US16/54598 and is the source of ten granted U.S.
patents, and about 25 pending applications in the United States and various foreign jurisdictions and regions, including Australia, Brazil, Canada, China, Europe, Hong Kong, Indonesia, Israel, India, Japan, Korea, Mexico, Malaysia, Philippines, Russia, Saudi Arabia, Singapore, Thailand, Ukraine, and Vietnam. We control prosecution, maintenance, and enforcement of this family of patents and patent applications.

Government Regulation

The FDA and other regulatory authorities at federal, state and local levels, as well as in foreign countries, extensively regulate, among other things, the research, development, testing, manufacture, quality control, import, export, safety, effectiveness, labeling, packaging, storage, distribution, record keeping, approval, advertising, promotion, marketing, post-approval monitoring and post-approval reporting of biologics such as those we are developing. We, along with third-party contractors, will be required to navigate the various preclinical, clinical and commercial approval requirements of the governing regulatory agencies of the countries in which we wish to conduct studies or seek approval or licensure of our product candidates.

U.S. Biologics Regulation

In the United States, biological products are subject to regulation under the Federal Food, Drug, and Cosmetic Act, or FDCA, and the Public Health Service Act, and other federal, state, local, and foreign statutes and regulations. The process required by the FDA before biologic product candidates may be marketed in the United States generally involves the following:

• completion of preclinical laboratory tests and animal studies performed in accordance with the FDA’s current Good Laboratory Practices, or GLP, regulation;
• submission to the FDA of an IND, which must become effective before clinical trials may begin and must be updated annually or when significant changes are made;
• approval by an independent IRB or ethics committee at each clinical site before the trial is commenced;
• manufacture of the proposed biologic candidate in accordance with cGMPs;
• performance of adequate and well-controlled human clinical trials in accordance with good clinical practice, or GCP, requirements to establish the safety, purity and potency of the proposed biologic product candidate for its intended purpose;
• preparation of and submission to the FDA of a BLA after completion of all pivotal clinical trials;
• satisfactory completion of an FDA Advisory Committee review, if applicable;
• a determination by the FDA within 60 days of its receipt of a BLA to file the application for review;
• satisfactory completion of an FDA pre-approval inspection of the manufacturing facility or facilities at which the proposed product is produced to assess compliance with cGMPs, and to assure that the facilities, methods and controls are adequate to preserve the biological product’s continued safety, purity and potency, and of selected clinical investigation sites to assess compliance with GCPs; and
• FDA review and approval of a BLA to permit commercial marketing of the product for particular indications for use in the United States.

Preclinical and Clinical Development

Prior to beginning the first clinical trial with a product candidate, we must submit an IND to the FDA. An IND is a request for authorization from the FDA to administer an investigational new drug product to humans. The central focus of an IND submission is on the general investigational plan and the protocol or protocols for preclinical studies and clinical trials. The IND also includes results of animal and in vitro studies assessing the toxicology, pharmacokinetics, pharmacology and pharmacodynamic characteristics of the product, chemistry,
manufacturing and controls information, and any available human data or literature to support the use of the investigational product. An IND must become effective before human clinical trials may begin. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA, within the 30-day period, raises safety concerns or questions about the proposed clinical trial. In such a case, the IND may be placed on clinical hold and the IND sponsor and the FDA must resolve any outstanding concerns or questions before the clinical trial can begin. Submission of an IND therefore may or may not result in FDA authorization to begin a clinical trial.

In addition to the IND submission process, supervision of human gene transfer trials includes evaluation and assessment by an institutional biosafety committee, or IBC, a local institutional committee that reviews and oversees research utilizing recombinant or synthetic nucleic acid molecules at that institution. The IBC assesses the safety of the research and identifies any potential risk to public health or the environment and such review may result in some delay before initiation of a clinical trial.

Clinical trials involve the administration of the investigational product to human subjects under the supervision of qualified investigators in accordance with GCPs, which include the requirement that all research subjects provide their informed consent for their participation in any clinical study. Clinical trials are conducted under protocols detailing, among other things, the objectives of the study, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated. A separate submission to the existing IND must be made for each successive clinical trial conducted during product development and for any subsequent protocol amendments. Furthermore, an independent IRB for each site proposing to conduct the clinical trial must review and approve the plan for any clinical trial and its informed consent form before the clinical trial begins at that site, and must monitor the study until completed. Regulatory authorities, the IRB or the sponsor may suspend a clinical trial at any time on various grounds, including a finding that the subjects are being exposed to an unacceptable health risk or that the trial is unlikely to meet its stated objectives. Some studies also include oversight by an independent group of qualified experts organized by the clinical study sponsor, known as a data safety monitoring board, which provides authorization for whether or not a study may move forward at designated check points based on access to certain data from the study and may halt the clinical trial if it determines that there is an unacceptable safety risk for subjects or other grounds, such as no demonstration of efficacy. There are also requirements governing the reporting of ongoing preclinical studies and clinical trials and clinical study results to public registries.

For purposes of BLA approval, human clinical trials are typically conducted in three sequential phases that may overlap.

- **Phase 1.** The investigational product is initially introduced into healthy human subjects or patients with the target disease or condition. These studies are designed to test the safety, dosage tolerance, absorption, metabolism and distribution of the investigational product in humans, the side effects associated with increasing doses, and, if possible, to gain early evidence on effectiveness.

- **Phase 2.** The investigational product is administered to a limited patient population with a specified disease or condition to evaluate the preliminary efficacy, optimal dosages and dosing schedule and to identify possible adverse side effects and safety risks. Multiple Phase 2 clinical trials may be conducted to obtain information prior to beginning larger and more expensive Phase 3 clinical trials.

- **Phase 3.** The investigational product is administered to an expanded patient population to further evaluate dosage, to provide statistically significant evidence of clinical efficacy and to further test for safety, generally at multiple geographically dispersed clinical trial sites. These clinical trials are intended to establish the overall risk/benefit ratio of the investigational product and to provide an adequate basis for product approval.

In some cases, the FDA may require, or companies may voluntarily pursue, additional clinical trials after a product is approved to gain more information about the product. These so-called Phase 4 studies may be made a
condition to approval of the BLA. Concurrent with clinical trials, companies may complete additional animal studies and develop additional information about the biological characteristics of the product candidate, and must finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the product candidate and, among other things, must develop methods for testing the identity, strength, quality and purity of the final product, or for biologics, the safety, purity and potency. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the product candidate does not undergo unacceptable deterioration over its shelf life.

**BLA Submission and Review**

Assuming successful completion of all required testing in accordance with all applicable regulatory requirements, the results of product development, nonclinical studies and clinical trials are submitted to the FDA as part of a BLA requesting approval to market the product for one or more indications. The BLA must include all relevant data available from pertinent preclinical studies and clinical trials, including negative or ambiguous results as well as positive findings, together with detailed information relating to the product’s chemistry, manufacturing, controls, and proposed labeling, among other things. Data can come from company-sponsored clinical studies intended to test the safety and effectiveness of the product, or from a number of alternative sources, including studies initiated and sponsored by investigators. The submission of a BLA requires payment of a substantial application user fee to the FDA, unless a waiver or exemption applies.

In addition, under the Pediatric Research Equity Act, or PREA, a BLA or supplement to a BLA must contain data to assess the safety and effectiveness of the biological product candidate for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The Food and Drug Administration Safety and Innovation Act requires that a sponsor who is planning to submit a marketing application for a biological product that includes a new active ingredient, new indication, new dosage form, new dosing regimen or new route of administration submit an initial pediatric study plan, or PSP, within sixty days after an end-of-Phase 2 meeting or as may be agreed between the sponsor and FDA. Unless otherwise required by regulation, PREA does not apply to any biological product for an indication for which orphan designation has been granted.

Within 60 days following submission of the application, the FDA reviews a BLA submitted to determine if it is substantially complete before the agency accepts it for filing. The FDA may refuse to file any BLA that it deems incomplete or not properly reviewable at the time of submission and may request additional information. In this event, the BLA must be resubmitted with the additional information. Once a BLA has been accepted for filing, the FDA’s goal is to review standard applications within ten months after for the filing date, or, if the application qualifies for priority review, six months after the FDA accepts the application for filing. In both standard and priority reviews, the review process may also be extended by FDA requests for additional information or clarification. The FDA reviews a BLA to determine, among other things, whether a product is safe, pure and potent and the facility in which it is manufactured, processed, packed or held meets standards designed to assure the product’s continued safety, purity and potency. The FDA may convene an advisory committee to provide clinical insight on application review questions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

Before approving a BLA, the FDA will typically inspect the facility or facilities where the product is manufactured. The FDA will not approve an application unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. Additionally, before approving a BLA, the FDA will typically inspect one or more clinical sites to assure compliance with GCPs. If the FDA determines that the application, manufacturing process or manufacturing facilities are not acceptable, it will outline the deficiencies in the submission and often will request additional testing or information. Notwithstanding the submission of any requested additional
information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval.

After the FDA evaluates a BLA and conducts inspections of manufacturing facilities where the investigational product and/or its drug substance will be produced, the FDA may issue an approval letter or a Complete Response letter. An approval letter authorizes commercial marketing of the product with specific prescribing information for specific indications. A Complete Response letter will describe all of the deficiencies that the FDA has identified in the BLA, except that where the FDA determines that the data supporting the application are inadequate to support approval, the FDA may issue the Complete Response letter without first conducting required inspections, testing submitted product lots and/or reviewing proposed labeling. In issuing the Complete Response letter, the FDA may recommend actions that the applicant might take to place the BLA in condition for approval, including requests for additional information or clarification. The FDA may delay or refuse approval of a BLA if applicable regulatory criteria are not satisfied, require additional testing or information and/or require post-marketing testing and surveillance to monitor safety or efficacy of a product.

If regulatory approval of a product is granted, such approval will be granted for particular indications and may entail limitations on the indicated uses for which such product may be marketed. For example, the FDA may approve the BLA with a Risk Evaluation and Mitigation Strategy, or REMS, to ensure the benefits of the product outweigh its risks. A REMS is a safety strategy to manage a known or potential serious risk associated with a product and to enable patients to have continued access to such medicines by managing their safe use, and could include medication guides, physician communication plans, or elements to assure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. The FDA also may condition approval on, among other things, changes to proposed labeling or the development of adequate controls and specifications. Once approved, the FDA may withdraw the product approval if compliance with pre- and post-marketing requirements is not maintained or if problems occur after the product reaches the marketplace. The FDA may require one or more Phase 4 post-market studies and surveillance to further assess and monitor the product’s safety and effectiveness after commercialization, and may limit further marketing of the product based on the results of these post-marketing studies.

**Expedited Development and Review Programs**

The FDA offers a number of expedited development and review programs for qualifying product candidates. The fast track program is intended to expedite or facilitate the process for reviewing new products that meet certain criteria. Specifically, new products are eligible for fast track designation if they are intended to treat a serious or life-threatening disease or condition and demonstrate the potential to address unmet medical needs for the disease or condition. Fast track designation applies to the combination of the product and the specific indication for which it is being studied. The sponsor of a fast track product has opportunities for more frequent interactions with the review team during product development and, once a BLA is submitted, the product may be eligible for priority review. A fast track product may also be eligible for rolling review, where the FDA may consider for review sections of the BLA on a rolling basis before the complete application is submitted, if the sponsor provides a schedule for the submission of the sections of the BLA, the FDA agrees to accept sections of the BLA and determines that the schedule is acceptable, and the sponsor pays any required user fees upon submission of the first section of the BLA.

A product intended to treat a serious or life-threatening disease or condition may also be eligible for breakthrough therapy designation to expedite its development and review. A product can receive breakthrough therapy designation if preliminary clinical evidence indicates that the product, alone or in combination with one or more other drugs or biologics, may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. The designation includes all of the fast track program features, as well as more intensive FDA interaction and guidance beginning as early as Phase 1 and an organizational commitment to expedite the development and review of the product, including involvement of senior managers.
Any marketing application for a biologic submitted to the FDA for approval, including a product with a fast track designation and/or breakthrough therapy designation, may be eligible for other types of FDA programs intended to expedite the FDA review and approval process, such as priority review and accelerated approval. A product is eligible for priority review if it has the potential to provide a significant improvement in the treatment, diagnosis or prevention of a serious disease or condition. For original BLAs, priority review designation means the FDA’s goal is to take action on the marketing application within six months of the 60-day filing date (as compared to ten months under standard review).

Additionally, products studied for their safety and effectiveness in treating serious or life-threatening diseases or conditions may receive accelerated approval upon a determination that the product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. As a condition of accelerated approval, the FDA will generally require the sponsor to perform adequate and well-controlled post-marketing clinical studies to verify and describe the anticipated effect on irreversible morbidity or mortality or other clinical benefit. Products receiving accelerated approval may be subject to expedited withdrawal procedures if the sponsor fails to conduct the required post-marketing studies or if such studies fail to verify the predicted clinical benefit. In addition, the FDA currently requires as a condition for accelerated approval pre-approval of promotional materials, which could adversely impact the timing of the commercial launch of the product.

In 2017, the FDA established a new regenerative medicine advanced therapy, or RMAT, designation as part of its implementation of the 21st Century Cures Act. The RMAT designation program is intended to fulfill the 21st Century Cures Act requirement that the FDA facilitate an efficient development program for, and expedite review of, any drug that meets the following criteria: (i) the drug qualifies as a RMAT, which is defined as a cell therapy, therapeutic tissue engineering product, human cell and tissue product, or any combination product using such therapies or products, with limited exceptions; (ii) the drug is intended to treat, modify, reverse, or cure a serious or life-threatening disease or condition; and (iii) preliminary clinical evidence indicates that the drug has the potential to address unmet medical needs for such a disease or condition. RMAT designation provides all the benefits of breakthrough therapy designation, including more frequent meetings with the FDA to discuss the development plan for the product candidate and eligibility for rolling review and priority review. Products granted RMAT designation may also be eligible for accelerated approval on the basis of a surrogate or intermediate endpoint reasonably likely to predict long-term clinical benefit, or reliance upon data obtained from a meaningful number of sites, including through expansion to additional sites. Once approved, when appropriate, the FDA can permit fulfillment of post-approval requirements under accelerated approval through: the submission of clinical evidence, preclinical studies, clinical trials, patient registries or other sources of real world evidence such as electronic health records; the collection of larger confirmatory datasets; or post-approval monitoring of all patients treated with the therapy prior to approval.

Fast track designation, breakthrough therapy designation, priority review and RMAT designation do not change the standards for approval but may expedite the development or approval process. Even if a product qualifies for one or more of these programs, the FDA may later decide that the product no longer meets the conditions for qualification or decide that the time period for FDA review or approval will not be shortened.

**Orphan Drug Designation**

Under the Orphan Drug Act, the FDA may grant orphan designation to a drug or biologic intended to treat a rare disease or condition, which is a disease or condition that affects fewer than 200,000 individuals in the United States, or more than 200,000 individuals in the United States for which there is no reasonable expectation that the cost of developing and making available in the United States a drug or biologic for this type of disease or condition will be recovered from sales in the United States for that drug or biologic. Orphan drug designation must be requested before submitting a BLA. After the FDA grants orphan drug designation, the generic identity
of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. The orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review or approval process.

If a product that has orphan drug designation subsequently receives the first FDA approval for the disease for which it has such designation, the product is entitled to orphan drug exclusive approval (or exclusivity), which means that the FDA may not approve any other applications, including a full BLA, to market the same biologic for the same indication for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity or if the FDA finds that the holder of the orphan drug exclusivity has not shown that it can assure the availability of sufficient quantities of the orphan drug to meet the needs of patients with the disease or condition for which the drug was designated. Orphan drug exclusivity does not prevent the FDA from approving a different drug or biologic for the same disease or condition, or the same drug or biologic for a different disease or condition. Among the other benefits of orphan drug designation are tax credits for certain research and a waiver of the BLA application fee.

A designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan designation. In addition, exclusive marketing rights in the United States may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantities of the product to meet the needs of patients with the rare disease or condition.

**Post-Approval Requirements**

Any products manufactured or distributed by us pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to record-keeping, reporting of adverse experiences, periodic reporting, product sampling and distribution, and advertising and promotion of the product. After approval, most changes to the approved product, such as adding new indications or other labeling claims, are subject to prior FDA review and approval. There also are continuing user fee requirements, under which the FDA assesses an annual program fee for each product identified in an approved BLA. Biologic manufacturers and their subcontractors are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMPs, which impose certain procedural and documentation requirements upon us and our third-party manufacturers. Changes to the manufacturing process are strictly regulated, and, depending on the significance of the change, may require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMPs and impose reporting requirements upon us and any third-party manufacturers that we may decide to use. Accordingly, manufacturers must continue to expend time, money and effort in the area of production and quality control to maintain compliance with cGMPs and other aspects of regulatory compliance.

The FDA may withdraw approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical studies to assess new safety risks; or imposition of distribution restrictions or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of a product, complete withdrawal of the product from the market or product recalls;
- fines, warning letters or holds on post-approval clinical studies;
- refusal of the FDA to approve pending applications or supplements to approved applications, or suspension or revocation of existing product approvals;
product seizure or detention, or refusal of the FDA to permit the import or export of products;

• consent decrees, corporate integrity agreements, debarment or exclusion from federal healthcare programs;

• mandated modification of promotional materials and labeling and the issuance of corrective information;

• the issuance of safety alerts, Dear Healthcare Provider letters, press releases and other communications containing warnings or other safety information about the product; or

• injunctions or the imposition of civil or criminal penalties.

The FDA closely regulates the marketing, labeling, advertising and promotion of biologics. A company can make only those claims relating to safety and efficacy, purity and potency that are approved by the FDA and in accordance with the provisions of the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses. Failure to comply with these requirements can result in, among other things, adverse publicity, warning letters, corrective advertising and potential civil and criminal penalties. Physicians may prescribe legally available products for uses that are not described in the product’s labeling and that differ from those tested by us and approved by the FDA. Such off-label uses are common across medical specialties. Physicians may believe that such off-label uses are the best treatment for many patients in varied circumstances. The FDA does not regulate the behavior of physicians in their choice of treatments. The FDA does, however, restrict manufacturer’s communications on the subject of off-label use of their products.

Regulation of Diagnostic Tests

Our drug candidates may require use of a diagnostic to identify appropriate patient populations for our product candidates. These diagnostics, often referred to as companion diagnostics, are medical devices, often in vitro devices, which provide information that is essential for the safe and effective use of a corresponding drug. In the United States, the FDCA and its implementing regulations, and other federal and state statutes and regulations govern, among other things, medical device design and development, preclinical and clinical testing, premarket clearance or approval, registration and listing, manufacturing, labeling, storage, advertising and promotion, sales and distribution, export and import, and post-market surveillance. Unless an exemption applies, diagnostic tests require marketing clearance or approval from the FDA prior to commercial distribution. The two primary types of FDA marketing authorization applicable to a medical device are premarket notification, also called 510(k) clearance, and premarket approval, or PMA approval. We expect that any companion diagnostic developed for our drug candidates will utilize the PMA pathway.

PMA applications must be supported by valid scientific evidence, which typically requires extensive data, including technical, preclinical, clinical and manufacturing data, to demonstrate to the FDA's satisfaction the safety and effectiveness of the device. For diagnostic tests, a PMA application typically includes data regarding analytical and clinical validation studies. As part of its review of the PMA, the FDA will conduct a pre-approval inspection of the manufacturing facility or facilities to ensure compliance with the Quality System Regulation, or QSR, which requires manufacturers to follow design, testing, control, documentation and other quality assurance procedures. FDA review of an initial PMA may require several years to complete. If the FDA evaluations of both the PMA application and the manufacturing facilities are favorable, the FDA will either issue an approval letter or an approvable letter, which usually contains a number of conditions that must be met in order to secure the final approval of the PMA. If the FDA's evaluation of the PMA or manufacturing facilities is not favorable, the FDA will deny approval of the PMA or issue a not approvable letter. A not approvable letter will outline the deficiencies in the application and, where practical, will identify what is necessary to make the PMA approvable. The FDA may also determine that additional clinical trials are necessary, in which case the PMA approval may be delayed for several months or years while the trials are conducted and then the data submitted in an amendment to the PMA. Once granted, PMA approval may be withdrawn by the FDA if compliance with post approval requirements, conditions of approval or other regulatory standards is not maintained or problems are identified following initial marketing.
On August 6, 2014, the FDA issued a final guidance document addressing the development and approval process for “In Vitro Companion Diagnostic Devices.” According to the guidance, for novel drugs such as our drug candidates, a companion diagnostic device and its corresponding drug should be approved or cleared contemporaneously by the FDA for the use indicated in the therapeutic product labeling. The guidance also explains that a companion diagnostic device used to make treatment decisions in clinical trials of a drug generally will be considered an investigational device, unless it is employed for an intended use for which the device is already approved or cleared. If used to make critical treatment decisions, such as patient selection, the diagnostic device generally will be considered a significant risk device under the FDA's Investigational Device Exemption, or IDE, regulations. Thus, the sponsor of the diagnostic device will be required to comply with the IDE regulations. According to the guidance, if a diagnostic device and a drug are to be studied together to support their respective approvals, both products can be studied in the same investigational study, if the study meets both the requirements of the IDE regulations and the IND regulations. The guidance provides that depending on the details of the study plan and subjects, a sponsor may seek to submit an IND alone, or both an IND and an IDE.

Biosimilars and Reference Product Exclusivity

The ACA includes a subtitle called the Biologics Price Competition and Innovation Act of 2009, or BPCIA, which created an abbreviated approval pathway for biological products that are highly similar, or “biosimilar,” to or interchangeable with an FDA-approved reference biological product. The FDA has issued several guidance documents outlining an approach to review and approval of biosimilars.

Biosimilarity, which requires that there be no clinically meaningful differences between the biological product and the reference product in terms of safety, purity, and potency, is generally shown through analytical studies, animal studies, and a clinical study or studies. Interchangeability requires that a product is biosimilar to the reference product and the product must demonstrate that it can be expected to produce the same clinical results as the reference product in any given patient and, for products that are administered multiple times to an individual, the biologic and the reference biologic may be alternated or switched after one has been previously administered without increasing safety risks or risks of diminished efficacy relative to exclusive use of the reference biologic. A product shown to be biosimilar or interchangeable with an FDA-approved reference biological product may rely in part on the FDA's previous determination of safety and effectiveness for the reference product for approval, which can potentially reduce the cost and time required to obtain approval to market the product. Complexities associated with the larger, and often more complex, structures of biological products, as well as the processes by which such products are manufactured, pose significant hurdles to implementation of the abbreviated approval pathway that are still being worked out by the FDA.

Under the BPCIA, an application for a biosimilar product may not be submitted to the FDA until four years following the date that the reference product was first licensed by the FDA. In addition, the approval of a biosimilar product may not be made effective by the FDA until 12 years from the date on which the reference product was first licensed. During this 12-year period of exclusivity, another company may still market a competing version of the reference product if the FDA approves a full BLA for the competing product containing that applicant's own preclinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity and potency of its product. The BPCIA also created certain exclusivity periods for biosimilars approved as interchangeable products. At this juncture, it is unclear whether products deemed “interchangeable” by the FDA will, in fact, be readily substituted by pharmacies, which are governed by state pharmacy law.

A biological product can also obtain pediatric market exclusivity in the United States. Pediatric exclusivity, if granted, adds six months to existing exclusivity periods and patent terms. This six-month exclusivity, which runs from the end of other exclusivity protection or patent term, may be granted based on the voluntary completion of a pediatric study in accordance with an FDA-issued “Written Request” for such a study. The BPCIA is complex and continues to be interpreted and implemented by the FDA. In addition, government proposals have sought to reduce the 12-year reference product exclusivity period. Other aspects of the BPCIA,
some of which may impact the BPCIA exclusivity provisions, have also been the subject of recent litigation. As a result, the ultimate impact, implementation, and impact of the BPCIA is subject to significant uncertainty.

Other Healthcare Laws and Compliance Requirements

Pharmaceutical companies are subject to additional healthcare regulation and enforcement by the federal government and by authorities in the states and foreign jurisdictions in which they conduct their business. Such laws include, without limitation: the federal Anti-Kickback Statute, the federal False Claims Act, HIPAA and similar foreign, federal and state fraud, abuse and transparency laws.

The federal Anti-Kickback Statute prohibits, among other things, persons and entities from knowingly and willfully soliciting, receiving, offering or paying remuneration, to induce, or in return for, either the referral of an individual, or the purchase or recommendation of an item or service for which payment may be made under any federal healthcare program. The term remuneration has been interpreted broadly to include anything of value, including stock options. The federal Anti-Kickback Statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on one hand, and prescribers and purchasers on the other. There are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution, but they are drawn narrowly and practices that involve remuneration, such as consulting agreements, that may be alleged to be intended to induce prescribing, purchasing or recommending may be subject to scrutiny if they do not qualify for an exception or safe harbor. Our practices may not in all cases meet all of the criteria for protection under a statutory exception or regulatory safe harbor. Failure to meet all of the requirements of a particular applicable statutory exception or regulatory safe harbor does not make the conduct per se illegal under the federal Anti-Kickback Statute. Instead, the legality of the arrangement will be evaluated on a case-by-case basis based on a cumulative review of all of its facts and circumstances. A person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation.

Civil and criminal false claims laws, including the federal False Claims Act, and civil monetary penalty laws, which can be enforced through civil whistleblower or qui tam actions, prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment to the federal government, including federal healthcare programs, that are false or fraudulent. For example, the federal False Claims Act prohibits any person or entity from knowingly presenting, or causing to be presented, a false claim for payment to the federal government or knowingly making, using or causing to be made or used a false record or statement material to a claim to the federal government. A claim includes “any request or demand” for money or property presented to the U.S. government. Several pharmaceutical and other healthcare companies have been prosecuted under these laws for allegedly providing free product to customers with the expectation that the customers would bill federal programs for the product. In addition, the government may assert that a claim resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal False Claims Act.

HIPAA created additional federal criminal statutes that prohibit, among other things, executing a scheme to defraud any healthcare benefit program, including private third-party payors, and making false statements relating to healthcare matters. A person or entity does not need to have actual knowledge of the healthcare fraud statute implemented under HIPAA or specific intent to violate the statute in order to have committed a violation.

The FDCA addresses, among other things, the design, production, labeling, promotion, manufacturing, and testing of drugs, biologics and medical devices, and prohibits such acts as the introduction into interstate commerce of adulterated or misbranded drugs or devices. The U.S. Public Health Service Act also prohibits the introduction into interstate commerce of unlicensed or mislabeled biological products.

The U.S. federal Physician Payments Sunshine Act requires certain manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children’s
Health Insurance Program, with specific exceptions, to annually report to CMS information related to payments or other transfers of value made to physicians and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members. Beginning in 2022, such reporting obligations will be expanded to include payments and other transfers of value provided in 2021 to certain other healthcare professionals, including physician assistants, nurse practitioners, clinical nurse specialists, certified nurse anesthetists, and certified nurse-midwives.

We are also subject to additional similar U.S. state and foreign law equivalents of each of the above federal laws, which, in some cases, differ from each other in significant ways, and may not have the same effect, thus complicating compliance efforts. If our operations are found to be in violation of any of such laws or any other governmental regulations that apply, we may be subject to penalties, including, without limitation, civil, criminal and administrative penalties, damages, fines, exclusion from government-funded healthcare programs, such as Medicare and Medicaid or similar programs in other countries or jurisdictions, integrity oversight and reporting obligations to resolve allegations of non-compliance, disgorgement, individual imprisonment, contractual damages, reputational harm, diminished profits and the curtailment or restructuring of our operations.

Data Privacy and Security

Numerous state, federal and foreign laws, govern the collection, dissemination, use, access to, confidentiality and security of personal information, including health-related information. In the United States, numerous federal and state laws and regulations, including state data breach notification laws, state health information privacy laws, and federal and state consumer protection laws and regulations, govern the collection, use, disclosure, and protection of health-related and other personal information could apply to our operations or the operations of our partners. For example, HIPAA, as amended by HITECH, and their respective implementing regulations, imposes privacy, security and breach notification obligations on certain health care providers, health plans, and health care clearinghouses, known as covered entities, as well as their business associates that perform certain services that involve creating, receiving, maintaining or transmitting individually identifiable health information for or on behalf of such covered entities. Entities that are found to be in violation of HIPAA may be subject to significant civil, criminal and administrative fines and penalties and/or additional reporting and oversight obligations if required to enter into a resolution agreement and corrective action plan with HHS to settle allegations of HIPAA non-compliance. Further, entities that knowingly obtain, use, or disclose individually identifiable health information maintained by a HIPAA covered entity in a manner that is not authorized or permitted by HIPAA may be subject to criminal penalties.

Even when HIPAA does not apply, according to the FTC, violating consumers’ privacy rights or failing to take appropriate steps to keep consumers’ personal information secure may constitute unfair acts or practices in or affecting commerce in violation of Section 5(a) of the Federal Trade Commission Act.

In addition, certain state and non-U.S. laws, such as the GDPR govern the privacy and security of personal information, including health-related information, in certain circumstances. Failure to comply with these laws, where applicable, can result in the imposition of significant civil and/or criminal penalties and private litigation. For example, the CCPA, which went into effect on January 1, 2020, creates new data privacy obligations for covered companies and provides new privacy rights to California residents. In Europe, the GDPR went into effect in May 2018 and introduces strict requirements for processing the personal data of individuals within the EEA. Further, recent legal developments in Europe have created complexity and compliance uncertainty regarding certain transfers of personal data from the EEA. For example, on July 16, 2020, the CJEU invalidated the Privacy Shield under which personal data could be transferred from the EEA to United States entities who had self-certified under the Privacy Shield scheme. Moreover, it is uncertain whether the standard contractual clauses will also be invalidated by the European courts or legislature

Companies that must comply with the GDPR face increased compliance obligations and risk, including more robust regulatory enforcement of data protection requirements and potential fines for noncompliance of up
to €20 million or 4% of the annual global revenues of the noncompliant company, whichever is greater. Additionally, following the United Kingdom’s withdrawal from the European Union and the EEA, companies have to comply with the GDPR and the GDPR as incorporated into United Kingdom national law, the latter regime having the ability to separately fine up to the greater of £17.5 million or 4% of global turnover. The relationship between the United Kingdom and the European Union in relation to certain aspects of data protection law remains unclear, for example around how data can lawfully be transferred between each jurisdiction, which exposes us to further compliance risk.

**Coverage and Reimbursement**

Significant uncertainty exists as to the coverage and reimbursement status of any pharmaceutical or biological product for which we obtain regulatory approval. Sales of any product, if approved, depend, in part, on the extent to which such product will be covered by third-party payors, such as federal, state, and foreign government healthcare programs, commercial insurance and managed healthcare organizations, and the level of reimbursement, if any, for such product by third-party payors. Decisions regarding whether to cover any of our product candidates, if approved, the extent of coverage and amount of reimbursement to be provided are made on a plan-by-plan basis. Further, no uniform policy for coverage and reimbursement exists in the United States, and coverage and reimbursement can differ significantly from payor to payor. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement rates, but also have their own methods and approval process apart from Medicare determinations. As a result, the coverage determination process is often a time-consuming and costly process that will require us to provide scientific and clinical support for the use of our product candidates to each payor separately, with no assurance that coverage and adequate reimbursement will be applied consistently or obtained in the first instance.

For products administered under the supervision of a physician, obtaining coverage and adequate reimbursement may be particularly difficult because of the higher prices often associated with such drugs. Additionally, separate reimbursement for the product itself or the treatment or procedure in which the product is used may not be available, which may impact physician utilization. In addition, companion diagnostic tests require coverage and reimbursement separate and apart from the coverage and reimbursement for their companion pharmaceutical or biological products. Similar challenges to obtaining coverage and reimbursement, applicable to pharmaceutical or biological products, will apply to companion diagnostics.

In addition, the U.S. government, state legislatures and foreign governments have continued implementing cost-containment programs, including price controls, restrictions on coverage and reimbursement and requirements for substitution of generic products. Third-party payors are increasingly challenging the prices charged for medical products and services, examining the medical necessity and reviewing the cost effectiveness of pharmaceutical or biological products, medical devices and medical services, in addition to questioning safety and efficacy. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit sales of any product that receives approval. Decreases in third-party reimbursement for any product or a decision by a third-party not to cover a product could reduce physician usage and patient demand for the product.

**Healthcare Reform**

The United States and some foreign jurisdictions are considering or have enacted a number of reform proposals to change the healthcare system. There is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality or expanding access. In the United States, the pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by federal and state legislative initiatives, including those designed to limit the pricing, coverage, and reimbursement of pharmaceutical and biopharmaceutical products, especially under government-funded health care programs, and increased governmental control of drug pricing.
The ACA, which was enacted in March 2010, substantially changed the way healthcare is financed by both governmental and private insurers in the United States, and significantly affected the pharmaceutical industry. The ACA contains a number of provisions of particular import to the pharmaceutical and biotechnology industries, including, but not limited to, those governing enrollment in federal healthcare programs, a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted or injected, and annual fees based on pharmaceutical companies’ share of sales to federal health care programs. Since its enactment, there have been judicial and Congressional challenges to certain aspects of the ACA, and we expect there will be additional challenges and amendments to the ACA in the future. For example, the Tax Act was enacted, which, among other things, removes penalties for not complying with ACA’s requirement to carry health insurance, known as the “individual mandate,” effective January 1, 2019. Since the enactment of the Tax Act, there have been additional amendments to certain provisions of the ACA. In December 2019, the U.S. District Court for the Fifth Circuit upheld a ruling by a Texas U.S. District Court Judge that the ACA is unconstitutional in its entirety because the “individual mandate” was repealed by Congress as part of the Tax Act. On March 2, 2020, the Supreme Court of the United States granted certiorari to hear the appeal of this decision. While various parties, including the Trump administration and CMS have stated that the ruling will have no immediate effect, it is unclear how this and other efforts to repeal and replace the ACA will impact the ACA.

Other legislative changes have been proposed and adopted since the ACA was enacted, including automatic aggregate reductions of Medicare payments to providers of 2% per fiscal year as part of the federal budget sequestration under the Budget Control Act of 2011. These reductions went into effect in April 2013 and, due to subsequent legislative amendments, will remain in effect through 2030 with the exception of a temporary suspension from May 1, 2020 through December 31, 2020, unless additional action is taken by Congress.

Moreover, there has recently been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products, which has resulted in several Congressional inquiries and proposed and enacted federal and state measures designed to, among other things, reduce the cost of prescription drugs, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drug products. For example, in May 2019, CMS adopted a final rule allowing Medicare Advantage Plans the option to use step therapy for Part B drugs, permitting Medicare Part D plans to apply certain utilization controls to new starts of five of the six protected class drugs, and requiring the Explanation of Benefits for Part D beneficiaries to disclose drug price increases and lower cost therapeutic alternatives beginning January 1, 2021. In addition, on March 10, 2020, the Trump administration sent “principles” for drug pricing to Congress, calling for legislation that would, among other things, cap Medicare Part D beneficiary out-of-pocket pharmacy expenses, provide an option to cap Medicare Part D beneficiary monthly out-of-pocket expenses, and place limits on pharmaceutical price increases.

Congress and the Trump administration have each indicated that they will continue to seek new legislative and/or administrative measures to control drug costs. At the state level, legislatures have increasingly passed legislation and implemented regulations designed to control pharmaceutical product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing.

Other Government Regulation Outside of the United States

In addition to regulations in the United States, we are subject to a variety of regulations in other jurisdictions governing, among other things, research and development, clinical trials, testing, manufacturing, safety, efficacy, quality control, labeling, packaging, storage, record keeping, distribution, reporting, export and import, advertising, marketing and other promotional practices involving biological products as well as authorization, approval as well as post-approval monitoring and reporting of our products. Because biologically sourced raw materials are subject to unique contamination risks, their use may be restricted in some countries.
Whether or not we obtain FDA approval for a product, we must obtain the requisite approvals from regulatory authorities in foreign countries prior to the commencement of clinical trials or marketing of the product in those countries. Certain countries outside of the United States have a similar process that requires the submission of a clinical trial application, or a CTA, much like the IND prior to the commencement of human clinical trials.

The requirements and process governing the conduct of clinical trials, including requirements to conduct additional clinical trials, product licensing, safety reporting, post-authorization requirements, marketing and promotion, interactions with healthcare professionals, pricing and reimbursement may vary widely from country to country. No action can be taken to market any product in a country until an appropriate approval application has been approved by the regulatory authorities in that country. The current approval process varies from country to country, and the time spent in gaining approval varies from that required for FDA approval. In certain countries, the sales price of a product must also be approved. The pricing review period often begins after market approval is granted. Even if a product is approved by a regulatory authority, satisfactory prices may not be approved for such product, which would make launch of such products commercially unfeasible in such countries.

Regulation in the European Union

Drug and Biologic Development Process

The conduct of clinical trials is currently governed by the EU Clinical Trials Directive 2001/20/EC, or Clinical Trials Directive, and will be replaced by the EU Clinical Trials Regulation (EU) No. 536/2014, or Clinical Trials Regulation, once the latter comes into effect. The Clinical Trials Regulation introduces a complete overhaul of the existing regulation of clinical trials for medicinal products in the EU. Currently it is not expected to come into force before December 2021.

Under the current regime, before a clinical trial can be initiated, it must be approved in each EU Member State where there is a site at which the trial is to be conducted. The approval must be obtained from two separate entities: the National Competent Authority, or NCA, and one or more Ethics Committees. The NCA of the EU Member States in which the clinical trial will be conducted must authorize the conduct of the trial, and the independent Ethics Committee must grant a positive opinion in relation to the conduct of the clinical trial in the relevant EU Member State before the commencement of the trial. Any substantial changes to the trial protocol or other information submitted with the clinical trial applications must be submitted to or approved by the relevant NCA and Ethics Committees. Under the current regime all suspected unexpected serious adverse reactions to the investigated drug that occur during the clinical trial must be reported to the NCA and to the Ethics Committees of the EU Member State where they occur.

A more unified procedure will apply under the new Clinical Trials Regulation. A sponsor will be able to submit a single application for approval of a clinical trial through a centralized EU clinical trials portal. One national regulatory authority (the reporting EU Member State proposed by the applicant) will take the lead in validating and evaluating the application and the other regulatory authorities will have limited involvement. If an application is rejected, it may be amended and resubmitted through the EU clinical trials portal. If an approval is issued, the sponsor may start the clinical trial in all concerned Member States. However, a concerned EU Member State may in limited circumstances declare an “opt-out” from an approval and prevent the clinical trial form being conducted in such Member State. The Clinical Trials Regulation also aims to streamline and simplify the rules on safety reporting, and introduces enhanced transparency requirements such as mandatory submission of a summary of the clinical trial results to the EU Database.

Under both the current regime and the new Clinical Trials Regulation, national laws, regulations, and the applicable Good Clinical Practice and Good Laboratory Practice standards must also be respected during the conduct of the trials, including the International Council for Harmonization of Technical Requirements for Pharmaceuticals for Human Use, or ICH, guidelines on Good Clinical Practice, or GCP, and the ethical principles that have their origin in the Declaration of Helsinki.
During the development of a medicinal product, the European Medical Agency, or EMA, and national regulators within the EU provide the opportunity for dialogue and guidance on the development program, usually in the form of scientific advice. A fee is incurred with each scientific advice procedure. Advice from the EMA is typically provided based on questions concerning, for example, quality (chemistry, manufacturing and controls testing), nonclinical testing and clinical studies, and pharmacovigilance plans and risk-management programs.

**Drug Marketing Authorization**

In the European Union, medicinal products, including advanced therapy medicinal products, or ATMPs, are subject to extensive pre- and post-market regulation by regulatory authorities at both the European Union and national levels. ATMPs comprise gene therapy products, somatic cell therapy products and tissue engineered products, which are genes, cells or tissues that have undergone substantial manipulation and that are administered to human beings in order to cure, diagnose or prevent diseases or regenerate, repair or replace a human tissue. We anticipate that our gene therapy development products will be regulated as ATMPs in the European Union under the EU Regulation (EC) No 1394/2007 on advanced therapy medicinal products, or ATMP Regulation. Pursuant to the ATMP Regulation, the Committee on Advanced Therapies, or CAT, is responsible in conjunction with the CHMP for the evaluation of ATMPs. The CHMP and CAT are also responsible for providing guidelines on ATMPs. These guidelines provide additional guidance on the factors that the EMA will consider in relation to the development and evaluation of ATMPs and include, among other things, the preclinical studies required to characterize ATMPs; the manufacturing and control information that should be submitted in a marketing authorization application; and post-approval measures required to monitor patients and evaluate the long term efficacy and potential adverse reactions of ATMPs. Although such guidelines are not legally binding, compliance with them is often necessary to gain and maintain approval for product candidates.

In the European Union and in Iceland, Norway and Liechtenstein (together the European Economic Area, or EEA), after completion of all required clinical testing, medicinal products may only be placed on the market after a related Marketing Authorization, or MA, has been granted. MAs can be obtained through, amongst others, a centralized procedure, which is compulsory for certain medicinal products such as ATMPs. The centralized procedure provides for the grant of a single MA by the European Commission, or EC, that is valid for all 27 EU Member States and, after respective national implementing decisions, in the three additional EEA Member States (Iceland, Norway and Liechtenstein). The centralized procedure is compulsory for certain medicinal products, including medicinal products derived from biotechnological processes, orphan medicinal products, ATMPs and products with a new active substance indicated for the treatment of AIDS, cancer, neurodegenerative disorders, diabetes, auto-immune and viral diseases. It is optional for medicinal products containing a new active substance not yet authorized in the EEA before May 20, 2004, that constitute significant therapeutic, scientific or technical innovations, or for which the grant of a MA through the centralized procedure would be in the interest of public health at EU level. The timeframe for the evaluation of an application under the centralized procedure is 210 days, excluding clock stops. Typically, the overall process takes a year or more unless the application is eligible for an accelerated assessment.

All new marketing authorization applications must include a Risk Management Plan, or RMP, describing the risk management system that the company will put in place and documenting measures to prevent or minimize the risks associated with the product. The regulatory authorities may also impose specific obligations as a condition of the MA. RMPs and Periodic Safety Update Reports, or PSURs, are routinely available to third parties requesting access, subject to limited redactions.

Additionally, the holder of a marketing authorization for an ATMP must put in place and maintain a system to ensure that each individual product and its starting and raw materials, including all substances coming into contact with the cells or tissues it may contain, can be traced through the sourcing, manufacturing, packaging, storage, transport and delivery to the relevant healthcare institution where the product is used.

MAs have an initial duration of five years. The authorization may subsequently be renewed for an unlimited period unless the EC or the national competent authority grants only an five-year renewal.
Data and Market Exclusivity

As in the United States, the European Union also provides opportunities for market and/or data exclusivity. For example, new Chemical Entities, or NCE, approved in the European Union generally qualify for eight years of data exclusivity and ten years of market exclusivity. Data exclusivity is the period during which another applicant cannot rely on the MA holder’s pharmacological, toxicological and clinical data in support of another MA for the purposes of submitting an application, obtaining marketing authorization or placing the product on the market. But after eight years, a generic or biosimilar product application may be submitted and generic companies may rely on the MA holder’s data.

However, even if a generic or biosimilar product is authorized it cannot be placed on the market in the European Union until the expiration of the 10-year market exclusivity period. An additional non-cumulative one-year period of marketing exclusivity is possible if during the data exclusivity period (the first eight years of the 10-year marketing exclusivity period), the MA holder obtains an authorization for one or more new therapeutic indications that are deemed to bring a significant clinical benefit compared to existing therapies.

Products may not be granted data exclusivity since there is no guarantee that a product will be considered by the European Union’s regulatory authorities to include a NCE. Even if a compound is considered to be a NCE and the MA applicant is able to gain the prescribed period of data exclusivity, another company nevertheless could also market another version of the medicinal product if such company can complete a full marketing authorization application with their own complete database of pharmaceutical tests, preclinical studies and clinical trials and obtain MA of its product.

Orphan Designation and Exclusivity

The criteria for designating an orphan medicinal product in the European Union are similar in principle to those in the United States. The EMA grants orphan drug designation if the medicinal product is intended for the diagnosis, prevention or treatment of (i) a life-threatening or chronically debilitating condition affecting no more than five in 10,000 persons in the European Union when the application is made or a life-threatening, seriously debilitating or serious and chronic condition in the European Union and that without the benefits derived from orphan status, would not generate sufficient return in the European Union to justify investment and (ii) where there exists no satisfactory method of diagnosis, prevention or treatment of such condition authorized in the European Union, or if such a method exists, the product will be of significant benefit to those affected by the condition. Orphan medicinal products are eligible for financial incentives such as reduction of fees or fee waivers and are, upon grant of a marketing authorization that covers only the therapeutic indication(s) that meet the orphan drug designation criteria, entitled to ten years of market exclusivity for the approved therapeutic indication. An application for orphan drug designation must be submitted first before an application for marketing authorization of the medicinal product is submitted. The applicant will receive a fee reduction for the marketing authorization application if the orphan drug designation has been granted, but not if the designation is still pending at the time the marketing authorization is submitted. Orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review and approval process.

During the 10-year period of market exclusivity, with a limited number of exceptions, the regulatory authorities of the EU Member States and the EMA may not accept applications for marketing authorization, accept an application to extend an existing marketing authorization or grant marketing authorization for other similar medicinal products for the same therapeutic indication. A similar medicinal product is defined as a medicinal product containing a similar active substance or substances as contained in a currently authorized orphan medicinal product, and which is intended for the same therapeutic indication. An orphan medicinal product can also obtain an additional two years of market exclusivity for an orphan-designated condition when the results of specific studies are reflected in the Summary of Product Characteristics, or SmPC, addressing the pediatric population and completed in accordance with a fully compliant Pediatric Investigation Plan, or PIP. No extension to any supplementary protection certificate can be granted on the basis of pediatric studies for orphan indications.
The 10-year market exclusivity may be reduced to six years if, at the end of the fifth year, it is established that the product no longer meets the criteria for orphan designation, for example, if the product is sufficiently profitable not to justify maintenance of market exclusivity. Additionally, a marketing authorization may be granted to another medicinal product (orphan or not) for the same or overlapping indication at any time subject to certain requirements.

Pediatric Development

In the European Union, companies developing a new medicinal product are obligated to study their product in children and must therefore agree upon a PIP with the EMA's Pediatric Committee. The companies must conduct pediatric clinical trials in accordance with that PIP, unless a waiver applies, e.g., because the relevant disease or condition occurs only in adults. The marketing authorization application for the product must include the results of pediatric clinical trials conducted in accordance with the PIP, unless a waiver applies, or a deferral has been granted, in which case the pediatric clinical trials must be completed at a later date. Products that are granted a marketing authorization on the basis of the pediatric clinical trials conducted in accordance with the PIP are eligible for a six month extension of the protection under a supplementary protection certificate (if any is in effect at the time of approval) or, in the case of orphan medicinal products, a two year extension of the orphan market exclusivity. This pediatric reward is subject to specific conditions and is not automatically available when data in compliance with the PIP are developed and submitted.

PRIME Designation

In March 2016, the EMA launched an initiative to facilitate development of product candidates in indications, often rare, for which few or no therapies currently exist. The PRIority MEdicines, or PRIME, scheme is intended to encourage drug development in areas of unmet medical need and provides accelerated assessment of products representing substantial innovation reviewed under the centralized procedure. Products from small- and medium-sized enterprises may qualify for earlier entry into the PRIME scheme than larger companies on the basis of compelling non-clinical and tolerability data from initial clinical trials. Many benefits accrue to sponsors of product candidates with PRIME designation, including but not limited to, early and proactive regulatory dialogue with the EMA, frequent discussions on clinical trial designs and other development program elements, and potentially accelerated marketing authorization application assessment once a dossier has been submitted. Importantly, once a candidate medicine has been selected for the PRIME scheme, a dedicated contact point and rapporteur from the CHMP or from CAT are appointed facilitating increased understanding of the product at EMA's Committee level. A kick-off meeting with the CHMP/CAT rapporteur initiates these relationships and includes a team of multidisciplinary experts to provide guidance on the overall development plan and regulatory strategy. PRIME eligibility does not change the standards for product approval, and there is no assurance that any such designation or eligibility will result in expedited review or approval.

Post-Approval Regulation

Similar to the United States, both MA holders and manufacturers of medicinal products are subject to comprehensive regulatory oversight by the EMA, the European Commission and/or the competent regulatory authorities of the EU Member States. This oversight applies both before and after grant of manufacturing licenses and marketing authorizations. It includes control of compliance with EU good manufacturing practices rules, manufacturing authorizations, pharmacovigilance rules and requirements governing advertising, promotion, sale, and distribution, recordkeeping, importing and exporting of medicinal products.

Failure by us or by any of our third-party partners, including suppliers, manufacturers and distributors to comply with EU laws and the related national laws of individual EU Member States governing the conduct of clinical trials, manufacturing approval, marketing authorization of medicinal products and marketing of such products, both before and after grant of marketing authorization, statutory health insurance, bribery and anti-corruption or other applicable regulatory requirements may result in administrative, civil or criminal penalties.
These penalties could include delays or refusal to authorize the conduct of clinical trials or to grant marketing authorization, product withdrawals and recalls, product seizures, suspension, withdrawal or variation of the marketing authorization, total or partial suspension of production, distribution, manufacturing or clinical trials, operating restrictions, injunctions, suspension of licenses, fines and criminal penalties.

The holder of a marketing authorization for a medicinal product must also comply with EU pharmacovigilance legislation and its related regulations and guidelines, which entail many requirements for conducting pharmacovigilance, or the assessment and monitoring of the safety of medicinal products. These pharmacovigilance rules can impose on holders of MAs the obligation to conduct a labor intensive collection of data regarding the risks and benefits of marketed medicinal products and to engage in ongoing assessments of those risks and benefits, including the possible requirement to conduct additional clinical studies or post-authorization safety studies to obtain further information on a medicine’s safety, or to measure the effectiveness of risk-management measures, which may be time consuming and expensive and could impact our profitability. MA holders must establish and maintain a pharmacovigilance system and appoint an individual qualified person for pharmacovigilance, who is responsible for oversight of that system. Key obligations include expedited reporting of suspected serious adverse reactions and submission of PSURs in relation to medicinal products for which they hold MAs. The EMA reviews PSURs for medicinal products authorized through the centralized procedure. If the EMA has concerns that the risk benefit profile of a product has varied, it can adopt an opinion advising that the existing MA for the product be suspended, withdrawn or varied. The agency can advise that the MA holder be obliged to conduct post-authorization Phase IV safety studies. If the EC agrees with the opinion, it can adopt a decision varying the existing MA. Failure by the marketing authorization holder to fulfill the obligations for which the EC’s decision provides can undermine the ongoing validity of the MA.

More generally, non-compliance with pharmacovigilance obligations can lead to the variation, suspension or withdrawal of the MA for the product or imposition of financial penalties or other enforcement measures.

Sales and Marketing Regulations

The advertising and promotion of our products is also subject to EU laws concerning promotion of medicinal products, interactions with physicians, misleading and comparative advertising and unfair commercial practices. In addition, other national legislation of individual EU Member States may apply to the advertising and promotion of medicinal products and may differ from one country to another. These laws require that promotional materials and advertising in relation to medicinal products comply with the product’s SmPC as approved by the competent regulatory authorities. The SmPC is the document that provides information to physicians concerning the safe and effective use of the medicinal product. It forms an intrinsic and integral part of the marketing authorization granted for the medicinal product. Promotion of a medicinal product that does not comply with the SmPC is considered to constitute off-label promotion. All advertising and promotional activities for the product must be consistent with the approved SmPC and therefore all off-label promotion is prohibited. Direct-to-consumer advertising of prescription-only medicines is also prohibited in the European Union. Violations of the rules governing the promotion of medicinal products in the European Union could be penalized by administrative measures, fines and imprisonment. These laws may further limit or restrict the advertising and promotion of our products to the general public and may also impose limitations on its promotional activities with healthcare professionals.

Anti-Corruption Legislation

In the EU, interactions between pharmaceutical companies and physicians are also governed by strict laws, regulations, industry self-regulation codes of conduct and physicians’ codes of professional conduct both at EU level and in the individual EU Member States. The provision of benefits or advantages to physicians to induce or encourage the prescription, recommendation, endorsement, purchase, supply, order or use of medicinal products is prohibited in the European Union. The provision of benefits or advantages to physicians is also governed by the national anti-bribery laws of the EU Member States. Violation of these laws could result in substantial fines and imprisonment.
Payments made to physicians in certain EU Member States also must be publicly disclosed. Moreover, agreements with physicians must often be the subject of prior notification and approval by the physician’s employer, his/her regulatory professional organization, and/or the competent authorities of the individual EU Member States. These requirements are provided in the national laws, industry codes, or professional codes of conduct, applicable in the individual EU Member States. Failure to comply with these requirements could result in reputational risk, public reprimands, administrative penalties, fines or imprisonment.

Other Markets

Following the UK’s formal departure from the EU on January 31, 2020, the UK entered a transition period to last until December 31, 2020, during which time EU medicines laws will remain applicable to the UK. After the transition period however, changes may be forthcoming as the terms of the UK and EU’s future relationship are negotiated. The UK Medicines and Healthcare Products Regulatory Agency has proposed that, subject to being approved by the UK Parliament, a centralized MA will automatically convert into a UK MA. However, the draft of the “Medicines and Medical Devices Bill 2019-21” currently discussed in the UK House of Lords does not contain such a provision, but would only authorize the UK government to become active in the field of legislation concerning market authorizations in relation to human medicines.

For other countries outside of the European Union, such as countries in Eastern Europe, Latin America or Asia, the requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary from country to country. In all cases, again, the clinical trials must be conducted in accordance with GCP and the applicable regulatory requirements and the ethical principles that have their origin in the Declaration of Helsinki.

If we fail to comply with applicable foreign regulatory requirements, we may be subject to, among other things, fines, suspension of clinical trials, suspension or withdrawal of regulatory approvals, product recalls, seizure of products, operating restrictions and criminal prosecution.

Employees

As of August 1, 2020, we had 48 full-time employees, 33 of whom were engaged in research and development activities and 15 of whom were engaged in general and administrative activities. None of our employees are represented by labor unions or covered by collective bargaining agreements. We consider our relationship with our employees to be good.

Research and Development

Research and development expenses for the years ended December 31, 2018 and 2019 were $24.8 million and $29.2 million, respectively, and for the six months ended June 30, 2019 and 2020, were $12.5 million and $15.9 million, respectively.

Property

Our corporate headquarters are located in Austin, Texas where we occupy approximately 4,550 square feet of office space under a lease that expires on January 31, 2021. We use these facilities for administrative purposes.

We currently lease approximately 32,238 square feet of office and laboratory space in Durham, North Carolina under a lease that expires on December 31, 2028.

We believe these spaces to be sufficient to meet our needs for the foreseeable future and that any additional space we may require will be available on commercially reasonable terms.
We are not currently a party to any other material legal proceedings. Regardless of outcome, litigation can have an adverse impact on us due to defense and settlement costs, diversion of management resources, negative publicity, reputational harm and other factors.
### MANAGEMENT

#### Executive Officers, Directors, and Key Employees

The following table sets forth certain information regarding our executive officers, directors, and key employees as of the date of this prospectus.

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
<th>Position</th>
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<tbody>
<tr>
<td>Josiah Hornblower</td>
<td>44</td>
<td>Executive Chairman and Director</td>
</tr>
<tr>
<td>Taylor Schreiber, M.D., Ph.D.</td>
<td>40</td>
<td>Chief Executive Officer and Director</td>
</tr>
<tr>
<td>Lini Pandite, MBChB</td>
<td>61</td>
<td>Chief Medical Officer</td>
</tr>
<tr>
<td>Casi DeYoung</td>
<td>49</td>
<td>Chief Business Officer</td>
</tr>
<tr>
<td>Erin Ator Thomson</td>
<td>40</td>
<td>General Counsel</td>
</tr>
<tr>
<td>Andrew R. Neill</td>
<td>34</td>
<td>Vice President of Finance and Corporate Strategy</td>
</tr>
<tr>
<td>Helen M. Boudreau(1)(2)</td>
<td>54</td>
<td>Director</td>
</tr>
<tr>
<td>Tyler Brous(1)(2)</td>
<td>37</td>
<td>Director</td>
</tr>
<tr>
<td>Neil Gibson, Ph.D.(1)(3)</td>
<td>64</td>
<td>Director</td>
</tr>
<tr>
<td>George Golumbeski, Ph.D.(2)(3)</td>
<td>63</td>
<td>Director</td>
</tr>
<tr>
<td>Michael Lee(3)</td>
<td>41</td>
<td>Director</td>
</tr>
<tr>
<td>Victor Stone M.D., M.B.A(4)</td>
<td>43</td>
<td>Director</td>
</tr>
<tr>
<td>George Fromm, Ph.D.</td>
<td>41</td>
<td>Vice President of Research &amp; Development</td>
</tr>
<tr>
<td>Thomas Lampkin, Pharm.D.</td>
<td>59</td>
<td>Vice President of Regulatory Affairs</td>
</tr>
<tr>
<td>Fatima Rangwala, M.D., Ph.D.</td>
<td>45</td>
<td>Vice President of Clinical Development</td>
</tr>
<tr>
<td>Suresh de Silva, Ph.D.</td>
<td>41</td>
<td>Vice President of Product Development</td>
</tr>
<tr>
<td>James Stout, Ph.D.</td>
<td>54</td>
<td>Vice President of Chemistry, Manufacturing, and Controls</td>
</tr>
</tbody>
</table>

(1) Member of the audit committee.
(2) Member of the compensation committee.
(3) Member of the nominating and governance committee.
(4) Dr. Stone intends to resign from his position as a member of our Board in connection with the closing of this offering.

The following is a biographical summary of the experience of our executive officers, directors, and key employees:

**Executive Officers**

**Josiah Hornblower**. Mr. Hornblower founded Shattuck with Dr. Schreiber and has served on our Board since the company’s founding. He currently serves as the Executive Chairman of our Board. He previously served as our Chief Executive Officer and President from May 2016 to January 2020. Mr. Hornblower is a private biotechnology entrepreneur and has been involved in starting and operating several biotechnology companies. He co-founded Pelican Therapeutics, Inc. in 2009 and served as its Chief Executive Officer until it was sold in 2017. He currently serves on the boards of Population Bio, Inc., a gene discovery company, and the Daniel K. Thorne Foundation, where he heads the investment committee. Mr. Hornblower earned his B.A. in Art History from Trinity College and was a member of Phi Beta Kappa.

We believe Mr. Hornblower is qualified to serve on our Board because of his extensive experience forming and building biotechnology companies.

**Taylor Schreiber, M.D., Ph.D.** Dr. Schreiber is a co-founder of Shattuck. He served as our Chief Scientific Officer from January 2017 until January 2020, when he became our Chief Executive Officer and a member of our Board. Dr. Schreiber is the lead inventor of Shattuck’s ARC and GADLEN technology platforms. From March 2014 to July 2015, Dr. Schreiber served as Vice President of R&D of Heat Biologics, Inc.
subsequently served as Chief Scientific Officer of Heat Biologics until December 2016. He was a co-inventor of significant elements Heat Biologics’ ImPACT and ComPACT technology platforms. From January 2011 to March 2017, he also served as Chairman of the Scientific Advisory Board of Pelican Therapeutics, Inc. and was a co-inventor of Pelican’s TNFRSF25 agonist technology. Dr. Schreiber earned his B.A. in Biology from Bucknell University and his M.D. and Ph.D. from the Sheila and David Fuente Program in Cancer Biology at the University of Miami Miller School of Medicine.

We believe Dr. Schreiber is qualified to serve on our Board because of his extensive experience in the biopharmaceutical industry.

**Lini Pandite, MBChB.** Dr. Pandite has served as our Chief Medical Officer since July 2017. From May 2015 to June 2017, Dr. Pandite served as Head of Global Clinical Development and Senior Vice President at Adaptimmune Therapeutics plc, where she was responsible for clinical development of the company’s immuno-oncology pipeline. From May 2001 to April 2015, Dr. Pandite served in a number of roles at GlaxoSmithKline plc, including Vice President, Medicines Development Leader, and Head Unit Physician for Oncology. Dr. Pandite was an attending physician at Sylvester Comprehensive Cancer Center/Jackson Memorial Hospital in Miami from January 1998 to November 2000 and at Dana Farber Cancer Institute in Boston from July 1993 to August 1996, and has held academic appointments at Harvard University and the University of Miami. She earned her MBChB from The University of Liverpool, England.

**Casi DeYoung.** Ms. DeYoung has served as our Chief Business Officer since December 2019. From June 2018 to December 2019, Ms. DeYoung served as Vice President and Chief Operating Officer for ImmuneSensor Therapeutics, where she was responsible for corporate strategy, start-up operations, intellectual property, oversight of the company’s first IND filing, and the initiation of a first-in-human Phase I clinical trial. She served as Chief Business Officer at Mirna Therapeutics, Inc. from March 2014 to June 2017, Vice President of Business Development at Reata Pharmaceuticals, Inc. from November 2005 to March 2008, and in various roles at EMD Pharmaceuticals, Inc. and Merck KGaA from 2000 to 2005. Ms. DeYoung earned her B.S. in Chemistry from Southwestern University and her M.B.A. from the McCombs School of Business at the University of Texas at Austin.

**Erin Ator Thomson.** Ms. Thomson has served as our General Counsel since October 2017. From 2007 to 2017, she was an Associate, and later Counsel, at the law firm of Vinson & Elkins LLP in Austin, Texas, where she advised both early-stage biotech and pharma clients on a wide range of intellectual property and other legal issues, including strategic transactions, in-bound and out-bound licenses, collaborations, mergers and acquisitions, freedom-to-operate analyses, due diligence, assessment of IP portfolios, patent litigation, and licensing disputes. Ms. Thomson earned her B.S. in Biology from Pepperdine University and her J.D. from Baylor University, where she graduated *summa cum laude*. She conducted post-graduate research at the University of California, San Francisco and clerked for Chief Justice Wallace Jefferson of the Supreme Court of Texas. She is admitted to practice law in Texas and is a registered U.S. patent attorney.

**Andrew R. Neill.** Mr. Neill has served as our Vice President of Finance and Corporate Strategy since July 2019. He previously served as our Vice President of Corporate Development and Strategy from May 2017 to July 2019. From August 2010 to August 2016, Mr. Neill was the co-founder of Lunos Pharma, Inc., a biopharmaceutical company focused on developing therapeutics for genetic rare diseases. From March 2009 to February 2014, Mr. Neill served as Analyst at Innovations in Drug Development, LLC, a pharmaceutical and biotechnology research management consulting company. Mr. Neill earned his B.B.A. from Texas Christian University and his M.B.A. with majors in Health Care Management and Finance from The Wharton School at the University of Pennsylvania, where he was a Kaiser Fellow.
Non-employee Directors

Helen Boureau. Ms. Boureau has served as a member of our Board since July 2020. Ms. Boureau has 30 years of experience across biotech, pharma, consulting, and banking. Most recently, from June 2018 to June 2019, she was Chief Operating Officer of the Bill & Melinda Gates Medical Research Institute, a non-profit biotech. Previously, she served as Chief Financial Officer from July 2017 to June 2018 and board member from February 2016 to July 2017 for Proteostasis Therapeutics, Inc. From October 2014 to June 2017, she served as Chief Financial Officer for FORMA Therapeutics, Inc. Ms. Boureau spent 16 years at Novartis and Pfizer in progressively senior finance and strategy roles, and worked earlier in her career at McKinsey & Company and Bank of America. She is currently a member of the board of directors of Premier, Inc., a healthcare improvement company, and is also on the board of directors of two private biotech companies. Ms. Boureau earned her B.A. in Economics from the University of Maryland, where she graduated summa cum laude, and her M.B.A. from the Darden Graduate School of Business at the University of Virginia.

We believe Ms. Boureau is qualified to serve on our Board because of her financial expertise and extensive experience with biotech companies.

Tyler Brous. Mr. Brous has served on our Board since September 2016. He has worked at Lennox Capital Partners since 2011, and currently serves as its Managing Director and Portfolio Manager. From 2014 to 2016, Mr. Brous worked at Arog Pharmaceuticals in various roles, including the acting Chief Financial Officer, leading their capital markets and business development efforts. Prior to joining Lennox Capital Partners, Mr. Brous worked as a senior analyst at YX Funds, a hedge fund in Dallas, from 2007 to 2011. Mr. Brous started his career in the M&A group of Citigroup in New York. He has served on the board of directors of CerSci Therapeutics, Inc. from 2018 until its sale in 2020. Mr. Brous earned his B.S. in Finance and Business Honors from the University of Texas, where he graduated summa cum laude.

We believe Mr. Brous is qualified to serve on our Board because of his extensive experience in investing in, guiding, and leading biotech companies.

Neil Gibson, Ph.D. Dr. Gibson has served as a member of our Board since November 2016. Dr. Gibson has served as President and Chief Executive Officer of Adanate, a COI Pharmaceuticals, Inc. company, since 2017, where he is responsible for the creation of novel drug discovery companies based on innovative and disruptive technologies. Dr. Gibson has held various senior positions within the biotechnology and pharmaceutical industry, including President and Chief Executive Officer of PDI Therapeutics from 2017 to 2020; Senior Vice President of BioAtla, Inc. from 2015 to 2016; Chief Scientific Officer of Regulus Therapeutics from 2011 to 2015; and Chief Scientific Officer and Oncology Therapeutic Area Head of Pfizer Oncology from 2007 to 2011. While at Pfizer, Dr. Gibson was also a member of the Pfizer Oncology Business Unit Executive team. Dr. Gibson has served on the board of TCR2 and Causeway Therapeutics since 2017 and previously served on the board of Cytosen Therapeutics from 2016 to 2019. Dr. Gibson earned his B.Sc. in Pharmacy from the University of Strathclyde in Glasgow, Scotland and his Ph.D. from the University of Aston in Birmingham, England.

We believe Dr. Gibson is qualified to serve on our Board because of his extensive experience as an executive officer in the biopharmaceutical industry.

George Golumbeski, Ph.D. Dr. Golumbeski has served as a member of our Board since January 2018 and is a biotechnology executive with more than 25 years of experience in the biotechnology industry. From August 2018 to August 2019, he served as President of GAIL, Inc. From March 2009 to April 2018, Dr. Golumbeski served as the Executive Vice President of Business Development of Celgene Corporation, where he was responsible for forging collaborations with biotechnology companies seeking to bring breakthrough medications to people suffering from cancer and chronic inflammation. He currently serves on the board of directors of several biotechnology companies, including Enanta Pharmaceuticals, Inc., Corbus Pharmaceuticals Holdings, Inc., MorphoSys AG, and Sage Therapeutics, Inc. Dr. Golumbeski earned his B.S. in Biology from the University of Virginia and his Ph.D. in Genetics from the University of Wisconsin-Madison, and conducted his post-doctoral research in molecular biology at the University of Colorado-Boulder.
We believe Dr. Golumbeski is qualified to serve on our Board because of his extensive management experience and service on the boards of directors of numerous biotech companies.

**Michael Lee.** Mr. Lee has served as a member of our Board since June 2020. Mr. Lee has served as Co-Founder and Portfolio Manager at Redmile Group, LLC, a health care-focused investment firm based in San Francisco and New York, since 2007. Prior to Redmile, he worked as a biotechnology investor at Steeple Capital, Welch Capital Partners and Prudential Equity Group. Mr. Lee currently serves on the board of directors of Fate Therapeutics, Inc. and IGM Biosciences, Inc. Mr. Lee earned his B.S. in Molecular and Cellular Biology from the University of Arizona.

We believe Mr. Lee is qualified to serve on our Board because of his long industry experience and experience as an investor in biotechnology companies.

**Victor Stone, M.D., M.B.A.** Dr. Stone (Yoshihide Ishii) has served as a member of our Board of Directors since April 2020. Dr. Stone joined Takeda Ventures, Inc. in January 2020 as Partner. Prior to joining Takeda Ventures, from February 2014 to December 2019, Dr. Stone was a Director at Whiz Partners, a private equity firm in Tokyo, where he served leading roles in company creation and fund establishment. He currently serves as a board member of Axcelad Drug Discovery Partners, and is an investment committee member of a joint fund with Takeda Ventures. His entrepreneurship experience includes technology start-ups IGNITE, and Iron City Micro Display, where he continues to serve as board director. Prior to his transition to business, Dr. Stone served in the United States Navy and Marine Corps from April 2001 to May 2010 with multiple combat deployments as a Naval Flight Surgeon. Dr. Stone earned his M.D. from Jefferson Medical College and his M.B.A. from Harvard Business School.

We believe Dr. Stone is qualified to serve on our Board because of his technical expertise in our industry and his experience in investing in and forming biotech companies. Dr. Stone intends to resign from his position as a member of our Board in connection with the closing of this offering.

**Key Employees**

**George Fromm, Ph.D.** Dr. Fromm has served as our Vice President of Research & Development since February 2017, and is one of the scientific co-inventors of the ARC platform. From September 2014 to February 2017, Dr. Fromm served as the Senior Director of Research and Development at Heat Biologics, Inc., where he directed the Discovery and Clinical-based research efforts for their Phase I/II trials, and co-invented a ‘next-generation’ vaccine platform that combines a cell based immunotherapy vaccine and a T cell costimulatory fusion protein in a single treatment. He earned his M.S. and Ph.D. in Biochemistry, Cellular and Molecular Biology from the University of Rochester, NY. Dr. Fromm conducted his post-doctoral fellowship training with the NIH branch; National Institute of Environmental Health Sciences.

**Thomas Lampkin, Pharm.D.** Dr. Lampkin has served as our Head of Regulatory Affairs since April 2018. Prior to joining Shattuck, he gained more than 22 years of experience at GlaxoSmithKline plc and served in a number of roles, most recently as a Senior Director in Global Regulatory Affairs, where he was responsible for regulatory strategy and leading regulatory teams for global and U.S. focused programs. Prior to that position, Dr. Lampkin was a Senior Director within oncology clinical development at GlaxoSmithKline and lead global clinical development teams for multiple solid tumor and hematologic malignancy programs. Dr. Lampkin earned his B.S. in Microbiology and Chemistry from the University of Illinois, Urbana-Champaign and his Pharm.D. from the University of Illinois at Chicago, and completed a Fellowship in Clinical Research and Drug Development at The University of North Carolina at Chapel Hill.

**Fatima Rangwala, M.D., Ph.D.** Dr. Rangwala has served as our Vice President of Clinical Development since August 2018. From 2015 to 2018, she served as a Senior Clinical Development Medical Director and GI indications lead at Novartis International AG. Prior to Novartis, Dr. Rangwala served as Clinical Director at
GlaxoSmithKline plc from April 2014 to May 2015. From June 2011 to April 2014 Dr. Rangwala served on the faculty at Duke University as an assistant professor in the Division of Oncology. Dr. Rangwala earned her B.A. with honors in Biology at the University of Chicago and her M.D. and Ph.D. from the University of Cincinnati College of Medicine, and completed internal medicine and oncology fellowship training at Duke University.

Suresh de Silva, Ph.D. Dr. de Silva has served as our Vice President of Product Development since December 2018, and is a co-inventor of the ARC technology platform. From February 2017 to December 2018, he was our Executive Director of Research and Development. From January 2016 to January 2017, Dr. de Silva served as the Director of Research and Development at Heat Biologics, Inc. and from August 2015 to January 2016 he served as Associate Director of Research and Development at Heat Biologics. Prior to his time at Heat Biologics, Dr. de Silva was a Research Scientist at the Center for Retrovirus Research at The Ohio State University in Columbus, OH from 2013 to 2015. Dr. de Silva earned his B.S. in Biochemistry and Molecular Biology from the University of Colombo, Sri Lanka and his M.S. and Ph.D. in Biochemistry from the University of Rochester, NY. He completed his post-doctoral fellowship at The Ohio State University, where he was a recipient of a Staff Career Development Grant from their College of Veterinary Medicine.

James Stout, Ph.D. Dr. Stout has served as our Vice President of Chemistry, Manufacturing, and Controls since January 2020. From March 2018 to December 2019, he served as Director of Process Science Biologics at BioVectra, Inc. (a subsidiary of Mallinckrodt Pharmaceuticals). From November 2017 to March 2018, he served as Vice President of Glycobiologic Process Development & Manufacturing at HOST Therabiomics. From November 2012 to November 2017, he served as Vice President of Process Sciences at Natrix Separations, Inc. From June 2012 to November 2012, he served as Director of Process Science & Engineering at ImmunoGen, Inc. He served as Associate Director of Purification Process Development at Shire Human Genetic Therapies from October 2010 to June 2012. From May 2006 to October 2010, he served as Director of Purification Sciences at Amgen, Inc. From September 2002 to May 2006, he served as Group Leader of Purification Process Sciences at the Abbott Bioresearch Center. From June 2001 to September 2002, he served as Associate Director of Purification Development at Medarex, Inc. From March 1998 to June 2001, Dr. Stout worked in biopharmaceutical process development and manufacturing at Alexion Pharmaceuticals. Dr. Stout earned his B.S. in Chemistry from Denison University and his Ph.D. in Biochemistry (with a minor in Analytical Chemistry) from the University of Cincinnati. Dr. Stout completed a NIH post-doctoral Fellowship at the University of Cincinnati College of Medicine in the Department of Pharmacology & Cell Biophysics. Dr. Stout completed a senior post-doctoral fellowship at the Blood Research Institute, Blood Center of SE Wisconsin in the Department of Immunochemistry.

Board Structure and the Role of our Board in Risk Oversight

Board Structure

Our business and affairs are managed under the direction of our Board, which currently consists of eight members. Dr. Stone intends to resign from his position as a member of our Board in connection with the closing of this offering. Each of our current directors will continue to serve until the election and qualification of his or her successor, or his or her earlier death, resignation or removal.

The authorized number of directors is determined from time to time solely by resolution of the Board. Our second amended and restated certificate of incorporation and amended bylaws will provide that our directors may be removed only for cause by the affirmative vote of the holders of at least 66 2/3% of the votes that all our stockholders would be entitled to cast in an annual election of directors. In addition, only our Board will be authorized to fill vacancies and any additional directorships resulting from an increase in the authorized number of directors.

Our second amended and restated certificate of incorporation will establish a classified board of directors consisting of three classes of directors, with staggered three-year terms. Only one class of directors will be
elected at each annual meeting of our stockholders to succeed the directors of the same class whose terms are then expiring, with the other classes continuing for the remainder of their respective three-year terms. The terms of the directors will expire upon the election and qualification of successor directors at the annual meeting of stockholders to be held during the years 2021 for Class I directors, 2022 for Class II directors, and 2023 for Class III directors.

- Our Class I directors will be Tyler Brous, Josiah Hornblower, and Michael Lee.
- Our Class II directors will be Neil Gibson and George Golumbeski.
- Our Class III directors will be Helen Boudreau and Taylor Schreiber.

Board Leadership Structure

Our Board has designated Josiah Hornblower to serve as executive chairman of the Board. Separating the role of executive chairman from the chief executive officer position allows our chief executive officer to focus on our day-to-day business, while allowing the executive chairman to lead our Board in its fundamental role of providing advice to and oversight of management. As described below, our Board also has a lead independent director to facilitate independent oversight of management. As executive chairman, Mr. Hornblower brings to our Board extensive executive leadership and operational experience in biotechnology companies and his experience and familiarity with our business as the co-founder of Shattuck.

Our independent directors have designated Tyler Brous to serve as lead independent director. As lead independent director, Mr. Brous will preside at all meetings of the Board at which the executive chairman is not present, preside over executive sessions of our independent directors, serve as a liaison between our executive chairman and our independent directors, and perform such additional duties as our Board may otherwise determine and delegate.

Although our amended bylaws do not require that we separate the chief executive officer and board leadership positions, our Board believes that having separate positions is the appropriate leadership structure for us at this time. Our Board recognizes that, depending on the circumstances, other leadership models, such as combining the role of executive chairman of the Board with the role of chief executive officer, might be appropriate. Accordingly, our Board may periodically review its leadership structure. Our Board believes its administration of its risk oversight function has not affected its leadership structure.

Role of our Board in Risk Oversight

We face a number of risks, including those described under the section titled “Risk Factors” included elsewhere in this prospectus. Our Board believes that risk management is an important part of establishing, updating and executing on the company’s business strategy. Our Board, as a whole and at the committee level, has oversight responsibility relating to risks that could affect the corporate strategy, business objectives, compliance, operations and the financial condition and performance of the company. Our Board focuses its oversight on the most significant risks facing the company and on its processes to identify, prioritize, assess, manage and mitigate those risks. Our Board and its committees receive regular reports from members of the company’s senior management on areas of material risk to the company, including strategic, operational, financial, legal and regulatory risks. While our Board has an oversight role, management is principally tasked with direct responsibility for management and assessment of risks and the implementation of processes and controls to mitigate their effects on the company.

Board Committees

Our Board has established an audit committee, or the Audit Committee, a compensation committee, or the Compensation Committee and a nominating and corporate governance committee, or the Governance
Committee, each comprised solely of directors whom satisfy applicable Nasdaq Stock Market, or Nasdaq, independence standards. We believe that the functioning of these committees complies with the requirements of the Sarbanes-Oxley Act, the rules of Nasdaq and SEC rules and regulations that will become applicable to us upon closing of this offering. As this is our initial public offering, we intend to comply with the requirements of Nasdaq with respect to board and committee composition of independent directors as they become applicable to us in accordance with Nasdaq Marketplace Rule 5615(b)(1). Each committee has the responsibilities described below.

**Audit Committee**

The members of our Audit Committee are Helen Boudreau, Tyler Brous, and Neil Gibson, each of whom qualifies as an independent director for audit committee purposes, as defined under the rules of the SEC and the applicable Nasdaq listing rules and has sufficient knowledge in financial and auditing matters to serve on the audit committee. Ms. Boudreau chairs the Audit Committee. Additionally, Ms. Boudreau qualifies as an “audit committee financial expert” as that term is defined in the rules and regulations established by the SEC.

The primary responsibilities of our Audit Committee will be to oversee our accounting and financial reporting processes, including the audits of the financial statements, and the internal and external audit processes. The Audit Committee will also oversee the system of internal controls established by management and our compliance with legal and regulatory requirements. The Audit Committee will oversee the independent auditors, including their independence and objectivity. The Audit Committee will be empowered to retain outside legal counsel and other advisors as it deems necessary or appropriate to assist it in fulfilling its responsibilities, and to approve the fees and other retention terms of the advisors.

**Compensation Committee**

The members of our Compensation Committee are Helen Boudreau, Tyler Brous, and George Golumbeski, each of whom qualifies as an independent director, as defined under applicable Nasdaq qualification standards, and also meets the additional, heightened independence criteria applicable to members of the Compensation Committee. Mr. Brous chairs the Compensation Committee.

The primary responsibilities of our Compensation Committee will be to periodically review and approve the compensation and other benefits for our senior officers and directors. This will include reviewing and approving corporate goals and objectives relevant to the compensation of our executive officers, evaluating the performance of these officers in light of the goals and objectives, and setting the officers’ compensation. Our Compensation Committee will also administer and make recommendations to the Board regarding equity incentive plans that are subject to the Board’s approval and approve the grant of equity awards under the plans.

**Governance Committee**

The members of our Governance Committee are Neil Gibson, George Golumbeski, and Michael Lee, each of whom qualifies as an independent director, as defined under applicable Nasdaq qualification standards. Mr. Gibson chairs the Governance Committee.

The Governance Committee will be responsible for engaging in succession planning for the Board, developing and recommending to the Board criteria for identifying and evaluating qualified director candidates, and making recommendations to the Board regarding candidates for election or reelection to the Board at each annual stockholders’ meeting. In addition, the Governance Committee will be responsible for overseeing our corporate governance practices and making recommendations to the Board concerning corporate governance matters. The Governance Committee will also be responsible for making recommendations to the Board concerning the structure, composition and functioning of the Board and its committees.
Code of Conduct and Ethics

In connection with this offering, our Board intends to adopt a Code of Conduct and Ethics that establishes the standards of ethical conduct applicable to all our directors, officers and employees. It will address, among other matters, compliance with laws and policies, conflicts of interest, corporate opportunities, regulatory reporting, external communications, confidentiality requirements, insider trading, proper use of assets, and how to report compliance concerns. We intend to disclose any amendments to the Code of Conduct and Ethics, or any waivers of its requirements, on our website to the extent required by applicable rules. The Audit Committee is responsible for applying and interpreting our Code of Conduct and Ethics in situations where questions are presented to it. Information contained on, or that can be accessed through, our website is not incorporated by reference into this prospectus, and you should not consider information on our website to be part of this prospectus.

Compensation Committee Interlocks

None of the members of our Compensation Committee has at any time during the prior three years been one of our officers or employees. None of our executive officers currently serves, or in the past fiscal year has served, as a member of the board of directors or compensation committee of any entity that has one or more executive officers serving on our Board or Compensation Committee.

Director Independence

In connection with this offering and our planned listing on The Nasdaq Global Market, our Board has reviewed the independence of all directors in light of each director’s (or any family member’s, if applicable) affiliations with the company and members of management, as well as significant holdings of our securities. The Board uses the definition of independence from Nasdaq listing standards to assess independence of our directors.

Nasdaq rules have objective tests and a subjective test for determining who is an “independent director.” The subjective test states that an independent director must be a person who lacks a relationship that, in the opinion of the Board, would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. The Board has not established categorical standards or guidelines to make these subjective determinations, but considers all relevant facts and circumstances. After considering the foregoing factors, our Board has determined that Ms. Boudreau, Mr. Brous, Dr. Gibson, Dr. Golumbeski, and Mr. Lee qualify as “independent directors” as defined by Nasdaq rules. Mr. Hornblower and Dr. Schreiber are not deemed to be independent under Nasdaq rules by virtue of their employment with the company.

Following the effectiveness of this registration statement, the members of our Audit Committee must satisfy the independence criteria set forth in Rule 10A-3 under the Exchange Act, or Rule 10A-3. In order to be considered independent for purposes of Rule 10A-3, no member of the Audit Committee may, other than in his or her capacity as a member of the Audit Committee, the Board or any other committee of the Board: (i) accept, directly or indirectly, any consulting, advisory or other compensatory fee from us; or (ii) directly, or indirectly through one or more intermediaries, control, be controlled by or be under common control with us.

Director Compensation

During 2019, each of our non-employee directors, other than Chris Hurff and Charles Dorrance, received cash fees of $5,000 per meeting attended to compensate them for their services on the Board. Messrs. Hurff and Dorrance served on the Board in connection with negotiated agreements entered into between the company and Takeda Ventures, Inc., with respect to Mr. Hurff, and Delphinium, Inc., with respect to Mr. Dorrance. As a result, neither received any compensation during 2019 for their service on the Board.

In addition to these meeting fees, Drs. Lowe and Golumbeski each received a grant of 2,500 fully vested stock options on December 4, 2019. We granted such stock options as compensation for consulting services that each of these directors provided to the company on top of their respective duties as Board members.
Our employee directors, Dr. Schreiber and Mr. Hornblower, do not receive any additional compensation for their Board service. Mr. Hornblower’s 2019 compensation is disclosed in the Summary Compensation Table in the “Executive Compensation” section below. Because he is not a named executive officer for 2019, the following table includes Dr. Schreiber’s 2019 compensation, which was paid to him for his services as our Chief Scientific Officer. Dr. Schreiber was promoted to Chief Executive Officer effective as of January 29, 2020.

The following table sets forth the total cash and equity compensation paid or granted to Dr. Schreiber and each of our non-employee directors for service on our Board during 2019. Victor Stone, Michael Lee, and Helen M. Boudreau were each appointed to the Board in 2020 and, accordingly, did not receive any compensation during 2019.

<table>
<thead>
<tr>
<th>Name</th>
<th>Fees Earned or Paid in Cash ($)</th>
<th>Option Awards ($)(1)</th>
<th>Non-equity Incentive Plan Compensation ($)</th>
<th>All Other Compensation ($)</th>
<th>Total ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taylor Schreiber(2)</td>
<td>325,000</td>
<td>—</td>
<td>82,875</td>
<td>11,523</td>
<td>419,398</td>
</tr>
<tr>
<td>Tyler Brous</td>
<td>20,000</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>20,000</td>
</tr>
<tr>
<td>Neil Gibson</td>
<td>20,000</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>20,000</td>
</tr>
<tr>
<td>George Golumbeski</td>
<td>15,000</td>
<td>30,175</td>
<td>—</td>
<td>—</td>
<td>45,175</td>
</tr>
<tr>
<td>G. Walter Loewenbaum(3)</td>
<td>20,000</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>20,000</td>
</tr>
<tr>
<td>David Lowe(3)</td>
<td>20,000</td>
<td>30,175</td>
<td>—</td>
<td>—</td>
<td>50,175</td>
</tr>
<tr>
<td>Charles Dorrance</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Chris Hurff</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

(1) The amounts reported in this column represent the aggregate grant date fair value of stock options granted during the year ended December 31, 2019, as computed in accordance with FASB Accounting Standards Codification Topic 718. The assumptions used in calculating the grant date fair value of the awards reported in the Equity Awards column are set forth in Note 11, Stock-Based Compensation, to our financial statements included elsewhere in this prospectus. Note that the amounts reported in this column reflect the aggregate accounting cost for these awards, and do not necessarily correspond to the actual economic value that may be received by the director from the awards. The awards reflected in this table each covered a total of 2,500 fully vested stock options with an exercise price of $21.69 per share and a term of 10 years from grant. As of December 31, 2019, each of the company’s non-employee directors and Dr. Schreiber held the following aggregate number of fully vested option awards. None of such individuals held any unvested stock awards on such date:

<table>
<thead>
<tr>
<th>Name</th>
<th>Option Awards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taylor Schreiber</td>
<td>—</td>
</tr>
<tr>
<td>Tyler Brous</td>
<td>4,500</td>
</tr>
<tr>
<td>Neil Gibson</td>
<td>4,500</td>
</tr>
<tr>
<td>George Golumbeski</td>
<td>14,700</td>
</tr>
<tr>
<td>G. Walter Loewenbaum</td>
<td>4,500(a)</td>
</tr>
<tr>
<td>David Lowe</td>
<td>8,500</td>
</tr>
<tr>
<td>Charles Dorrance</td>
<td>—</td>
</tr>
<tr>
<td>Chris Hurff</td>
<td>—</td>
</tr>
</tbody>
</table>

(a) Mr. Loewenbaum has transferred 2,250 of these stock options to family members.

(2) Dr. Schreiber generally participates in the same compensation programs as our other executive officers, which are described in the “Executive Compensation” section below. The amounts reflected in the table above include Dr. Schreiber’s base salary for 2019, his award under the company’s 2019 annual bonus program, and, for “All Other Compensation” the sum of company’s 401(k) plan matching contributions and life and AD&D insurance premiums paid on Dr. Schreiber’s behalf.

(3) Dr. Lowe stepped down from the Board in connection with the closing of the Series B-1 redeemable convertible preferred stock issuance in June 2020. Mr. Loewenbaum stepped down from the Board on July 8, 2020.
Other than as set forth in the Director Compensation Table above and reimbursement for their reasonable out-of-pocket expenses, including travel, food, and lodging, incurred in attending meetings of our Board and/or its committees, we provided no other compensation to our non-employee directors for 2019.

Post-Offering Outside Director Compensation Policy

After the completion of this offering, we anticipate that each of our non-employee directors will be eligible to receive compensation for his or her service on our Board consisting of . Going forward, we expect that our director compensation program will include an equity component comprised of . The Board may revise the compensation arrangements for our directors from time to time.

All company equity awards currently outstanding, including stock options held by our non-employee directors or their permitted transferees, were granted under the Shattuck Labs, Inc. 2016 Stock Incentive Plan. Such plan will be discontinued in connection with this offering and outstanding awards thereunder will be cancelled and replaced with equivalent awards under our 2020 Stock Incentive Plan, which is described in further detail below.
EXECUTIVE COMPENSATION

Our named executive officers, or NEOs, for 2019, which consist of our principal executive officer for 2019 and the next two most highly-compensated executives for the year, are:

- Josiah Hornblower, our Executive Chairman and former Chief Executive Officer;
- Arundathy Nirmalini (Lini) Pandite, our Chief Medical Officer; and
- Erin Ator Thomson, our General Counsel.

2019 Summary Compensation Table

The following table summarizes the compensation awarded to, earned by or paid to our NEOs for 2019:

<table>
<thead>
<tr>
<th>Name and Principal Position</th>
<th>Year</th>
<th>Salary ($)</th>
<th>Option Awards ($)</th>
<th>Non-Equity Incentive Plan Compensation ($)</th>
<th>All Other Compensation ($)</th>
<th>Total ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Josiah Hornblower, Executive Chairman and Former Chief Executive Officer</td>
<td>2019</td>
<td>325,000</td>
<td>—</td>
<td>58,500</td>
<td>868</td>
<td>384,368</td>
</tr>
<tr>
<td>Arundathy Nirmalini (Lini) Pandite, Chief Medical Officer</td>
<td>2019</td>
<td>405,000</td>
<td>—</td>
<td>120,488</td>
<td>11,944</td>
<td>537,432</td>
</tr>
<tr>
<td>Erin Ator Thomson, General Counsel</td>
<td>2019</td>
<td>315,000</td>
<td>129,300</td>
<td>54,810</td>
<td>11,251</td>
<td>510,361</td>
</tr>
</tbody>
</table>

(1) Effective as of January 29, 2020, Mr. Hornblower stepped down as our Chief Executive Officer, was appointed as Executive Chairman of the Board, and Dr. Taylor Schreiber was appointed as the new Chief Executive Officer. Prior to his appointment as Chief Executive Officer, Dr. Schreiber served as our Chief Scientific Officer. Dr. Schreiber’s 2019 compensation is disclosed in the “Director Compensation” section above.

(2) Amounts shown in this column represent the aggregate grant date fair value (calculated in accordance with FASB Accounting Standards Codification Topic 718) of stock options granted during the year. A description of the methodologies and assumptions we use to value equity awards and the manner in which we recognize the related expense are described in Note 11 to our audited financial statements, Stock-Based Compensation, included elsewhere in this prospectus. These amounts may not correspond to the actual value eventually realized by each NEO because the value depends on the market value of our common stock at the time the award is exercised.

(3) Following the end of the fiscal year, we paid each of our NEOs bonuses in respect of our performance in 2019 based on the achievement of individual and company performance goals, described in further detail below.

(4) Represents the sum of company 401(k) plan matching contributions and life and AD&D insurance premiums paid during 2019 on behalf of each of our NEOs.

Narrative Disclosure to Summary Compensation Table

Employment Agreements & 2019 Equity Awards

Josiah Hornblower

We are party to an employment agreement with Josiah Hornblower, effective as of December 5, 2019, pursuant to which he served as our Chief Executive Officer during 2019. The agreement provides for his base salary, eligibility to receive an annual performance bonus with a target bonus amount of 30% of his base salary and eligibility to participate in the company’s employee benefit plans. The agreement provides for employment on an at-will basis and thus either party may terminate at any time for any or no reason, subject to 30 days’ notice for Mr. Hornblower and the severance provisions described below in the section titled “Post-Employment Compensation and Change in Control Payments and Benefits.”

162
On March 27, 2020, Mr. Hornblower’s employment agreement was amended to reflect his transition to the Executive Chairman role effective as of January 29, 2020.

**Lini Pandite**

We are party to an employment agreement with Lini Pandite, effective as of December 5, 2019, pursuant to which she serves as our Chief Medical Officer. The agreement provides for her base salary, eligibility to receive an annual performance bonus with a target bonus amount of 35% of base salary and eligibility to participate in the company’s employee benefit plans. The agreement provides for employment on an at-will basis and thus either party may terminate at any time for any or no reason, subject to 30 days’ notice for Ms. Pandite and the severance provisions described below in the section titled “Post-Employment Compensation and Change in Control Payments and Benefits.” Ms. Pandite’s base salary was increased to $435,000 effective as of July 15, 2020.

**Erin Ator Thomson**

We are party to an employment agreement with Erin Ator Thomson, effective as of December 5, 2019, pursuant to which she serves as our General Counsel. The agreement provides for her base salary, eligibility to receive an annual performance bonus with a target bonus amount of 20% of base salary and eligibility to participate in the company’s employee benefit plans. The agreement provides for employment on an at-will basis and thus either party may terminate at any time for any or no reason, subject to 30 days’ notice for Ms. Thomson and the severance provisions described below in the section titled “Post-Employment Compensation and Change in Control Payments and Benefits.” Ms. Thomson’s 2020 target annual bonus opportunity was increased to 25% effective as of January 1, 2020, and her base salary was increased to $350,000 effective as of July 15, 2020.

On December 4, 2019, the Board approved a grant of 10,000 stock options to Ms. Thomson, which was intended to bring her aggregate compensation closer to the market median for executives in the general counsel position at similarly situated companies. Such stock options vest 25% on November 22, 2020, and then in equal monthly installments over the following three years. The stock options have an exercise price of $21.69 per share and a contractual term of 10 years.

**2019 Annual Bonus Program**

At the beginning of 2019, the Compensation Committee of our Board established an overall budgeted annual bonus pool for awards to our general employee population, including each of our NEOs, who were eligible for the following target bonus amounts: Mr. Hornblower-$97,500, Ms. Pandite-$141,750, and Ms. Thomson-$63,000. Bonus program participants, including each of the NEOs, were eligible to receive up to their target bonus amount to the extent that enumerated corporate performance goals established by the Compensation Committee at the beginning of the year were achieved. These corporate performance goals included key milestones with respect to company products, financing, intellectual property, manufacturing, and research and development. Personal responsibility for achievement of, and individual performance in support of, the enumerated corporate goals was also evaluated by the Compensation Committee in assessing final performance for the year. Following its assessment of individual officer contributions and the level of achievement of the corporate goals in December of 2019, the Compensation Committee approved final bonus payments to the NEOs as follows: Mr. Hornblower-$58,500 (60% of target), Ms. Pandite-$120,488 (85% of target), and Ms. Thomson-$54,810 (87% of target). Such bonus payments were made in early 2020.
## Outstanding Equity Awards at 2019 Fiscal-Year End

The following table sets forth information regarding outstanding equity awards at the end of 2019 for each of our NEOs.

<table>
<thead>
<tr>
<th>Name</th>
<th>Grant Date</th>
<th>Option Awards(1)</th>
<th>Stock Awards(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number of Securities Underlying Unexercised Options (a)</td>
<td>Number of Securities Underlying Unexercised Options (b)</td>
</tr>
<tr>
<td>Josiah Hornblower</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exercisable</td>
<td>Unexercisable</td>
</tr>
<tr>
<td>Arundathy Nirmalini (Lini) Pandite</td>
<td>6/1/2017</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>12/22/2017</td>
<td>156</td>
<td>1,520</td>
</tr>
<tr>
<td></td>
<td>9/19/2018</td>
<td>3,681</td>
<td>5,619</td>
</tr>
<tr>
<td>Erin Ator Thomson</td>
<td>12/22/2017</td>
<td>1,292</td>
<td>4,306</td>
</tr>
<tr>
<td></td>
<td>9/19/2018</td>
<td>3,681</td>
<td>5,619</td>
</tr>
</tbody>
</table>

(1) Each option award expires on the tenth anniversary of the date of grant. Other than Ms. Thomson’s December 22, 2017 grant, twenty-five percent of each stock option award vests on the one-year anniversary of the vesting commencement date specified in the award agreement and the remainder of the shares underlying the options vest in equal installments over the next 36 months, subject to the applicable NEO’s continued service through each such vesting date. The vesting commencement dates for Ms. Pandite’s option awards were July 24, 2017 and May 15, 2018 for her awards granted in 2017 and 2018, respectively, and for Ms. Thomson’s option awards granted in 2018 and 2019, the vesting commencement dates were May 15, 2018 and November 22, 2019, respectively. Ms. Thomson’s December 22, 2017 stock option grant vests in equal monthly installments over 36 months from October 2, 2017.

(2) Represents a restricted stock award which vested twenty-five percent on July 24, 2018 and the remainder of the shares underlying the restricted stock award vest in equal installments over the next 36 months, subject to Ms. Pandite’s continued service through each such vesting date. Market value is calculated based on the value of $21.69 per share as of December 31, 2019, which reflects an independent third-party 409A valuation per share of the company as of such date.

All company equity awards currently outstanding, including stock options and stock awards held by our named executive officers, were granted under the Shattuck Labs, Inc. 2016 Stock Incentive Plan. Such plan will be discontinued in connection with this offering and outstanding awards thereunder will be cancelled and replaced with equivalent awards under our 2020 Stock Incentive Plan, which is described in further detail under “2020 Equity Incentive Plan” below.

### Post-Employment Compensation and Change in Control Payments and Benefits

**Josiah Hornblower**

Pursuant to the terms of the employment agreement with Mr. Hornblower, upon a termination without cause or resignation with good reason not in connection with a change in control, Mr. Hornblower will receive, subject to his execution and non-revocation of a release of claims in favor of the company, or the Hornblower Release Condition, and continued compliance with restrictive covenants, (i) severance payments equal to one times, or the Hornblower Severance Multiplier, the sum of (a) his annual base salary and (b) target bonus, payable in equal installments in accordance with the company’s normal payroll practices for 12 months, (ii) a pro-rata annual bonus based on actual performance, (iii) accelerated vesting of all unvested equity awards (with performance-based awards earned at the target level of performance) and (iv) payment of COBRA premiums for up to twelve months, or, if sooner, until eligible for similar coverage through another employer (we refer to (i) through (iv) collectively as the Hornblower Severance Payments).
If Mr. Hornblower is terminated without cause or resigns for good reason within 30 days prior to, or 2 years following, a change in control, then, subject to the Hornblower Release Condition, Mr. Hornblower will also be entitled to the Hornblower Severance Payments; provided, however, the Hornblower Severance Multiplier will be 2.0x.

“Good Reason” under each of the NEO employment agreements generally means the occurrence of any of the following events, without the executive’s consent, provided, in each case, that such event is not cured within 30 days after the company receives notice from the executive specifying in reasonable detail the event constituting Good Reason: (i) failure to pay the annual base salary or annual bonus when due, (ii) a reduction in the annual base salary or annual bonus, (iii) any diminution in the executive’s title or any substantial and sustained diminution in the executive’s duties or (iv) a required relocation of the executive’s primary work location by more than 25 miles.

“Cause” under each of the NEO employment agreements generally means: (i) indictment for, conviction of, or a plea of nolo contendere to, (x) a felony (other than traffic-related) under the laws of the United States or any state thereof or any similar criminal act in a jurisdiction outside the United States or (y) a crime involving moral turpitude that could be injurious to the company or its reputation, (ii) willful malfeasance or willful misconduct which is materially and demonstrably injurious to the company, (iii) any act of fraud in the performance of executive’s duties or (iv) a material breach of any agreement with the company or any of the company’s material policies.

“Change in Control” under each of the NEO employment agreements generally means the occurrence of one or more of the following events: (i) any “person” (as such term is used in Sections 3(a)(9) and 13(d) of the Exchange Act) or “group” (as such term is used in Section 13(d)(3) of the Exchange Act), other than the company or its subsidiaries or any benefit plan of the company or its subsidiaries is or becomes a “beneficial owner” (as such term is used in Rule 13d-3 promulgated under the Exchange Act) of more than 50% of the voting stock of the company; (ii) the company transfers all or substantially all of its assets (unless the stockholders of the company immediately prior to such transaction beneficially own, directly or indirectly, in substantially the same proportion as they owned the voting stock of the company, all of the voting stock or other ownership interests of the entity or entities, if any, that succeed to the business of the company or the company’s ultimate parent company if the company is a subsidiary of another corporation); or (iii) any merger, reorganization, consolidation or similar transaction unless, immediately after consummation of such transaction, the stockholders of the company immediately prior to the transaction hold, directly or indirectly, more than 50% of the voting stock of the company or the company’s ultimate parent company if the company is a subsidiary of another corporation.

Lini Pandite

Pursuant to the terms of the employment agreement with Ms. Pandite, upon a termination without cause or resignation with good reason not in connection with a change in control, Ms. Pandite will receive, subject to execution and non-revocation of a release of claims in favor of the company, or the Pandite Release Condition, and continued compliance with restrictive covenants, (i) severance payments equal to one times, or the Pandite Severance Multiplier, the sum of her (a) annual base salary and (b) target bonus, payable in equal installments in accordance with the company’s normal payroll practices for 12 months, (ii) a pro-rata annual bonus based on actual performance, (iii) accelerated vesting of all unvested equity awards (with performance-based awards earned at the target level of performance) and (iv) payment of COBRA premiums for up to twelve months, or, if sooner, until eligible for similar coverage through another employer (we refer to (i) through (iv) collectively as the Pandite Severance Payments).

If Ms. Pandite is terminated without cause or resigns for good reason within 30 days prior to, or 2 years following, a change in control, then, subject to the Pandite Release Condition, Ms. Pandite will be entitled to the Pandite Severance Payments; provided, however, the Pandite Severance Multiplier will be 2.0x.
**Erin Ator Thomson**

Pursuant to the terms of the employment agreement with Ms. Thomson, upon a termination without cause or resignation with good reason not in connection with a change in control, Ms. Thomson will receive, subject to execution and non-revocation of a release of claims in favor of the company, or the Thomson Release Condition, and continued compliance with restrictive covenants, (i) severance payments equal to 0.75 times, or the Thomson Severance Multiplier, the sum of her (a) annual base salary and (b) target bonus, payable in equal installments in accordance with the company’s normal payroll practices for 9 months, (ii) a pro-rata annual bonus based on actual performance, (iii) accelerated vesting of all unvested equity awards (with performance-based awards earned at the target level of performance) and (iv) payment of COBRA premiums for up to 9 months, or, if sooner, until eligible for similar coverage through another employer (we refer to (i) through (iv) collectively as the Thomson Severance Payments).

If Ms. Thomson is terminated without cause or for good reason (each as defined in the agreement) within 30 days prior to, or 2 years following, a change in control, then, subject to the Thomson Release Condition, Ms. Thomson will be entitled to the Thomson Severance Payments; provided, however, the Thomson Severance Multiplier will be 1.5x.

**280G**

Each employment agreement provides that on and after the date any company stock is readily tradeable on an established securities market or otherwise, to the extent that any payments would be subject to the excise tax imposed under Section 4999 of the Code, each executive will be entitled to receive either (a) the full amount of payments and benefits in connection with their employment with the company or (b) a portion of the payments and benefits having a value equal to $1 less than three times the NEO’s “base amount” (as defined in Section 280G(b)(3)(A) of the Code), whichever results in the receipt of the greater amount on an after-tax basis.

**Employee Benefit Plans**

**2020 Equity Incentive Plan**

In 2016, the Board adopted and our stockholders approved the Shattuck Labs, Inc. 2016 Stock Incentive Plan, or 2016 Plan. In connection with this offering, we intend to adopt the Shattuck Labs, Inc. 2020 Equity Incentive Plan, or 2020 Plan, which will become effective upon consummation of the offering. From and after the effective date of the 2020 Plan, no additional stock awards will be made under the 2016 Plan. In addition, all stock awards granted under the 2016 Plan that are outstanding as of the consummation of this offering will be canceled and replaced with equivalent awards under the 2020 Plan.

**Purpose.** The 2020 Plan is intended provide a means through which the company may attract able persons to serve as employees, directors, or consultants of the company or its subsidiaries and to provide a means whereby those individuals upon whom the responsibilities of the successful administration and management of the company rest, and whose present and potential contributions to the welfare of the company are of importance, may acquire and maintain stock ownership, thereby strengthening their concern for the welfare of the company. A further purpose of the 2020 Plan is to provide such individuals with additional incentive and reward opportunities designed to enhance the profitable growth of the company.

**Eligibility.** Awards may be granted only to persons who, at the time of grant, are employees, consultants, or directors of the company or any parent or subsidiary corporation.

**Types of Awards.** The 2020 Plan provides for the grant of incentive stock options, non-statutory stock options, restricted stock awards, restricted stock unit awards, performance stock awards, and performance cash awards.
Authorized Shares. Subject to adjustment for certain dilutive or related events, the aggregate maximum number of shares of common stock that may be issued under the 2020 Plan will not exceed [number] shares, or the Share Reserve. The Share Reserve will automatically increase on January 1st of each year beginning in 2021 and ending with a final increase on January 1, 2030 in an amount equal to [percentage] of the total number of shares of common stock outstanding on December 31st of the preceding calendar year. To the extent that an award lapses or the rights of its holder terminates, any shares of common stock subject to such award will again be available for the grant of an award.

Plan Administration. Our Board has the authority to administer the 2020 Plan, including the powers to: (i) determine who will be granted awards and what type of award, when and how each award will be granted, the provisions of each award (which need not be identical), the number of shares or cash value subject to an award, and the fair market value applicable to an award; (ii) construe and interpret the 2020 Plan and awards granted thereunder and establish, amend and revoke rules and regulations for administration of the 2020 Plan and awards, including the ability to correct any defect, omission or inconsistency in the 2020 Plan or any award document; (iii) settle all controversies regarding the 2020 Plan and awards granted thereunder; (iv) accelerate or extend, in whole or in part, the time during which an award may be exercised or vested or at which cash or shares may be issued; (v) suspend or terminate the 2020 Plan; (vi) amend the 2020 Plan; (vii) submit any amendment to the 2020 Plan for stockholder approval; (viii) approve forms of award documents for use under the 2020 Plan and to amend the terms of any one or more outstanding awards; (ix) generally exercise such powers and perform such acts as our Board may deem necessary or expedient to promote our best interests and that are not in conflict with the provisions of the 2020 Plan or any award documents; and (x) adopt procedures and sub-plans as are necessary or appropriate.

Subject to the provisions of the 2020 Plan, our Board may delegate all or some of the administration of the 2020 Plan to a committee of one or more directors and may delegate to one or more officers the authority to designate employees who are not officers to be recipients of options and stock appreciation rights (and, to the extent permitted by applicable law, other stock awards) and, to the extent permitted by applicable law, to determine the terms of such awards and the number of shares of common stock to be subject to such stock awards granted to such employees. Unless otherwise provided by our Board, delegation of authority by our Board to a committee or an officer will not limit the authority of our Board. All determinations, interpretations and constructions made by our Board (or another authorized committee or officer exercising powers delegated by our Board) in good faith will be final, binding and conclusive on all persons.

Stock Options. A stock option may be granted as an incentive stock option or a nonqualified stock option. The option exercise price will be determined by the Compensation Committee; provided, however, that with respect to incentive stock options, the exercise price will not be less than 110% of the fair market value of our common stock if the recipient owns stock possessing more than 10% of the total combined voting power of all classes of our stock or the stock of our parent or subsidiary corporation, or a Ten Percent Stockholder. The term of each option will be determined by the Compensation Committee; provided, however, that Options will not be exercisable after the expiration of five years from the date of grant in the case of an incentive stock option issued to a Ten Percent Stockholder. Each notice of option grant and option agreement will set forth the terms of vesting and exercisability for each option award. The purchase price of any shares acquired pursuant to an option award may be paid in cash, check, bank draft, money order, net exercise or as otherwise determined by our Board and set forth in the award agreement, including through an irrevocable commitment by a broker to pay over such amount from a sale of the shares issuable under the option and the delivery of previously owned shares. Except as otherwise provided in an applicable award document, all unvested option awards are forfeited and cease to be exercisable upon a holder’s termination of employment or service; provided, however, that (i) upon the holder’s termination by reason of disability or death, the option will remain exercisable for one year following the date of holder’s termination of employment or service and (ii) upon the holders’ termination other than for Cause (as defined in the option agreement), the option will remain exercisable for three months following the date of holder’s termination of employment or service.
Stock Appreciation Rights. A stock appreciation right, or SAR, is a right that entitles the participant to receive, in cash or shares of stock or a combination thereof, as determined by our Board, value equal to or otherwise based on the excess of (i) the fair market value of a specified number of shares at the time of exercise over (ii) the exercise price of the right, as established by our Board on the date of grant. Upon exercising a SAR, the participant is entitled to receive the amount by which the fair market value of the stock at the time of exercise exceeds the exercise price of the SAR. The exercise price of each SAR may not be less than the fair market value of the stock subject to the award on the date the SAR is granted, unless the SAR was granted pursuant to an assumption of or substitution for another option in a manner satisfying the provisions of Section 409A of the Code. SARs will not be exercisable after the expiration of ten years from the date of grant. Each award agreement will set forth the number of shares subject to the SAR. The vesting schedule applicable to any SAR, including any performance conditions, will be as set forth in the award agreement.

Restricted Stock Awards. Restricted stock awards are awards of shares of our common stock that are subject to restrictions on disposition as determined by the Compensation Committee in its sole discretion, including restrictions based on the attainment of one or more performance goals, continued employment or service, the occurrence of certain events or any combination thereof. Unless otherwise provided in the restricted stock agreement, the holder will have the right to receive dividends with respect to common stock subject to a restricted stock award, to vote common stock subject to such restricted stock agreement, and to enjoy all other stockholder rights subject to delivery of the stock upon the forfeiture restrictions lapsing. The Compensation Committee may, in its discretion and as of a date determined by the Compensation Committee, fully vest any or all common stock awarded to a holder pursuant to a restricted stock award, and, upon such vesting, all restrictions applicable to such restricted stock award will lapse as of such date.

Restricted Stock Units. Restricted stock units, or RSUs, are an award denominated in units under which the issuance of shares (or cash payment in lieu thereof) is subject to such conditions (including continued employment) and terms as our Board deems appropriate. Each award document evidencing a grant of RSUs will set forth the terms and conditions of each award, including vesting and forfeiture provisions, transferability and, if applicable, right to receive dividends or dividend equivalents.

Performance Awards. A performance award is a stock or cash award that is payable contingent upon the attainment during a performance period of certain performance goals. A performance award may, but need not, require the completion of a specified period of service. The length of any performance period, the applicable performance goals and the measurement of whether and to what degree such performance goals have been attained will be as determined by the compensation committee, our Board, or an authorized officer. We retain the discretion to reduce or eliminate the compensation or economic benefit upon the attainment of any performance goals and to define the manner of calculating the performance criteria it selects to use for a performance period.

Certain Adjustments. In the event of any change in our capitalization, our Board will appropriately and proportionately adjust: (i) the class(es) and maximum number of securities subject to the 2020 Plan; (ii) the class(es) and maximum number of securities that may be issued pursuant to the exercise of incentive stock options; and (iii) the class(es) and number of securities or other property and value (including price per share of stock) subject to outstanding stock awards. Our Board will make such adjustments, and its determination will be final, binding, and conclusive. Unless provided otherwise in an award or other agreement, in the event of our dissolution or liquidation, all outstanding stock awards (other than stock awards consisting of vested and outstanding shares of our common stock subject to a forfeiture condition or the our right of repurchase) will terminate immediately prior to the completion of such dissolution or liquidation, and the shares of common stock subject to the our repurchase rights or subject to forfeiture may be repurchased or reacquired by us notwithstanding the fact that the holder of such stock award is providing continuous service; provided, however, that our Board may, in its sole discretion, provide that some or all stock awards will become fully vested, exercisable and/or no longer subject to repurchase or forfeiture (to the extent not already expired or terminated) before the dissolution or liquidation is completed but contingent upon its completion.
Unless provided otherwise in an award agreement or other agreement between us or an affiliate and the participant, in the event of Change in Control (as defined in the 2020 Plan), our Board will take one or more of the following actions with respect to each outstanding award, contingent upon the closing or completion of the Change in Control:

1. arrange for the surviving corporation or acquiring corporation (or the surviving or acquiring corporation’s parent company) to assume or continue the award or to substitute a similar stock award for the award (including, but not limited to, an award to acquire the same consideration per share paid to the stockholders of the company pursuant to the Change in Control);

2. arrange for the assignment of any reacquisition or repurchase rights held by us in respect of common stock issued pursuant to the award to the surviving corporation or acquiring corporation (or the surviving or acquiring corporation’s parent company);

3. accelerate the vesting, in whole or in part, of the award (and, if applicable, the time at which the award may be exercised) to a date prior to the effective time of such Change in Control as determined by our Board, with such award terminating if not exercised (if applicable) at or prior to the effective time of the Change in Control, and with such exercise reversed if the Change in Control does not become effective;

4. arrange for the lapse, in whole or in part, of any reacquisition or repurchase rights held by us with respect to the award;

5. cancel or arrange for the cancellation of the award, to the extent not vested or not exercised prior to the effective time of the Change in Control, in exchange for such cash consideration, if any, as our Board, in its reasonable determination, may consider appropriate as an approximation of the value of the canceled award, and

6. cancel or arrange for the cancellation of the award, to the extent not vested or not exercised prior to the effective time of the Change in Control, in exchange for a payment equal to the excess, if any, of (A) the value in the Change in Control of the property the participant would have received upon the exercise of the award immediately prior to the effective time of the Change in Control, over (B) any exercise price payable by such holder in connection with such exercise.

Our Board need not take the same action or actions with respect to all awards or portions thereof or with respect to all participants and may take different actions with respect to the vested and unvested portions of an award.

In the absence of any affirmative determination by our Board at the time of a Change in Control, each outstanding award will be assumed or an equivalent award will be substituted by such successor corporation or a parent or subsidiary of such successor corporation, referred to as a Successor Corporation, unless the Successor Corporation does not agree to assume the award or to substitute an equivalent award, in which case the vesting of such award will accelerate in its entirety (along with, if applicable, the time at which the award may be exercised) to a date prior to the effective time of such Change in Control as our Board will determine (or, if our Board does not determine such a date, to the date that is five days prior to the effective date of the Change in Control), with such award terminating if not exercised (if applicable) at or prior to the effective time of the Change in Control, and with such exercise reversed if the Change in Control does not become effective.

Acceleration of Awards upon a Change in Control. An award may be subject to additional acceleration of vesting and exercisability upon or after a Change in Control as may be provided in the award agreement for such award or as may be provided in any other written agreement between us or an affiliate and the participant, but in the absence of such provision, no such acceleration will occur.

Termination and Amendment. Our Board or the compensation committee may suspend or terminate the 2020 Plan at any time. No incentive stock options may be granted under the 2020 Plan after the tenth anniversary.
of the date our Board adopted the 2020 Plan. No awards may be granted under the 2020 Plan while the 2020 Plan is suspended or after it is terminated.

2020 Employee Stock Purchase Plan

In connection with this offering, we intend to adopt the Shattuck Labs, Inc. Employee Stock Purchase Plan, or the ESPP, which will become effective upon consummation of the offering. The ESPP is designed to allow our eligible employees to purchase shares of our common stock, at periodic intervals, with their accumulated payroll deductions. The ESPP is intended to qualify under Section 423 of the Code.

Plan Administration. Subject to the terms and conditions of the ESPP, the Compensation Committee of our Board will administer the ESPP. Our compensation committee can delegate administrative tasks under the ESPP to the services of a sub-committee and/or officers or employees to assist in the administration of the ESPP. The administrator will have the discretionary authority to administer and interpret the ESPP. Interpretations and constructions of the administrator of any provision of the ESPP or of any rights thereunder will be conclusive and binding on all persons. We will bear all expenses and liabilities incurred by the ESPP administrator.

Shares Available Under ESPP. The maximum number of our shares of our common stock which will be authorized for sale under the ESPP is the sum of (a) shares of common stock and (b) an annual increase on the first day of each year beginning in 2021 and ending in 2030 equal to % of the shares of common stock outstanding (on an as converted basis) on December 31st of the immediately preceding calendar year. The shares made available for sale under the ESPP may be authorized but unissued shares or reacquired shares reserved for issuance under the ESPP.

Eligible Employees. Employees eligible to participate in the ESPP for a given offering period generally include employees who are employed by us or one of our designated subsidiaries on the first day of the offering period, or the enrollment date. An employee who owns (or is deemed to own through attribution) 5% or more of the combined voting power or value of all our classes of stock or of one of our subsidiaries will not be allowed to participate in the ESPP.

Participation. Employees will enroll under the ESPP by completing a payroll deduction form permitting the deduction from their compensation of at least 1% of their compensation but not more than % of their compensation. Such payroll deductions are expressed as a whole number percentage and the accumulated deductions will be applied to the purchase of shares on each semi-annual purchase date. However, a participant may not purchase more than shares in each offering period, and may not subscribe for more than $25,000 in fair market value of shares our common stock (determined at the time the option is granted) per calendar year falling in the offering period. The ESPP administrator has the authority to change these limitations for any subsequent offering period.

Offering. Under the ESPP, participants are offered the option to purchase shares of our common stock at a discount during a series of successive offering periods. The offering periods will commence and end on dates as determined by the ESPP administrator and will initially run for non-overlapping six-month periods. However, in no event may an offering period be longer than 27 months in length.

The option purchase price will be the lower of 85% of the closing trading price per share of our common stock on the first trading date of an offering period in which a participant is enrolled or 85% of the closing trading price per share on the semi-annual purchase date, which will occur on the last trading day of each offering period.

Unless a participant has previously canceled his or her participation in the ESPP before the purchase date, the participant will be deemed to have exercised his or her option in full as of each purchase date. Upon exercise, the participant will purchase the number of whole shares that his or her accumulated payroll deductions will buy at the option purchase price, subject to the participation limitations listed above.
A participant may withdraw from the ESPP at any time prior to the end of the offering period. Upon withdrawing, the participant will receive a refund of the participant’s account balance in cash without interest and his or her right to participate in the current offering period will be automatically terminated. A participant may decrease (but not increase) his or her payroll deduction authorization during any offering period. If a participant wants to increase or decrease the rate of payroll withholding, he or she may do so effective for the next offering period by submitting a new form before the offering period for which such change is to be effective.

A participant may not assign, transfer, pledge, or otherwise dispose of payroll deductions credited to a participant’s account or any rights to exercise an option or to receive shares of our common stock under the ESPP. Any such attempt at assignment, transfer, pledge, or other disposition will not be given effect.

Adjustments upon Changes in Recapitalization, Dissolution, Liquidation, Merger, or Asset Sale.

If there is any change in the outstanding shares of our common stock or other securities because of a merger, consolidation, spin-off, reorganization, recapitalization, dividend in property other than cash, extraordinary dividend whether in cash and/or other property, stock split, reverse stock split, stock dividend, liquidating dividend, combination or reclassification of our common stock or other securities (including any such change in the number of shares of our common stock or other securities effected in connection with a change in domicile of the company), or any other increase or decrease in the number of shares of our common stock or other securities effected without receipt of consideration, provided that conversion of any convertible securities of the company shall not be deemed to have been “effected without receipt of consideration,” the type and number of securities covered by each option under the ESPP which has not yet been exercised and the type and number of securities which have been authorized and remain available for issuance under the ESPP, as well as the maximum number of securities which may be purchased by a participant in an offering period, and the price per share covered by each option under the ESPP which has not yet been exercised, shall be appropriately and proportionally adjusted by the Board, and the Board shall take any further actions which, in the exercise of its discretion, may be necessary or appropriate under the circumstances.

In the event of the proposed liquidation or dissolution of the company, the offering period will terminate immediately prior to the consummation of such proposed transaction, unless otherwise provided by the Board in its sole discretion, and all outstanding options shall automatically terminate and the amounts of all payroll deductions will be refunded without interest to participants.

In the event of a proposed sale of all or substantially all of the assets of the company, or the merger or consolidation or similar combination of the company with or into another entity, then in the sole discretion of the Board, (1) each option shall be assumed or an equivalent option shall be substituted by the successor corporation or parent or subsidiary of such successor entity, (2) on a date established by the Board on or before the date of consummation of such merger, consolidation, combination, or sale, such date shall be treated as a purchase date, and all outstanding options shall be exercised on such date, (3) all outstanding options shall terminate and the accumulated payroll deductions will be refunded without interest to the participants, or (4) outstanding options shall continue unchanged.

Amendment and Termination. Our Board or the Compensation Committee may suspend, amend, or terminate the ESPP at any time. However, our Board or the Compensation Committee may not amend the ESPP without obtaining stockholder approval within 12 months before or after such amendment to the extent required by applicable laws or to increase the number of shares subject to the ESPP.

401(k) Plan

The company offers eligible employees, including its NEOs, the opportunity to participate in its tax-qualified 401(k) plan. Employees can contribute 1%-100% of their eligible earnings up to the Internal
Revenue Service’s annual limits on a before-tax basis. The 401(k) plan provides for company matching contributions equal to 100% of the first 3% of salary contributions plus 50% of the next 2% of salary contributions. The company also has the discretion to make additional profit sharing contributions. The matching contributions are 100% vested at all times and employer profit sharing contributions are 100% vested after four years of service.

Other Retirement Benefits

We do not maintain any defined benefit pension plans or any nonqualified deferred compensation plans.
The following table presents information regarding beneficial ownership of our equity interests as of , 2020 by:

- each stockholder or group of stockholders known by us to be the beneficial owner of more than 5% of our outstanding equity interests, or 5% and Greater Stockholders;
- each of our directors;
- our NEOs; and
- all of our directors and executive officers as a group.

Beneficial ownership is determined in accordance with the rules of the SEC, and thus represents voting or investment power with respect to our securities as of , 2020. Under such rules, beneficial ownership includes any shares over which the individual has sole or shared voting power or investment power as well as any shares that the individual has the right to acquire within 60 days after , 2020 through the exercise of any stock option, warrants or other rights. Unless otherwise indicated below, to our knowledge and subject to applicable community property rules, the persons and entities named in the table have sole voting and sole investment power with respect to all equity interests beneficially owned, subject to community property laws where applicable. Unless otherwise indicated, the address of each individual listed in this table is 1018 W. 11th Street, Suite 100, Austin, Texas 78703.

The percentage ownership information shown in the column titled “Shares Beneficially Owned Prior to the Offering” in the table below is based on shares of our common stock outstanding as of , 2020. The percentage ownership information shown in the column titled “Shares Beneficially Owned After the Offering” in the table below is based on shares of our common stock outstanding after this offering, assuming shares of common stock being sold in this offering. Shares of our common stock that a person has the right to acquire within 60 days after , 2020 are deemed outstanding for purposes of computing the percentage ownership of the person holding such rights, but are not deemed outstanding for purposes of computing the percentage ownership of any other person, except with respect to the percentage ownership of all directors and executive officers as a group.

The following table also does not include any shares of common stock that directors and executive officers may purchase in this offering through the directed share program described under “Underwriting.”

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<th>Name and Address of Beneficial Owner</th>
<th>Shares Beneficially Owned</th>
<th>Percentage of Shares Beneficially Owned</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before the Offering</td>
<td>After the Offering</td>
</tr>
<tr>
<td><strong>5% and Greater Stockholders</strong></td>
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<tr>
<td>Entities affiliated with Fidelity(1)</td>
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<td>Entities affiliated with G. Walter Loewenbaum(2)</td>
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<td>Entities affiliated with Daniel A. Traylor(3)</td>
<td>%</td>
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<tr>
<td>Entity affiliated with Redmile Group, LLC(4)</td>
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<tr>
<td>Millennium Pharmaceuticals, Inc.</td>
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<td>Clark BP, LLC(5)</td>
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<td>ECMC Group, Inc.(6)</td>
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<td>Entities affiliated with Hatteras Venture Partners(7)</td>
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<tr>
<td>Entities affiliated with Ecor1 Capital LLC(8)</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Entities affiliated with Janus Henderson(9)</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Entities affiliated with Delphinium, Inc.(10)</td>
<td>%</td>
<td>%</td>
</tr>
</tbody>
</table>

**Named Executive Officer and Directors**

Taylor Schreiber, M.D., Ph.D.(11) % %

173
### Table ofContents

<table>
<thead>
<tr>
<th>Name and Address of Beneficial Owner</th>
<th>Shares Beneficially Owned</th>
<th>Percentage of Shares Beneficially Owned</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Before the Offering</strong></td>
<td><strong>After the Offering</strong></td>
<td></td>
</tr>
<tr>
<td>Josiah Hornblower&lt;sup&gt;(12)&lt;/sup&gt;</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Michael Lee</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Helen M. Boudreau</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Tyler Brous&lt;sup&gt;(13)&lt;/sup&gt;</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Neil Gibson, Ph.D.&lt;sup&gt;(14)&lt;/sup&gt;</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>George Columbuski, Ph.D.&lt;sup&gt;(15)&lt;/sup&gt;</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Erin Ator Thomson&lt;sup&gt;(16)&lt;/sup&gt;</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Lini Pandite, MBChB&lt;sup&gt;(17)&lt;/sup&gt;</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td><strong>All Executive Officers and Directors as a group (11 persons)</strong></td>
<td>%</td>
<td>%</td>
</tr>
</tbody>
</table>

* Represents beneficial ownership of less than one percent.

<sup>(1)</sup> Consists of (a) 93,129 shares of common stock issuable upon conversion of Series B-1 redeemable convertible preferred stock held by Fidelity Advisor Series VII: Fidelity Advisor Biotechnology Fund, (b) 143,129 shares of common stock issuable upon conversion of Series B-1 redeemable convertible preferred stock held by Fidelity Select Portfolios: Health Care Portfolio, and (c) 81,806 shares of common stock issuable upon conversion of Series B-1 redeemable convertible preferred stock held by Fidelity Advisor Series VII: Fidelity Advisor Health Care Fund. These accounts are managed by direct or indirect subsidiaries of FMR LLC. Abigail P. Johnson is a Director, the Chairman, the Chief Executive Officer and the President of FMR LLC. Members of the Johnson family, including Abigail P. Johnson, are the predominant owners, directly or through trusts, of Series B voting common shares of FMR LLC, representing 49% of the voting power of FMR LLC. The Johnson family group and all other Series B shareholders have entered into a shareholders’ voting agreement under which all Series B voting common shares will be voted in accordance with the majority vote of Series B voting common shares. Accordingly, through their ownership of voting common shares and the execution of the shareholders’ voting agreement, members of the Johnson family may be deemed, under the Investment Company Act of 1940 (the “Investment Company Act”), to form a controlling group with respect to FMR LLC. Neither FMR LLC nor Abigail P. Johnson has the sole power to vote or direct the voting of the shares owned directly by the various investment companies registered under the Investment Company Act (“Fidelity Funds”) advised by Fidelity Management & Research Company (“FMR Co”), a wholly owned subsidiary of FMR LLC, which power resides with the Fidelity Funds’ Boards of Trustees. FMR Co carries out the voting of the shares under written guidelines established by the Fidelity Funds’ Boards of Trustees. The business address of each person and entity named in this footnote is 245 Summer Street, Boston, Massachusetts 02110.

<sup>(2)</sup> Consists of (a) 33,979 shares of common stock issuable upon conversion of Series A redeemable convertible preferred stock held by Strata Trust Company, which is controlled by Mr. Loewenbaum, (b) 13,500 shares of common stock issuable upon conversion of Series A redeemable convertible preferred stock held by Lillian S Loewenbaum Grantor Retained Annuity Trust II, of which Mr. Loewenbaum serves as the trustee, (c) 13,500 shares of common stock issuable upon conversion of Series A redeemable convertible preferred stock held by G. Walter Loewenbaum Grantor Retained Annuity Trust III, of which Mr. Loewenbaum serves as the settlor and trustee, (d) 27,048 shares of common stock issuable upon conversion of Series A redeemable convertible preferred stock held by The Waterproof Partnership, LTD, of which Mr. Loewenbaum serves as the settlor and trustee, (e) 1,950 shares of common stock issuable upon conversion of Series B-1 redeemable convertible preferred stock held by G. Walter Loewenbaum Grantor Retained Annuity Trust II, of which Mr. Loewenbaum serves as the trustee, (f) 5,169 shares of common stock issuable upon conversion of Series B-1 redeemable convertible preferred stock held by The Waterproof Partnership, LTD, of which Mr. Loewenbaum serves as the settlor and trustee, (g) 5,169 shares of common stock issuable upon conversion of Series B-1 redeemable convertible preferred stock held by The Waterproof Partnership, LTD, of which Mr. Loewenbaum serves as the settlor and trustee, (h) 199 shares of common stock issuable upon conversion of Series A redeemable convertible preferred stock, 76 shares of common stock issuable upon conversion of Series B redeemable convertible preferred stock, and 2,250 shares of common stock underlying options that are exercisable as of , 2020 or will become exercisable within 60 days after such date held in Mr. Loewenbaum’s name. As a result, Mr. Loewenbaum may be deemed to be the beneficial owner of all such securities. The business address of each person and entity named in this footnote is C/O Rocky Point Ventures, 1000 Westbank Dr. Suite 2A, Austin, Texas 78746.

174
(3) Consists of (a) 31,806 shares of common stock issuable upon conversion of Series B redeemable convertible preferred stock held in Mr. Traylor’s name and (b) 15,903 shares of common stock issuable upon conversion of Series B redeemable convertible preferred stock held by Traylor Capital, LLC (“Traylor Capital”). Mr. Traylor is the Managing Principle of Traylor Capital and may be deemed to be the beneficial owner of the shares held by Traylor Capital. The business address of Mr. Traylor and Traylor Capital is 5410 Farquhar Lane, Dallas, Texas 75209.

(4) Consists of 318,064 shares of common stock issuable upon conversion of Series B-1 redeemable convertible preferred stock held by Redmile Biopharma Investments II, L.P. Redmile Group, LLC is the investment adviser to Redmile Biopharma Investments II, L.P. and, in such capacity, exercises sole voting and investment power over all of the securities held by Redmile Biopharma Investments II, L.P. and may be deemed to be the beneficial owner of these securities. Jeremy C. Green serves as the managing member of Redmile Group, LLC and also may be deemed to be the beneficial owner of these shares. Redmile Group, LLC, Mr. Green and Mr. Lee each disclaim beneficial ownership of these shares, except to the extent of its or his pecuniary interest in such shares, if any. The business address of Redmile Biopharma Investments II, L.P. is c/o Redmile Group, LLC, One Letterman Drive, Building D, Suite D3-300, San Francisco, California 94129. Mr. Lee is a member of our Board and a Co-Founder and Portfolio Manager of Redmile Group, LLC.

(5) Consists of (a) 80,032 shares of common stock issuable upon conversion of Series A redeemable convertible preferred stock, (b) 15,609 shares of common stock issuable upon conversion of Series B redeemable convertible preferred stock, and (c) 7,952 shares of common stock issuable upon conversion of Series B-1 redeemable convertible preferred stock, all held by Clark BP, LLC. Stephen Duff and Kevin Moore are the Co-Managers of Clark BP LLC and may be deemed to be the beneficial owners of the securities held by Clark BP, LLC. The business address of Clark BP, LLC is One Rockefeller Plaza, 31st Floor, New York, New York 10020.

(6) Consists of (a) 79,516 shares of common stock issuable upon conversion of Series B redeemable convertible preferred stock and (b) 15,903 shares of common stock issuable upon conversion of Series B-1 redeemable convertible preferred stock held by ECMC Group, Inc., a Delaware non-profit corporation. The business address of ECMC Group, Inc. is 111 Washington Ave. South, Suite 1400, Minneapolis, Minnesota 55401.

(7) Consists of (a) 5,566 shares of common stock issuable upon conversion of Series B-1 redeemable convertible preferred stock held by Hatteras NC Fund, LP (“HNC”) and (b) 73,950 shares of common stock issuable upon conversion of Series B-1 redeemable convertible preferred stock held by Hatteras Venture Partners VI, LP (“HVP VI”). Hatteras Venture Advisors VI, LLC (“HVA VI”) is the General Partner of HVP VI. The shares held by HVP VI are indirectly held by the individual management members of HVA VI (the “HVA VI Management Members”). The HVA VI Management Members are Christy Shaffer, John Crumpler, Clay B. Thorp, Michael Dial, Jeffery Terrell, Douglas Reed and Robert A. Ingram. The HVA VI Management Members may share voting and dispositive power over the securities directly held by HVP VI. Hatteras Venture Advisors IV, LLC (“HVA IV”) is the General Partner of HNC. The shares held by HNC are indirectly held by the individual management members of HVA IV (the “HVA IV Management Members”). The HVA IV Management Members are Robert A. Ingram, Clay B. Thorp, John Crumpler, Kenneth Lee, and Douglas Reed. The HVA IV Management Members may share voting and dispositive power over the securities directly held by HNC. The business address of each person and entity named in this footnote is 280 South Mangum Street, Suite 350, Durham, North Carolina 27701.

(8) Consists of (a) 86,172 shares of common stock issuable upon conversion of Series B-1 redeemable convertible preferred stock held by EcoR1 Capital Fund Qualified, L.P., (b) 16,467 shares of common stock issuable upon conversion of Series B-1 redeemable convertible preferred stock held by EcoR1 Capital Fund, L.P., and (c) 56,393 shares of common stock issuable upon conversion of Series B-1 redeemable convertible preferred stock held by EcoR1 Venture Opportunity Fund, L.P. These funds are managed by EcoR1 Capital, LLC, which is managed by Oleg Nodelman and as a result may be deemed to have voting and dispositive power over the securities held by these funds. The business address of EcoR1 Capital, LLC is 357 Tehama Street, #3, San Francisco, California 94103.

175
<table>
<thead>
<tr>
<th>Table of Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>(9) Consists of (a) 98,014 shares of common stock issuable upon conversion of Series B-1 redeemable convertible preferred stock held by Janus Henderson Global Life Sciences Fund, (b) 26,289 shares of common stock issuable upon conversion of Series B-1 redeemable convertible preferred stock held by Janus Henderson Biotech Innovation Master Fund Limited, (c) 66,096 shares of common stock issuable upon conversion of Series B-1 redeemable convertible preferred stock held by Janus Henderson Capital Funds Plc—Janus Henderson Global Life Sciences Fund, and (d) 439 shares of common stock issuable upon conversion of Series B-1 redeemable convertible preferred stock held by Janus Henderson Horizon Fund—Biotechnology Fund. Janus Capital Management LLC (&quot;JCM&quot;) acts as the investment manager to these funds. As such, JCM may be deemed to be the beneficial owner of 190,838 shares of common stock issuable upon conversion of Series B-1 redeemable convertible preferred stock. The business address of JCM is 151 Detroit Street, Denver, Colorado 80206.</td>
</tr>
<tr>
<td>(10) Consists of (a) 145,658 shares of common stock issuable upon conversion of Series A redeemable convertible preferred stock, (b) 31,806 shares of common stock issuable upon conversion of Series B redeemable convertible preferred stock, and (c) 25,762 shares of common stock issuable upon conversion of Series B-1 redeemable convertible preferred stock held by Delphinium, Inc. John T. Dorrance III is the Director of Delphinium, Inc. and has voting and investment power over the securities held by Delphinium, Inc. The business address of Delphinium, Inc. is Pictet Bank &amp; Trust Ltd, Bayside Executive Park, Bldg. #1, West Bay Street &amp; Blake Road, Nassau, Bahamas.</td>
</tr>
<tr>
<td>(11) Consists of (a) 395,000 shares of common stock held by Houghton Capital Holdings, LLC, which is controlled by Dr. Schreiber and (b) 373 shares of common stock issuable upon conversion of Series A redeemable convertible preferred stock and 397 shares of common stock issuable upon conversion of Series B redeemable convertible preferred stock held in Dr. Schreiber’s name.</td>
</tr>
<tr>
<td>(12) Consists of (a) 475,000 shares of common stock, 3,429 shares of common stock issuable upon conversion of Series A redeemable convertible preferred stock and 397 shares of common stock issuable upon conversion of Series B redeemable convertible preferred stock held by Hornblower Capital Holdings, LLC and (b) 9,200 shares of common stock issuable upon conversion of Series A redeemable convertible preferred stock and 2,385 shares of common stock issuable upon conversion of Series B redeemable convertible preferred stock held by Stone Dock Investors. Mr. Hornblower has voting and investment power over the securities held by Hornblower Capital Holdings, LLC and Stone Dock Investors.</td>
</tr>
<tr>
<td>(13) Consists of (a) 7,700 shares of common stock and 91,888 shares of common stock issuable upon conversion of Series A redeemable convertible preferred stock held by Lennox Dallas Partners, L.P. (&quot;Lennox Partners&quot;), (b) 2,400 shares of common stock issuable upon conversion of Series A redeemable convertible preferred stock held by Lennox Dallas Holdings, LLC – Series 3, (c) 3,976 shares of common stock issuable upon conversion of Series B redeemable convertible preferred stock held by Lennox Dallas Holdings, LLC – Series 9, (d) 12,720 shares of common stock issuable upon conversion of Series B-1 redeemable convertible preferred stock held by Lennox Dallas Holdings, LLC – Series 10 and (e) 4,500 shares of common stock held in Mr. Brous’ name. Mr. Brous is the Manager of the Lennox Dallas Holdings, LLC entities and is the Vice President of RS Holdings, Inc., the General Partner of Lennox Partners. As such, Mr. Brous has voting and investment power over all of the securities held by Lennox Partners and the Lennox Dallas Holdings, LLC entities.</td>
</tr>
<tr>
<td>(14) Consists of (a) 7,700 shares of common stock and (b) 4,500 shares of common stock underlying options that are exercisable as of , 2020 or will become exercisable within 60 days after such date.</td>
</tr>
<tr>
<td>(15) Consists of 14,700 shares of common stock underlying options that are exercisable as of , 2020 or will become exercisable within 60 days after such date.</td>
</tr>
<tr>
<td>(16) Consists of (a) 15,069 shares of common stock and (b) 21,312 shares of common stock underlying options that are exercisable as of , 2020 or will become exercisable within 60 days after such date.</td>
</tr>
<tr>
<td>(17) Consists of (a) 11,947 shares of common stock, (b) 8,846 shares of common stock underlying options that are exercisable as of , 2020 or will become exercisable within 60 days after such date and (c) 491 shares of restricted stock units vesting within 60 days after , 2020.</td>
</tr>
</tbody>
</table>
CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

The following is a summary of each transaction or series of similar transactions since January 1, 2017, or any currently proposed transaction, to which we were or are a party in which:

- the amount involved exceeded or exceeds $120,000; and
- any of our directors or executive officers, any holder of 5% of any class of our voting capital stock or any member of his or her immediate family had or will have a direct or indirect material interest.

Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to such securities.

Related Party Transactions

Preferred Stock Financings

In April 2018, we completed an equity financing and issued and sold an aggregate of 1,093,019 shares of our Series A redeemable convertible preferred stock at a purchase price of $62.4750 per share. We issued and sold the shares of Series A redeemable convertible preferred stock pursuant to a stock purchase agreement entered into with certain investors, for an aggregate purchase price of approximately $46.6 million, composed of approximately $35.3 million in cash and $11.3 million in cancellation of indebtedness pursuant to the conversion of our convertible promissory notes. Each share of our Series A redeemable convertible preferred stock is convertible into one share of common stock. The following table summarizes purchases of our Series A redeemable convertible preferred stock by related persons:

<table>
<thead>
<tr>
<th>Participant</th>
<th>Shares of Series A Redeemable Convertible Preferred Stock</th>
<th>Cancellation of Indebtedness*</th>
<th>Cash Purchase Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Millennium Pharmaceuticals, Inc.</td>
<td>306,615</td>
<td>$5,324,657.53</td>
<td>$12,499,998.00</td>
</tr>
<tr>
<td>Entities affiliated Delphinium, Inc.</td>
<td>145,658</td>
<td>—</td>
<td>$9,099,983.55</td>
</tr>
<tr>
<td>Clark BP, LLC</td>
<td>80,032</td>
<td>—</td>
<td>$4,999,999.20</td>
</tr>
<tr>
<td>Entities affiliated with Tyler Brous</td>
<td>94,288</td>
<td>$1,361,328.77</td>
<td>$149,940.00</td>
</tr>
<tr>
<td>Entities affiliated with Josiah Hornblower</td>
<td>12,629</td>
<td>$158,440.86</td>
<td>$49,980.00</td>
</tr>
<tr>
<td>Entities affiliated with G. Walter Lowenbaum</td>
<td>88,226</td>
<td>$1,095,609.62</td>
<td>$100,022.48</td>
</tr>
<tr>
<td>Erin Thomson</td>
<td>160</td>
<td>—</td>
<td>$9,996.00</td>
</tr>
<tr>
<td>Taylor Schreiber, M.D, Ph.D.</td>
<td>373</td>
<td>$10,655.89</td>
<td>$9,996.00</td>
</tr>
</tbody>
</table>

* All principal due and accrued interest were converted into shares of Series A redeemable convertible preferred stock.
In January 2020, with subsequent closings in February and March 2020, we completed an equity financing and issued and sold an aggregate of 550,571 shares of our Series B redeemable convertible preferred stock at a purchase price of $62.88051 per share. We issued and sold the shares of Series B redeemable convertible preferred stock pursuant to a stock purchase agreement entered into with investors, for an aggregate purchase price of approximately $34.62 million. Each share of our Series B redeemable convertible preferred stock is convertible into one share of common stock. The following table summarizes purchases of our Series B redeemable convertible preferred stock by related persons:

<table>
<thead>
<tr>
<th>Participant</th>
<th>Shares of Series B Redeemable Convertible Preferred Stock</th>
<th>Total Purchase Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECMC Group, Inc.</td>
<td>79,516</td>
<td>$5,000,006.63</td>
</tr>
<tr>
<td>Entities affiliated with Daniel A. Traylor</td>
<td>47,709</td>
<td>$2,999,966.25</td>
</tr>
<tr>
<td>Entities affiliated with Delphinium, Inc.</td>
<td>31,806</td>
<td>$1,999,977.50</td>
</tr>
<tr>
<td>Clark BP, LLC</td>
<td>15,609</td>
<td>$981,501.88</td>
</tr>
<tr>
<td>Entities affiliated with Josiah Hornblower</td>
<td>10,337</td>
<td>649,995.83</td>
</tr>
<tr>
<td>Entities affiliated with G. Walter Loewenbaum</td>
<td>3,976</td>
<td>250,012.91</td>
</tr>
<tr>
<td>Entities affiliated with Tyler Brous</td>
<td>3,976</td>
<td>250,012.91</td>
</tr>
<tr>
<td>Taylor Schreiber, M.D., Ph.D.</td>
<td>397</td>
<td>24,963.56</td>
</tr>
</tbody>
</table>

In June 2020, we issued and sold an aggregate of 1,319,964 shares of our Series B-1 redeemable convertible preferred stock at a purchase price of $62.88051 per share. We issued and sold the shares of Series B-1 redeemable convertible preferred stock pursuant to a stock purchase agreement entered into with investors, for an aggregate purchase price of approximately $83.0 million. Each share of our Series B-1 redeemable convertible preferred stock is convertible into one share of common stock. The following table summarizes purchases of our Series B-1 redeemable convertible preferred stock by related persons:

<table>
<thead>
<tr>
<th>Participant</th>
<th>Shares of Series B-1 Redeemable Convertible Preferred Stock</th>
<th>Total Purchase Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redmile Biopharma Investments II, L.P.</td>
<td>318,064</td>
<td>$20,000,026.50</td>
</tr>
<tr>
<td>Entities affiliated with Fidelity Investments</td>
<td>318,064</td>
<td>$20,000,026.50</td>
</tr>
<tr>
<td>Entities affiliated with Janus Henderson</td>
<td>190,838</td>
<td>$11,999,990.80</td>
</tr>
<tr>
<td>Entities affiliated with EcoR1 Capital LLC</td>
<td>86,172</td>
<td>$5,418,539.31</td>
</tr>
<tr>
<td>Entities affiliated with Hatteras Venture Partners</td>
<td>79,516</td>
<td>$5,000,006.63</td>
</tr>
<tr>
<td>Entities affiliated with Delphinium, Inc.</td>
<td>25,762</td>
<td>$1,619,927.70</td>
</tr>
<tr>
<td>ECMC Group, Inc.</td>
<td>15,903</td>
<td>$999,988.75</td>
</tr>
<tr>
<td>Entities affiliated with Tyler Brous</td>
<td>12,720</td>
<td>$799,840.09</td>
</tr>
<tr>
<td>Entities affiliated with G. Walter Loewenbaum</td>
<td>10,338</td>
<td>$650,058.71</td>
</tr>
<tr>
<td>Clark BP, LLC</td>
<td>7,952</td>
<td>500,025.82</td>
</tr>
</tbody>
</table>

Second Amended and Restated Investors’ Rights Agreement

We are party to a second amended and restated investors’ rights agreement, effective as of June 12, 2020, or the IRA, with the holders of our redeemable convertible preferred stock and certain other stockholders. The IRA provides certain holders of our capital stock with certain registration rights, including the right to demand that we file a registration statement or request that their shares be covered by a registration statement that we are otherwise filing. In addition to registration rights, the IRA provides for certain information rights, a right of first offer and a market stand-off provision imposing restrictions on the ability of the parties thereto to offer, sell or
transfer our equity securities for a period of 180 days following the date of this offering. The IRA will terminate pursuant to its terms immediately prior to the completion of this offering, other than those provisions relating to registration rights, which will terminate no later than five years after the completion of this offering, the closing of a stock sale (as defined in the IRA) or deemed liquidation event (as defined in our amended and restated certificate of incorporation) or, with respect to any particular holder, at such time that such holder can sell its shares, under Rule 144 under the Securities Act or otherwise, during any 90-day period without registration.

**Second Amended and Restated Voting Agreement**

We are party to a second amended and restated voting agreement, effective as of June 12, 2020, or the Voting Agreement, under which the holders of our redeemable convertible preferred stock and certain other holders of our capital stock, and entities affiliated with our two founders, which such entities are referred to as the Key Holders, have agreed to vote in a certain way on certain matters, including with respect to the election of our directors. All of our current directors were elected pursuant to the terms of this agreement. The Voting Agreement will terminate immediately prior to the completion of this offering.

**Second Amended and Restated Right of First Refusal and Co-Sale Agreement**

We are party to a second amended and restated right of first refusal and co-sale agreement, effective as of June 12, 2020, or the ROFR Agreement, with the holders of our redeemable convertible preferred stock and certain other holders of our capital stock, pursuant to which we have a right of first refusal on certain transfers of our shares by the Key Holders, holders of our redeemable convertible preferred stock have a secondary right of first refusal on such transfers, and such redeemable convertible preferred stock holders have a right of co-sale in respect of such transfers. The ROFR will terminate upon the completion of this offering. See “Description of Capital Stock—Registration Rights.”

**Takeda Collaboration Agreement**

See “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Collaboration and License Agreements—Takeda Collaboration Agreement” for information regarding our Collaboration Agreement with Takeda.

**Employment Agreements**

We have entered into employment agreements with our named executive officers. For more information regarding the agreements with our named executive officers, see “Executive Compensation—Employment Agreements.”

**Director Compensation**

See “Executive Compensation—Director Compensation” for information regarding compensation of our directors.

**Indemnification Agreements**

In connection with this offering, we will enter into agreements to indemnify our directors and executive officers. These agreements will, among other things, require us to indemnify these individuals for certain expenses (including attorneys’ fees), judgments, fines and settlement amounts reasonably incurred by such person in any action or proceeding, including any action by or in our right, on account of any services undertaken by such person on behalf of our company or that person’s status as a member of our Board to the maximum extent allowed under Delaware law.
Stock Option Grants to Executive Officers and Directors

We have granted stock options to our executive officers and certain of our directors as more fully described in the sections entitled “Executive Compensation” and “Management—Director Compensation.”

Related Party Transaction Policy

Prior to this offering, we did not have a formal policy regarding approval of transactions with related parties. To date, all transactions with related parties have been approved by the directors not interested in the transaction pursuant to Section 144(a)(1) of the Delaware General Corporation Law. We will adopt a related party transaction policy that sets forth our procedures for the identification, review, consideration and approval or ratification of related person transactions. The policy will become effective upon the execution of the underwriting agreement for this offering. For purposes of our policy only, a related person transaction is a transaction, arrangement or relationship, or any series of similar transactions, arrangements or relationships, in which we and any related person are, were or will be participants in which the amount involved exceeds $100,000. A related person is any executive officer, director or beneficial owner of more than 5% of any class of our voting securities, including any of their immediate family members and any entity owned or controlled by such persons. Transactions involving compensation for services provided to us as an employee or director, among other limited exceptions, are deemed to have standing pre-approval by the Audit Committee but may be specifically reviewed if appropriate in light of the facts and circumstances.

Under the policy, if a transaction has been identified as a related party transaction, including any transaction that was not a related party transaction when originally consummated or any transaction that was not initially identified as a related party transaction prior to consummation, our management must present information regarding the related party transaction to our Audit Committee for review, consideration and approval or ratification. The presentation must include a description of, among other matters, the material facts, the interests, direct and indirect, of the related persons, the benefits to us of the transaction and whether the transaction is on terms that are comparable to the terms available to or from, as the case may be, an unrelated third party or to or from employees generally. Under the policy, we will collect information that we deem reasonably necessary from each director, executive officer and, to the extent feasible, significant stockholder to enable us to identify any existing or potential related party transactions and to effectuate the terms of the policy. In addition, under our Code of Business Conduct and Ethics, our employees and directors have an affirmative responsibility to disclose any transaction or relationship that reasonably could be expected to give rise to a conflict of interest. In considering related party transactions, our Audit Committee will take into account the relevant available facts and circumstances including, but not limited to:

- the risks, costs and benefits to us;
- the impact on a director’s independence in the event that the related person is a director, immediate family member of a director or an entity with which a director is affiliated;
- the availability of other sources for comparable services or products; and
- the terms available to or from, as the case may be, unrelated third parties or to or from employees generally.

The policy requires that, in determining whether to approve, ratify or reject a related party transaction, our Audit Committee must consider, in light of known circumstances, whether the transaction is in, or is not inconsistent with, our best interests and those of our stockholders, as our Audit Committee determines in the good faith exercise of its discretion.

The transactions described below were consummated prior to our adoption of the formal, written policy described above, and, accordingly, the foregoing policies and procedures were not followed with respect to these transactions. However, we believe that the terms obtained or consideration that we paid or received, as applicable, in connection with the transactions described below were comparable to terms available or the amounts that would be paid or received, as applicable, in arms-length transactions at such time.

180
DESCRIPTION OF CAPITAL STOCK

General

The following is a summary of the material terms of our capital stock, as well as other material terms of our second amended and restated certificate of incorporation and amended bylaws, as each will be in effect following the completion of this offering, and certain provisions of Delaware law. This summary does not purport to be complete and is qualified in its entirety by the provisions of our certificate of incorporation and bylaws, copies of which will be filed with the SEC as exhibits to the registration statement, of which this prospectus forms a part.

Upon the filing of our second amended and restated certificate of incorporation and the consummation of this offering, our authorized capital stock will consist of                shares of common stock, $0.0001 par value per share, and                shares of “blank check” preferred stock, $0.0001 par value per share.

As of June 30, 2020, after giving effect to the automatic conversion of all of our outstanding shares of redeemable convertible preferred stock into an aggregate of                shares of our common stock upon the closing of this offering, there would have been                shares of common stock issued and outstanding, held of record by                stockholders.

Common Stock

Our second amended and restated certificate of incorporation will authorize the issuance of up to                shares of our common stock. All outstanding shares of our common stock are validly issued, fully paid and nonassessable, and the shares of our common stock to be issued in connection with this offering will be validly issued, fully paid and nonassessable.

The holders of our common stock will be entitled to one vote per share on all matters submitted to a vote of stockholders, and our second amended and restated certificate of incorporation will not provide for cumulative voting in the election of directors. The holders of our common stock will receive ratably any dividends declared by our Board out of funds legally available therefor. In the event of our liquidation, dissolution or winding-up, the holders of our common stock will be entitled to share ratably in all assets remaining after payment of or provision for any liabilities.

Preferred Stock

As of June 30, 2020, there were 2,963,554 shares of our redeemable convertible preferred stock outstanding, which will convert into shares of our common stock upon the closing of this offering.

Upon completion of this offering, all of our previously outstanding shares of redeemable convertible preferred stock will have been converted into shares of our common stock and we will have no shares of redeemable convertible preferred stock outstanding. Under the terms of our certificate of incorporation, our Board will have the authority, without further action by our stockholders, to issue up to                shares of preferred stock in one or more series, to establish from time to time the number of shares to be included in each such series, to fix the dividend, voting and other rights, preferences and privileges of the shares of each wholly unissued series and any qualifications, limitations or restrictions thereon, and to increase or decrease the number of shares of any such series, but not below the number of shares of such series then outstanding.

Our Board may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of our common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in our control and may adversely affect the market price of our common stock and the voting and other rights of the holders of our common stock. We have no current plans to issue any shares of preferred stock.
Registration Rights

We are party to the IRA which provides that certain holders of shares of our redeemable convertible preferred stock and certain holders of shares of our common stock have certain registration rights described below. The registration of shares of our common stock pursuant to the exercise of registration rights described below would enable holders to sell these shares without restriction under the Securities Act when the registration statement is declared effective. We will pay all expenses related to any demand, piggyback, or Form S-3 registration described below, with the exception of underwriting discounts and commissions.

The registration rights described below will expire upon the earliest to occur of: (i) five years after the completion of this offering or (ii) with respect to any particular holder, at the time that such holder can sell all its registrable securities under Rule 144 or another similar exemption under the Securities Act without limitation during a three-month period without registration.

Demand Registration Rights

The holders of registrable securities are entitled to certain demand registration rights. At any time after the earlier of (i) five years after the date of the IRA or (ii) 180 days following the effective date of the registration statement of which this prospectus forms a part, (x) holders who are major investors and hold a majority of the registrable securities then outstanding and held by major investors or (y) holders who are major investors and hold at least 70% of the registrable securities then outstanding may request that we register all or a portion of their registrable securities.

Piggyback Registration Rights

Subject to certain specified exceptions, if we propose to register any of our securities under the Securities Act either for our own account or for the account of other stockholders, the holders of shares having registration rights are entitled to written notice and certain “piggyback” registration rights allowing them to include their shares in our registration statement. These registration rights are subject to specified conditions and limitations, including the right of the underwriters, in their sole discretion, to limit the number of shares included in any such offering under certain circumstances, but not below 30% of the total amount of securities included in such offering, unless (i) such offering is the initial public offering or (ii) any registrable securities which are not key holder registrable securities be excluded from such underwriting unless all key holder registrable securities are first excluded from such offering.

Form S-3 Registration Rights

At any time after we are qualified to file a registration statement on Form S-3, and subject to limitations and conditions, (x) holders who hold are major investors and hold a majority of the registrable securities then outstanding and held by major Investors or (y) holders who are major Investors and hold at least 70% of the registrable securities then outstanding may make a written request that we prepare and file a registration statement on Form S-3 under the Securities Act covering their shares, so long as the aggregate price to the public, net of the underwriters’ discounts and commissions, is at least $5,000,000. We will prepare and file the Form S-3 registration as requested, unless, in the good faith judgment of our Board, such registration would be seriously detrimental to the company and its stockholders and filing should be deferred. We may defer only once in any 12-month period, and such deferral shall not exceed 90 days after receipt of the request. In addition, we are not obligated to prepare or file any of these registration statements (i) within 90 days after the effective date of a registration statement pursuant to demand or piggyback registration rights or (ii) if two of these registrations have been completed within any 12-month period.
Anti-Takeover Effects of Our Second Amended and Restated Certificate of Incorporation, Amended Bylaws and Delaware Law

Our second amended and restated certificate of incorporation and our amended bylaws, each to be in effect immediately prior to the completion of this offering, will include a number of provisions that may have the effect of delaying, deferring or preventing another party from acquiring control of us and encouraging persons considering unsolicited tender offers or other unilateral takeover proposals to negotiate with our Board rather than pursue non-negotiated takeover attempts.

- **Issuance of undesignated preferred stock:** Under our second amended and restated certificate of incorporation, our Board will have the authority, without further action by the stockholders, to issue up to __________ shares of undesignated preferred stock with rights and preferences, including voting rights, designated from time to time by our Board. The existence of authorized but unissued shares of preferred stock enables our Board to make it more difficult to attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise.

- **Classified board:** Our second amended and restated certificate of incorporation will establish a classified Board consisting of three classes of directors, with staggered three-year terms. Only one class of directors will be elected at each annual meeting of our stockholders, with the other classes continuing for the remainder of their respective three-year terms. This provision may have the effect of delaying a change in control of our Board.

- **Election and removal of directors and board vacancies:** Our second amended and restated certificate of incorporation will provide that directors will be elected by a plurality vote. Our second amended and restated certificate of incorporation and amended bylaws will also provide that our Board has the right to increase or decrease the size of the Board and to fill vacancies on the Board. Directors may be removed only for cause by the affirmative vote of the holders of at least 66 2/3% of the votes that all our stockholders would be entitled to cast in an annual election of directors. Only our Board is authorized to fill vacant directorships. In addition the number of directors constituting our Board may be set only by resolution adopted by a majority vote of the directors then in office. These provisions prevent stockholders from increasing the size of our Board and gaining control of our Board by filling the resulting vacancies with its own nominees.

- **Requirements for advance notification of stockholder nominations and proposals:** Our amended bylaws will establish advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors that specify certain requirements as to the timing, form and content of a stockholder’s notice. Business that may be conducted at an annual meeting of stockholders will be limited to those matters properly brought before the meeting. These provisions may make it more difficult for our stockholders to bring matters before our annual meeting of stockholders or to nominate directors at annual meetings of stockholders.

- **No written consent of stockholders:** Our second amended and restated certificate of incorporation will provide that all stockholder actions be taken by a vote of the stockholders at an annual or special meeting, and that stockholders may not take any action by written consent in lieu of a meeting. This limit may lengthen the amount of time required to take stockholder actions and would prevent the amendment of our amended bylaws or removal of directors by our stockholders without holding a meeting of stockholders.

- **No stockholder ability to call special meetings:** Our second amended and restated certificate of incorporation and amended bylaws will provide that only our Board may be able to call special meetings of stockholders and only those matters set forth in the notice of the special meeting may be considered or acted upon at a special meeting of stockholders.

- **Amendments to certificate of incorporation and bylaws:** Any amendment to our second amended and restated certificate of incorporation will be required to be approved by a majority of our Board as well as, if required by law or the our second amended and restated certificate of incorporation, a majority of the outstanding shares entitled to vote on the amendment and a majority of the outstanding shares of each
class entitled to vote thereon as a class, except that the amendment of provisions to Board classification, stockholder action, certificate amendments, and liability of directors must be approved by not less than 66 2/3% of the outstanding shares entitled to vote on the amendment, voting together as a single class. Any amendment to our amended bylaws will be required to be approved by either a majority of our Board or not less than 66 2/3% of the outstanding shares entitled to vote on the amendment, voting together as a single class.

These provisions are designed to enhance the likelihood of continued stability in the composition of our Board and its policies, to discourage certain types of transactions that may involve an actual or threatened acquisition of our company and to reduce our vulnerability to an unsolicited acquisition proposal. We also designed these provisions to discourage certain tactics that may be used in proxy fights. However, these provisions could have the effect of discouraging others from making tender offers for our shares and, as a consequence, they may also reduce fluctuations in the market price of our shares that could result from actual or rumored takeover attempts.

**Delaware General Corporation Law Section 203**

As a Delaware corporation, we are also subject to the anti-takeover provisions of Section 203 of the Delaware General Corporation Law, which prohibits a Delaware corporation from engaging in a business combination specified in the statute with an interested stockholder (as defined in the statute) for a period of three years after the date of the transaction in which the person first becomes an interested stockholder, unless the business combination is approved in advance by a majority of the independent directors or by the holders of at least two-thirds of the outstanding disinterested shares. The application of Section 203 of the Delaware General Corporation Law could also have the effect of delaying or preventing a change of control of us.

**Exclusive Forum Selection Clause**

Our second amended and restated certificate of incorporation will provide that, unless we consent in writing to the selection of an alternative forum, the sole and exclusive forum to the fullest extent permitted by law for: (1) any derivative action or proceeding brought on our behalf; (2) any action asserting a breach of fiduciary duty owed by any director, officer or other employee to us or our stockholders; (3) any action asserting a claim against us or any director or officer or other employee arising pursuant to the Delaware General Corporation Law; (4) any action to interpret, apply, enforce or determine the validity of our amended and restated certificate of incorporation or bylaws; or (5) any other action asserting a claim that is governed by the internal affairs doctrine, shall be the Court of Chancery of the State of Delaware (or another state court or the federal court located within the State of Delaware if the Court of Chancery does not have or declines to accept jurisdiction), in all cases subject to the court's having jurisdiction over indispensable parties named as defendants. In addition, our second amended and restated certificate of incorporation will provide that the federal district courts of the United States will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act but the forum selection provisions will not apply to claims brought to enforce a duty or liability created by the Exchange Act. Although we believe these provisions benefit us by providing increased consistency in the application of Delaware law for the specified types of actions and proceedings, the provisions may have the effect of discouraging lawsuits against us or our directors or officers. Although our amended and restated certificate of incorporation contains the choice of forum provisions described above, it is possible that a court could find that such provisions are inapplicable for a particular claim or action or that such provisions are unenforceable.

**Transfer Agent and Registrar**

will serve as the transfer agent and registrar for our common stock.

**Listing**

We have applied to list our common stock on The Nasdaq Global Market under the symbol “STTK.”
SHARES ELIGIBLE FOR FUTURE SALE

Before the closing of this offering, there has been no public market for our common stock. Future sales of substantial amounts of our common stock, including shares issued on the exercise of outstanding options, in the public market after this offering, or the possibility of these sales or issuances occurring, could adversely affect the prevailing market price for our common stock or impair our ability to raise equity capital.

Based on our shares of common stock outstanding as of June 30, 2020, upon the completion of this offering and assuming the automatic conversion of all outstanding shares of our redeemable convertible preferred stock into an aggregate of shares of common stock, we will have an aggregate of shares of common stock outstanding (or shares if the underwriters exercise in full their option to purchase additional shares). Of these shares, all of the common stock sold in this offering, plus any shares sold on exercise of the underwriters’ option to purchase additional common stock, will be freely tradable in the public market without restriction or further registration under the Securities Act, unless these shares are held by “affiliates,” as that term is defined in Rule 144 under the Securities Act.

The remaining shares of common stock will be, “restricted securities,” as that term is defined in Rule 144 under the Securities Act. These restricted securities are eligible for public sale only if they are registered under the Securities Act or if they qualify for an exemption from registration under Rules 144 or 701 under the Securities Act, which are summarized below. Restricted securities may also be sold outside of the United States to non-U.S. persons in accordance with Rule 904 of Regulation S.

Subject to the lock-up agreements described below and the provisions of Rule 144 or Regulation S under the Securities Act, as well as our insider trading policy, these restricted securities will be available for sale in the public market after the date of this prospectus.

Rule 144

In general, under Rule 144 as currently in effect, once we have been subject to public company reporting requirements of Section 13 or Section 15(d) of the Exchange Act for at least 90 days, an eligible stockholder is entitled to sell such shares without complying with the manner of sale, volume limitation, or notice provisions of Rule 144, subject to compliance with the public information requirements of Rule 144. To be an eligible stockholder under Rule 144, such stockholder must not be deemed to have been one of our affiliates for purposes of the Securities Act at any time during the 90 days preceding a sale and must have beneficially owned the shares proposed to be sold for at least six months, including the holding period of any prior owner other than our affiliates. If such a person has beneficially owned the shares proposed to be sold for at least one year, including the holding period of any prior owner other than our affiliates, then such person is entitled to sell such shares without complying with any of the requirements of Rule 144, subject to the expiration of the lock-up agreements described below.

In general, under Rule 144, as currently in effect, our affiliates or persons selling shares on behalf of our affiliates are entitled to sell shares on expiration of the lock-up agreements described below. Beginning 90 days after the date of this prospectus, within any three-month period, such stockholders may sell a number of shares that does not exceed the greater of:

- 1% of the number of shares of common stock then outstanding, which will equal approximately shares immediately after this offering, assuming no exercise of the underwriters’ option to purchase additional shares of common stock from us; or
- the average weekly trading volume of our common stock on The Nasdaq Global Market during the four calendar weeks preceding the filing of a notice on Form 144 with respect to such sale.

Sales under Rule 144 by our affiliates or persons selling shares on behalf of our affiliates are also subject to certain manner of sale provisions and notice requirements and to the availability of current public information about us.
Rule 701

Rule 701 generally allows a stockholder who was issued shares under a written compensatory plan or contract and who is not deemed to have been an affiliate of our company during the immediately preceding 90 days, to sell these shares in reliance on Rule 144, but without being required to comply with the public information, holding period, volume limitation, or notice provisions of Rule 144. Rule 701 also permits affiliates of our company to sell their Rule 701 shares under Rule 144 without complying with the holding period requirements of Rule 144. All holders of Rule 701 shares, however, are required by that rule to wait until 90 days after the date of this prospectus before selling those shares under Rule 701, subject to the expiration of the lock-up agreements described below.

Form S-8 Registration Statements

We intend to file one or more registration statements on Form S-8 under the Securities Act with the SEC to register the offer and sale of shares of our common stock that are issuable under our 2020 Plan and our ESPP. These registration statements will become effective immediately on filing. Shares covered by these registration statements will then be eligible for sale in the public markets, subject to vesting restrictions, any applicable lock-up agreements described below, and Rule 144 limitations applicable to affiliates.

Lock-up Arrangements

We, and all of our directors, executive officers and the holders of substantially all of our common stock and securities exercisable for or convertible into our common stock outstanding immediately on the closing of this offering, have agreed with the underwriters that, until 180 days after the date of the underwriting agreement related to this offering, we and they will not, without the prior written consent of Citigroup Global Markets Inc., Cowen and Company, LLC, and Evercore Group L.L.C., directly or indirectly, offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase or otherwise transfer or dispose of any of our shares of common stock, or any securities convertible into or exercisable or exchangeable for shares of our common stock, or enter into any swap or any other agreement or any transaction that transfers, in whole or in part, directly or indirectly, the economic consequence of ownership of the securities, whether any such swap or transaction is to be settled by delivery of our common stock or other securities, in cash or otherwise. These agreements are described in “Underwriting.” Citigroup Global Markets Inc., Cowen and Company, LLC, and Evercore Group L.L.C. may, in their sole discretion, release any of the securities subject to these lock-up agreements at any time.

Registration Rights

Upon the closing of this offering, pursuant to our second amended and restated investors’ rights agreement, the holders of shares of our common stock, or their transferees, will be entitled to certain rights with respect to the registration of the offer and sale of their shares under the Securities Act, subject to the terms of the lock-up agreements described under “—Lock-Up Arrangements” above. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act immediately on the effectiveness of the registration. Any sales of securities by these stockholders could have a material adverse effect on the trading price of our common stock. See “Description of Capital Stock—Registration Rights” for additional information.
MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES TO NON-U.S. HOLDERS

The following discussion is a summary of material U.S. federal income tax consequences to Non-U.S. Holders (as defined below) of the purchase, ownership and disposition of our common stock issued pursuant to this offering. The discussion does not purport to be a complete analysis of all potential tax consequences. The consequences of other U.S. federal tax laws, such as estate and gift tax laws, and any applicable state, local or non-U.S. tax laws, are not discussed. This discussion is based on the U.S. Internal Revenue Code of 1986, as amended, or the Code, Treasury Regulations promulgated under the Code, judicial decisions and published rulings and administrative pronouncements of the U.S. Internal Revenue Service, or the IRS, in each case in effect as of the date hereof. These authorities may change or be subject to differing interpretations. Any such change or differing interpretation may be applied retroactively in a manner that could adversely affect a Non-U.S. Holder of our common stock. We have not sought and will not seek any rulings from the IRS regarding the matters discussed below. There can be no assurance the IRS or a court will not take a contrary position to that discussed below regarding the tax consequences of the purchase, ownership and disposition of our common stock.

This discussion is limited to Non-U.S. Holders that hold our common stock as a “capital asset” within the meaning of Section 1221 of the Code (generally, property held for investment). This discussion does not address all U.S. federal income tax consequences relevant to a Non-U.S. Holder’s particular circumstances, including without limitation the impact of the Medicare contribution tax on net investment income. In addition, it does not address consequences relevant to Non-U.S. Holders subject to special rules, including, without limitation:

- U.S. expatriates and former citizens or long-term residents of the United States;
- persons subject to the alternative minimum tax;
- persons holding our common stock as part of a hedge, straddle or other risk-reduction strategy or as part of a conversion transaction or other integrated investment;
- banks, insurance companies and other financial institutions;
- real estate investment trusts or regulated investment companies;
- brokers, dealers or traders in securities;
- “controlled foreign corporations,” “passive foreign investment companies” and corporations that accumulate earnings to avoid U.S. federal income tax;
- partnerships or other entities or arrangements classified as partnerships for U.S. federal income tax purposes (and investors therein);
- tax-exempt organizations or governmental organizations;
- persons subject to special tax accounting rules as a result of any item of gross income with respect to the stock being taken into account in an applicable financial statement;
- persons deemed to sell our common stock under the constructive sale provisions of the Code;
- persons who hold or receive our common stock pursuant to the exercise of any employee stock option or otherwise as compensation; and
- tax-qualified retirement plans.

If an entity or arrangement classified as a partnership for U.S. federal income tax purposes holds our common stock, the tax treatment of a partner in the partnership will depend on the status of the partner, the activities of the partnership and certain determinations made at the partner level. Accordingly, partnerships holding our common stock and the partners in such partnerships should consult their tax advisors regarding the U.S. federal income tax consequences to them.
Table of Contents

This discussion is for informational purposes only and is not tax advice. Investors should consult their tax advisors with respect to the application of the U.S. federal income tax laws to their particular situations as well as any tax consequences of the purchase, ownership and disposition of our common stock arising under the U.S. federal estate or gift tax laws or under the laws of any state, local or non-U.S. taxing jurisdiction or under any applicable income tax treaty.

Definition of a Non-U.S. Holder

For purposes of this discussion, a “Non-U.S. Holder” is any beneficial owner of our common stock that is neither a “U.S. person” nor an entity or arrangement classified as a partnership for U.S. federal income tax purposes. A U.S. person is any person that, for U.S. federal income tax purposes, is or is treated as any of the following:

- an individual who is a citizen or resident of the United States;
- a corporation created or organized under the laws of the United States, any state thereof or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust that: (i) is subject to the primary supervision of a U.S. court and the control of one or more “United States persons” (within the meaning of Section 7701(a)(30) of the Code); or (ii) has a valid election in effect to be treated as a U.S. person for U.S. federal income tax purposes.

Distributions

If we make distributions of cash or other property on our common stock, those distributions will generally constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. If the amount of such distributions exceed our current and accumulated earnings and profits, such excess will generally constitute a tax-free return of capital and will first be applied against and reduce a Non-U.S. Holder’s adjusted tax basis in its common stock, but not below zero. Any excess will be treated as capital gain and will be treated as described below under “Sale or Other Taxable Disposition.”

Subject to the discussion below on effectively connected income, dividends paid to a Non-U.S. Holder of our common stock generally will be subject to U.S. federal withholding tax at a rate of 30% of the gross amount of the dividends (or such lower rate specified by an applicable income tax treaty, provided the Non-U.S. Holder furnishes the applicable withholding agent with documentation required to claim benefits under such tax treaty (generally, a valid IRS Form W-8BEN or W-8BEN-E or a suitable successor or substitute form)). A Non-U.S. Holder that does not timely furnish the required documentation, but that qualifies for a reduced treaty rate, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. Non-U.S. Holders should consult their tax advisors regarding U.S. federal withholding tax on distributions, including their eligibility for benefits under any applicable income tax treaties and the availability of a refund on any excess U.S. federal tax withheld.

If dividends paid to a Non-U.S. Holder are effectively connected with the Non-U.S. Holder’s conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the Non-U.S. Holder maintains a permanent establishment in the United States to which such dividends are attributable), the Non-U.S. Holder will generally be exempt from the U.S. federal withholding tax described above. To claim the exemption, the Non-U.S. Holder must furnish to the applicable withholding agent a valid IRS Form W-8ECI (or a suitable successor or substitute form) certifying that the dividends are effectively connected with the Non-U.S. Holder’s conduct of a trade or business within the United States.

However, any such effectively connected dividends will be subject to U.S. federal income tax on a net income basis at the regular graduated rates applicable to U.S. persons. A Non-U.S. Holder that is a corporation

188
also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected dividends, as adjusted for certain items. Non-U.S. Holders should consult their tax advisors regarding any applicable tax treaties that may provide for different rules.

The foregoing discussion is subject to the discussion below under “Additional Withholding Tax on Payments Made to Foreign Accounts” and “Information Reporting and Backup Withholding.”

Sale or Other Taxable Disposition

Subject to the discussion below regarding backup withholding and the Foreign Account Tax Compliance Act, or FATCA, a Non-U.S. Holder generally will not be subject to U.S. federal income or withholding tax on any gain realized upon the sale or other taxable disposition of our common stock unless:

- the gain is effectively connected with the Non-U.S. Holder’s conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the Non-U.S. Holder maintains a permanent establishment in the United States to which such gain is attributable);
- the Non-U.S. Holder is a nonresident alien individual present in the United States for 183 days or more during the taxable year of the disposition and certain other requirements are met; or
- our common stock constitutes a U.S. real property interest, or USRPI, by reason of our status as a U.S. real property holding corporation, or USRPHC, for U.S. federal income tax purposes.

Gain described in the first bullet point above generally will be subject to U.S. federal income tax on a net income basis at the regular graduated rates applicable to U.S. persons. A Non-U.S. Holder that is a corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected gain, as adjusted for certain items.

Gain described in the second bullet point above will be subject to U.S. federal income tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty), which may be offset by U.S. source capital losses of the Non-U.S. Holder, provided the Non-U.S. Holder has timely filed U.S. federal income tax returns with respect to such losses.

With respect to the third bullet point above, we believe we currently are not, and we do not anticipate becoming, a USRPHC. However, because the determination of whether we are a USRPHC depends on the fair market value of our USRPIs relative to the fair market value of our non-U.S. real property interests and our other business assets, we cannot assure you that we will not become a USRPHC in the future. Even if we are or were to become a USRPHC, gain arising from the sale or other taxable disposition by a Non-U.S. Holder of our common stock will not be subject to U.S. federal income tax if our common stock is “regularly traded” on an “established securities market” (as such terms are defined by applicable Treasury Regulations), and such Non-U.S. Holder owned, actually and constructively, 5% or less of our common stock throughout the shorter of the 5-year period ending on the date of the sale or other taxable disposition or the Non-U.S. Holder’s holding period. If we are determined to be a USRPHC and the foregoing exception does not apply, the Non-U.S. Holder generally will be taxed on its net gain derived from the disposition at the graduated U.S. federal income tax rates applicable to U.S. persons. No assurance can be provided that our common stock will be regularly traded on an established securities market for purposes of the rules described above.

Non-U.S. Holders should consult their tax advisors regarding potentially applicable income tax treaties that may provide for different rules.

Information Reporting and Backup Withholding

Payments of dividends on our common stock generally will not be subject to backup withholding provided the applicable withholding agent does not have actual knowledge or reason to know the Non-U.S. Holder is a
U.S. person and the Non-U.S. Holder certifies its non-U.S. status by furnishing a valid IRS Form W-8BEN, W-8BEN-E, W-8ECI, W-8EXP, or other applicable IRS form, or otherwise establishes an exemption. Information returns are required to be filed with the IRS in connection with any dividends on our common stock paid to the Non-U.S. Holder, regardless of whether any tax was actually withheld. Copies of these information returns may also be made available under the provisions of an applicable treaty or agreement to the tax authorities of the country in which the Non-U.S. Holder resides or is established.

Information reporting and, depending on the circumstances, backup withholding generally will apply to the proceeds of the sale or other taxable disposition of our common stock within the United States or conducted through certain U.S.-related brokers, unless the applicable withholding agent receives the certification described above and does not have actual knowledge or reason to know that the Non-U.S. Holder is a U.S. person, or the holder otherwise establishes an exemption. Proceeds of a disposition of our common stock conducted through a non-U.S. office of a non-U.S. broker that does not have certain enumerated relationships with the United States generally will not be subject to backup withholding or information reporting.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a Non-U.S. Holder’s U.S. federal income tax liability, provided the required information is timely furnished to the IRS.

### Additional Withholding Tax on Payments Made to Foreign Accounts

Withholding taxes may be imposed under Sections 1471 to 1474 of the Code (such Sections commonly referred to as FATCA) on certain types of payments made to non-U.S. financial institutions and certain other non-U.S. entities. Specifically, a 30% withholding tax may be imposed on dividends on, or gross proceeds from the sale or other disposition of, our common stock paid to a “foreign financial institution” or a “non-financial foreign entity” (each as defined in the Code), unless: (i) the foreign financial institution undertakes certain diligence, reporting and withholding obligations; (ii) the non-financial foreign entity either certifies it does not have any “substantial U.S. owners” (as defined in the Code) or furnishes identifying information regarding each substantial U.S. owner; or (iii) the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from these rules. If the payee is a foreign financial institution and is subject to the diligence, reporting and withholding requirements in (i) above, it must enter into an agreement with the U.S. Department of the Treasury requiring, among other things, that it undertake to identify accounts held by certain “specified U.S. persons” or “United States-owned foreign entities” (each as defined in the Code), annually report certain information about such accounts, and withhold 30% on certain payments to noncompliant foreign financial institutions and certain other account holders. Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing FATCA may be subject to different rules.

Under the applicable Treasury Regulations and administrative guidance, withholding under FATCA generally applies to payments of dividends on our common stock. Withholding with respect to gross proceeds from the disposition of property such as our common stock was previously scheduled to begin on January 1, 2019, however, such withholding has been eliminated under proposed U.S. Treasury regulations, which can be relied on until final regulations become effective. There can be no assurance that final Treasury regulations would provide an exemption from withholding taxes under FATCA for gross proceeds.

**Prospective investors should consult their tax advisors regarding the potential application of withholding under FATCA to their investment in our common stock.**
UNDERWRITING

Citigroup Global Markets Inc., Cowen and Company, LLC, and Evercore Group L.L.C. are acting as joint book-running managers of the offering and as representatives of the underwriters named below. Subject to the terms and conditions stated in the underwriting agreement dated the date of this prospectus, each underwriter named below has severally agreed to purchase, and we have agreed to sell to that underwriter, the number of shares set forth opposite the underwriter’s name.

<table>
<thead>
<tr>
<th>Underwriter</th>
<th>Number of Shares</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citigroup Global Markets Inc.</td>
<td></td>
</tr>
<tr>
<td>Cowen and Company, LLC</td>
<td></td>
</tr>
<tr>
<td>Evercore Group L.L.C.</td>
<td></td>
</tr>
<tr>
<td>Needham and Company, LLC</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>****</td>
</tr>
</tbody>
</table>

The underwriting agreement provides that the obligations of the underwriters to purchase the shares included in this offering are subject to approval of legal matters by counsel and to other conditions. The underwriters are obligated to purchase all the shares (other than those covered by the underwriters’ option to purchase additional shares described below) if they purchase any of the shares.

Shares sold by the underwriters to the public will initially be offered at the initial public offering price set forth on the cover of this prospectus. Any shares sold by the underwriters to securities dealers may be sold at a discount from the initial public offering price not to exceed $ per share. If all the shares are not sold at the initial offering price, the underwriters may change the offering price and the other selling terms. The representatives have advised us that the underwriters do not intend to make sales to discretionary accounts.

If the underwriters sell more shares than the total number set forth in the table above, we have granted to the underwriters an option, exercisable for 30 days from the date of this prospectus, to purchase up to additional shares at the public offering price less the underwriting discounts and commissions. To the extent the option is exercised, each underwriter must purchase a number of additional shares approximately proportionate to that underwriter’s initial purchase commitment. Any shares issued or sold under the option will be issued and sold on the same terms and conditions as the other shares that are the subject of this offering.

We, our officers and directors, and our other stockholders and optionholders have agreed that, subject to certain specified exceptions, for a period of 180 days from the date of this prospectus, we and they will not, without the prior written consent of Citigroup Global Markets Inc., Cowen and Company, LLC, and Evercore Group L.L.C., dispose of or hedge any shares or any securities convertible into or exchangeable for our common stock. Citigroup Global Markets Inc., Cowen and Company, LLC, and Evercore Group L.L.C. in their sole discretion may release any of the securities subject to these lock-up agreements at any time, which, in the case of officers and directors, shall be with notice.

At our request, the underwriters have reserved up to of the shares of common stock for sale at the initial public offering price to persons who are directors, officers or employees, or who are otherwise associated with us through a directed share program. The number of shares available for sale to the general public will be reduced by the number of directed shares purchased by participants in the program. Except for certain of our officers, directors and employees who have entered into lock-up agreements as contemplated in the immediately preceding paragraph, each person buying shares through the directed share program has agreed that, for a period of 180 days from the date of this prospectus, he or she will not, without the prior written consent of Citigroup Global Markets Inc., Cowen and Company, LLC and Evercore Group L.L.C., dispose of any shares or any securities convertible into or exchangeable for our common stock with respect to shares purchased in the program. For certain officers, directors and employees purchasing shares through the directed share program, the lock-up agreements contemplated in the immediately preceding paragraph shall govern with respect to their
purchases. Citigroup Global Markets Inc., Cowen and Company, LLC and Evercore Group L.L.C. in their sole discretion may release any of the securities subject to these lock-up agreements at any time, which, in the case of officers and directors, shall be with notice. Any directed shares not purchased will be offered by the underwriters to the general public on the same basis as all other shares offered. We have agreed to indemnify the underwriters against certain liabilities and expenses, including liabilities under the Securities Act, in connection with the sales of the directed shares.

Prior to this offering, there has been no public market for our shares. Consequently, the initial public offering price for the shares was determined by negotiations between us and the representatives. Among the factors considered in determining the initial public offering price were our results of operations, our current financial condition, our future prospects, our markets, the economic conditions in and future prospects for the industry in which we compete, our management, and currently prevailing general conditions in the equity securities markets, including current market valuations of publicly traded companies considered comparable to our company. We cannot assure you, however, that the price at which the shares will sell in the public market after this offering will not be lower than the initial public offering price or that an active trading market in our shares will develop and continue after this offering.

We have applied to have our shares listed on The Nasdaq Global Market under the symbol “STTK.”

The following table shows the underwriting discounts and commissions that we are to pay to the underwriters in connection with this offering. These amounts are shown assuming both no exercise and full exercise of the underwriters’ option to purchase additional shares.

<table>
<thead>
<tr>
<th>Per share</th>
<th>Paid by Shattuck Labs, Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No Exercise</td>
</tr>
<tr>
<td>Total</td>
<td>$</td>
</tr>
</tbody>
</table>

We estimate that our portion of the total expenses of this offering, excluding underwriting discounts and commissions payable by us, will be approximately $ . We have also agreed to reimburse the underwriters for certain of their expenses in an amount up to $40,000.

In connection with the offering, the underwriters may purchase and sell shares in the open market. Purchases and sales in the open market may include short sales, purchases to cover short positions, which may include purchases pursuant to the underwriters’ option to purchase additional shares, and stabilizing purchases.

- Short sales involve secondary market sales by the underwriters of a greater number of shares than they are required to purchase in the offering.
  - “Covered” short sales are sales of shares in an amount up to the number of shares represented by the underwriters’ option to purchase additional shares.
  - “Naked” short sales are sales of shares in an amount in excess of the number of shares represented by the underwriters’ option to purchase additional shares.

- Covering transactions involve purchases of shares either pursuant to the underwriters’ option to purchase additional shares or in the open market in order to cover short positions.
  - To close a naked short position, the underwriters must purchase shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the shares in the open market after pricing that could adversely affect investors who purchase in the offering.
  - To close a covered short position, the underwriters must purchase shares in the open market or must exercise the option to purchase additional shares. In determining the source of shares to close the
covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the underwriters’ option to purchase additional shares.

- Stabilizing transactions involve bids to purchase shares so long as the stabilizing bids do not exceed a specified maximum.

Purchases to cover short positions and stabilizing purchases, as well as other purchases by the underwriters for their own accounts, may have the effect of preventing or retarding a decline in the market price of the shares. They may also cause the price of the shares to be higher than the price that would otherwise exist in the open market in the absence of these transactions. The underwriters may conduct these transactions on the Nasdaq Global Market, in the over-the-counter market or otherwise. If the underwriters commence any of these transactions, they may discontinue them at any time.

Other Relationships

The underwriters are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, principal investment, hedging, financing and brokerage activities. The underwriters and their respective affiliates have in the past performed commercial banking, investment banking and advisory services for us from time to time for which they have received customary fees and reimbursement of expenses and may, from time to time, engage in transactions with and perform services for us in the ordinary course of their business for which they may receive customary fees and reimbursement of expenses. In the ordinary course of their various business activities, the underwriters and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (which may include bank loans and/or credit default swaps) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments the underwriters may be required to make because of any of those liabilities.

Notice to Prospective Investors in the European Economic Area and United Kingdom

In relation to each member state of the European Economic Area and the United Kingdom that has implemented the Prospectus Directive (each, a relevant state), with effect from and including the date on which the Prospectus Directive is implemented in that relevant state (the relevant implementation date), an offer of shares described in this prospectus may not be made to the public in that relevant state other than:

- to any legal entity which is a qualified investor as defined in the Prospectus Directive;
- to fewer than 100, or, if the relevant state has implemented the relevant provision of the 2010 PD Amending Directive, 150 natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the relevant Dealer or Dealers nominated by us for any such offer; or
- in any other circumstances falling within Article 3(2) of the Prospectus Directive,

provided that no such offer of shares shall require us or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Directive.
For purposes of this provision, the expression an “offer of securities to the public” in any relevant state means the communication in any form and by any means of sufficient information on the terms of the offer and the shares to be offered so as to enable an investor to decide to purchase or subscribe for the shares, as the expression may be varied in that relevant state by any measure implementing the Prospectus Directive in that relevant state, and the expression “Prospectus Directive” means Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the relevant state) and includes any relevant implementing measure in the relevant state. The expression 2010 PD Amending Directive means Directive 2010/73/EU.

The sellers of the shares have not authorized and do not authorize the making of any offer of shares through any financial intermediary on their behalf, other than offers made by the underwriters with a view to the final placement of the shares as contemplated in this prospectus. Accordingly, no purchaser of the shares, other than the underwriters, is authorized to make any further offer of the shares on behalf of the sellers or the underwriters.

Notice to Prospective Investors in the United Kingdom

This prospectus is only being distributed to, and is only directed at, persons in the United Kingdom that are qualified investors within the meaning of Article 2(1)(e) of the Prospectus Directive that are also (i) investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (the “Order”) or (ii) high net worth entities, and other persons to whom it may lawfully be communicated, falling within Article 49(2)(a) to (d) of the Order (each such person being referred to as a “relevant person”). This prospectus and its contents are confidential and should not be distributed, published or reproduced (in whole or in part) or disclosed by recipients to any other persons in the United Kingdom. Any person in the United Kingdom that is not a relevant person should not act or rely on this document or any of its contents.

Notice to Prospective Investors in France

Neither this prospectus nor any other offering material relating to the shares described in this prospectus has been submitted to the clearance procedures of the Autorité des Marchés Financiers or of the competent authority of another member state of the European Economic Area and notified to the Autorité des Marchés Financiers. The shares have not been offered or sold and will not be offered or sold, directly or indirectly, to the public in France. Neither this prospectus nor any other offering material relating to the shares has been or will be:

• released, issued, distributed or caused to be released, issued or distributed to the public in France; or
• used in connection with any offer for subscription or sale of the shares to the public in France.

Such offers, sales and distributions will be made in France only:

• to qualified investors (investisseurs qualifiés) and/or to a restricted circle of investors (cercle restreint d’investisseurs), in each case investing for their own account, all as defined in, and in accordance with articles L.411-2, D.411-1, D.411-2, D.734-1, D.744-1, D.754-1 and D.764-1 of the French Code monétaire et financier;
• to investment services providers authorized to engage in portfolio management on behalf of third parties; or
• in a transaction that, in accordance with article L.411-2-II-1° -or-2° -or 3° of the French Code monétaire et financier and article 211-2 of the General Regulations (Règlement Général) of the Autorité des Marchés Financiers, does not constitute a public offer (appel public à l’épargne).

The shares may be resold directly or indirectly, only in compliance with articles L.411-1, L.411-2, L.412-1 and L.621-8 through L.621-8-3 of the French Code monétaire et financier.
Notice to Prospective Investors in Hong Kong

The shares may not be offered or sold in Hong Kong by means of any document other than (i) in circumstances which do not constitute an offer to the public within the meaning of the Companies Ordinance (Cap. 32, Laws of Hong Kong), or (ii) to “professional investors” within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder, or (iii) in other circumstances which do not result in the document being a “prospectus” within the meaning of the Companies Ordinance (Cap. 32, Laws of Hong Kong) and no advertisement, invitation or document relating to the shares may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the laws of Hong Kong) other than with respect to shares which are or are intended to be disposed of only to persons outside Hong Kong or only to “professional investors” within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder.

Notice to Prospective Investors in Japan

The shares offered in this prospectus have not been and will not be registered under the Financial Instruments and Exchange Law of Japan. The shares have not been offered or sold and will not be offered or sold, directly or indirectly, in Japan or to or for the account of any resident of Japan (including any corporation or other entity organized under the laws of Japan), except (i) pursuant to an exemption from the registration requirements of the Financial Instruments and Exchange Law and (ii) in compliance with any other applicable requirements of Japanese law.

Notice to Prospective Investors in Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares may not be circulated or distributed, nor may the shares be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore (the “SFA”), (ii) to a relevant person pursuant to Section 275(1), or any person pursuant to Section 275(1A), and in accordance with the conditions specified in Section 275 of the SFA or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA, in each case subject to compliance with conditions set forth in the SFA.

Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

• a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or

• a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

shares, debentures and units of shares and debentures of that corporation or the beneficiaries’ rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the shares pursuant to an offer made under Section 275 of the SFA except:

• to an institutional investor (for corporations, under Section 274 of the SFA) or to a relevant person defined in Section 275(2) of the SFA, or to any person pursuant to an offer that is made on terms that such shares, debentures and units of shares and debentures of that corporation or such rights and interest in that trust are acquired at a consideration of not less than $200,000 (or its equivalent in a foreign currency) for each transaction, whether such amount is to be paid for in cash or by exchange of securities or other assets, and further for corporations, in accordance with the conditions specified in Section 275 of the SFA;
• where no consideration is or will be given for the transfer; or
• where the transfer is by operation of law.

Notice to Prospective Investors in Switzerland

This document is not intended to constitute an offer or solicitation to purchase or invest in the shares described herein. The shares may not be publicly offered, sold or advertised, directly or indirectly, in, into or from Switzerland and will not be listed on the SIX Swiss Exchange or on any other exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the shares constitutes a prospectus as such term is understood pursuant to article 652a or article 1156 of the Swiss Code of Obligations or a listing prospectus within the meaning of the listing rules of the SIX Swiss Exchange or any other regulated trading facility in Switzerland, and neither this document nor any other offering or marketing material relating to the shares may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, nor the Company nor the shares have been or will be filed with or approved by any Swiss regulatory authority. The shares are not subject to the supervision by any Swiss regulatory authority, e.g., the Swiss Financial Markets Supervisory Authority FINMA (FINMA), and investors in the shares will not benefit from protection or supervision by such authority.

Notice to Prospective Investors in Canada

The shares may be sold in Canada only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the shares must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this offering memorandum (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser’s province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser’s province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.
LEGAL MATTERS

The validity of the shares of our common stock offered by this prospectus will be passed upon for us by Gibson, Dunn & Crutcher LLP, San Francisco, California. Certain legal matters in connection with this offering will be passed upon for the underwriters by Latham & Watkins LLP.

EXPERTS

The financial statements of Shattuck Labs, Inc. as of December 31, 2018 and December 31, 2019, and for the years then ended, have been included herein and in the registration statement in reliance upon the report of KPMG LLP, independent registered public accounting firm, appearing elsewhere herein, and upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the shares of our common stock offered hereby. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement, some items of which are contained in exhibits to the registration statement as permitted by the rules and regulations of the SEC. For further information with respect to us and our common stock, we refer you to the registration statement and its exhibits. Statements contained in this prospectus concerning the contents of any contract or any other document are not necessarily complete. If a contract or document has been filed as an exhibit to the registration statement, please see the copy of the contract or document that has been filed. Each statement in this prospectus relating to a contract or document filed as an exhibit is qualified in all respects by the filed exhibit. The exhibits to the registration statement should be reviewed for the complete contents of these contracts and documents. A copy of the registration statement and its exhibits may be obtained from the SEC upon the payment of fees prescribed by it. The SEC maintains a website at www.sec.gov that contains reports, proxy and information statements and other information regarding companies that file electronically with it.

Upon completion of this offering, we will become subject to the information and periodic and current reporting requirements of the Exchange Act, and in accordance therewith, will file periodic and current reports, proxy statements and other information with the SEC. The registration statement, such periodic and current reports and other information can be obtained electronically by means of the SEC’s website at www.sec.gov.
# Table of Contents

**SHATTUCK LABS, INC.**

INDEX TO FINANCIAL STATEMENTS

<table>
<thead>
<tr>
<th>Audited Financial Statements for the Years Ended December 31, 2018 and 2019</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report of Independent Registered Public Accounting Firm</td>
<td>F-1</td>
</tr>
<tr>
<td>Balance Sheets</td>
<td>F-2</td>
</tr>
<tr>
<td>Statements of Operations and Comprehensive Loss</td>
<td>F-3</td>
</tr>
<tr>
<td>Statements of Changes in Redeemable Convertible Preferred Stock and Stockholders’ Deficit</td>
<td>F-4</td>
</tr>
<tr>
<td>Statements of Cash Flows</td>
<td>F-5</td>
</tr>
<tr>
<td>Notes to the Financial Statements</td>
<td>F-6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unaudited Interim Financial Statements for the Six Months Ended June 30, 2019 and 2020</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance Sheets</td>
<td>F-23</td>
</tr>
<tr>
<td>Statements of Operations and Comprehensive Loss</td>
<td>F-24</td>
</tr>
<tr>
<td>Statements of Changes in Redeemable Convertible Preferred Stock and Stockholders’ Deficit</td>
<td>F-25</td>
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<tr>
<td>Statements of Cash Flows</td>
<td>F-26</td>
</tr>
<tr>
<td>Notes to the Interim Financial Statements</td>
<td>F-27</td>
</tr>
</tbody>
</table>
Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Shattuck Labs, Inc.:

Opinion on the Financial Statements

We have audited the accompanying balance sheets of Shattuck Labs, Inc. (the Company) as of December 31, 2019 and 2018, the related statements of operations and comprehensive loss, changes in redeemable convertible preferred stock and stockholders’ deficit, and cash flows for the years then ended, and the related notes (collectively, the financial statements). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for the years then ended, in conformity with U.S. generally accepted accounting principles.

Basis for Opinion

These financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on these financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ KPMG LLP

We have served as the Company’s auditor since 2018.

Austin, Texas
May 4, 2020

F-1
## Shattuck Labs, Inc.

**Balance Sheets**

(In thousands, except share and per share amounts)

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current assets:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash and cash equivalents</td>
<td>$31,644</td>
<td>$7,013</td>
</tr>
<tr>
<td>Short-term investments</td>
<td>28,732</td>
<td>32,074</td>
</tr>
<tr>
<td>Prepaid expenses and other current assets</td>
<td>5,258</td>
<td>3,355</td>
</tr>
<tr>
<td><strong>Total current assets</strong></td>
<td><strong>65,634</strong></td>
<td><strong>42,442</strong></td>
</tr>
<tr>
<td>Property and equipment, net</td>
<td>2,504</td>
<td>2,437</td>
</tr>
<tr>
<td>Other assets</td>
<td>23</td>
<td>90</td>
</tr>
<tr>
<td><strong>Total assets</strong></td>
<td><strong>$68,161</strong></td>
<td><strong>$44,969</strong></td>
</tr>
<tr>
<td><strong>Liabilities, Redeemable Convertible Preferred Stock and Stockholders’ Deficit</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current liabilities:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounts payable</td>
<td>$2,048</td>
<td>$3,051</td>
</tr>
<tr>
<td>Accrued expenses</td>
<td>1,760</td>
<td>4,039</td>
</tr>
<tr>
<td>Deferred revenue — related party</td>
<td>17,044</td>
<td>12,894</td>
</tr>
<tr>
<td><strong>Total current liabilities</strong></td>
<td><strong>20,852</strong></td>
<td><strong>19,984</strong></td>
</tr>
<tr>
<td>Deferred revenue, net of current portion</td>
<td>8,387</td>
<td>9,571</td>
</tr>
<tr>
<td>Deferred rent</td>
<td>939</td>
<td>898</td>
</tr>
<tr>
<td><strong>Total liabilities</strong></td>
<td><strong>30,178</strong></td>
<td><strong>30,453</strong></td>
</tr>
<tr>
<td>Commitments and contingencies (Note 7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Series A redeemable convertible preferred stock; $0.0001 par value: 1,126,000 shares authorized, 1,093,019 issued and outstanding as of December 31, 2018 and 2019; liquidation value of $68,286 as of December 31, 2019</td>
<td>49,064</td>
<td>49,064</td>
</tr>
<tr>
<td><strong>Stockholders’ deficit:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common stock; $0.0001 par value: 10,000,000 shares authorized, 1,101,907 and 1,114,282 shares issued and 1,094,308 and 1,109,625 shares outstanding at December 31, 2018 and 2019, respectively</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Additional paid-in capital</td>
<td>427</td>
<td>888</td>
</tr>
<tr>
<td>Accumulated other comprehensive income</td>
<td>—</td>
<td>54</td>
</tr>
<tr>
<td>Accumulated deficit</td>
<td>(11,508)</td>
<td>(35,490)</td>
</tr>
<tr>
<td><strong>Total stockholders’ deficit</strong></td>
<td>(11,081)</td>
<td>(34,548)</td>
</tr>
<tr>
<td><strong>Total liabilities, redeemable convertible preferred stock and stockholders’ deficit</strong></td>
<td><strong>$68,161</strong></td>
<td><strong>$44,969</strong></td>
</tr>
</tbody>
</table>

See accompanying notes to financial statements

F-2
### SHATTUCK LABS, INC.
### STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
### (In thousands, except share and per share amounts)

<table>
<thead>
<tr>
<th>Year Ended December 31,</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaboration revenue — related party</td>
<td>$22,442</td>
<td>$9,887</td>
</tr>
<tr>
<td>Operating expenses:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research and development</td>
<td>24,807</td>
<td>29,218</td>
</tr>
<tr>
<td>General and administrative</td>
<td>3,783</td>
<td>5,736</td>
</tr>
<tr>
<td>Expense from operations</td>
<td>28,590</td>
<td>34,954</td>
</tr>
<tr>
<td>Loss from operations</td>
<td>(6,148)</td>
<td>(25,067)</td>
</tr>
<tr>
<td>Other income (expense):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest income</td>
<td>966</td>
<td>1,184</td>
</tr>
<tr>
<td>Interest expense</td>
<td>(2,631)</td>
<td>—</td>
</tr>
<tr>
<td>Gain on extinguishment of notes payable</td>
<td>782</td>
<td>—</td>
</tr>
<tr>
<td>Other</td>
<td>(357)</td>
<td>(99)</td>
</tr>
<tr>
<td>Total other income (expense)</td>
<td>(1,240)</td>
<td>1,085</td>
</tr>
<tr>
<td>Net loss</td>
<td>$7,388</td>
<td>$(23,982)</td>
</tr>
<tr>
<td>Other comprehensive income (loss):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unrealized gains on investments</td>
<td>—</td>
<td>54</td>
</tr>
<tr>
<td>Comprehensive loss</td>
<td>$7,388</td>
<td>$(23,928)</td>
</tr>
<tr>
<td>Net loss per share—basic and diluted</td>
<td>$(6.83)</td>
<td>$(21.74)</td>
</tr>
<tr>
<td>Weighted average shares outstanding—basic and diluted</td>
<td>1,081,936</td>
<td>1,103,190</td>
</tr>
<tr>
<td>Pro forma net loss per share—basic and diluted (unaudited)</td>
<td>—</td>
<td>$(10.92)</td>
</tr>
<tr>
<td>Pro forma weighted average shares outstanding—basic and diluted (unaudited)</td>
<td>—</td>
<td>2,196,209</td>
</tr>
</tbody>
</table>

See accompanying notes to financial statements
SHATTUCK LABS, INC.
STATEMENTS OF CHANGES IN REDEEMABLE CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS’ DEFICIT
(In thousands, except share amounts)

<table>
<thead>
<tr>
<th>Series A Redeemable Convertible Preferred</th>
<th>Shares</th>
<th>Amount</th>
<th>Common Stock</th>
<th>Shares</th>
<th>Amount</th>
<th>Additional Paid-In Capital</th>
<th>Accumulated Other Comprehensive Income</th>
<th>Accumulated Deficit</th>
<th>Total Stockholders’ Deficit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance at January 1, 2018</td>
<td>1,062,600</td>
<td>$2</td>
<td>1,062,600</td>
<td>$2</td>
<td>($4,120)</td>
<td>($4,118)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sale of Series A redeemable convertible preferred stock, net of issuance costs</td>
<td>565,010</td>
<td>35,145</td>
<td>565,010</td>
<td>35,145</td>
<td>27,542</td>
<td>4,166</td>
<td>425</td>
<td>425</td>
<td>54</td>
</tr>
<tr>
<td>Issuance of Series A redeemable convertible preferred stock upon conversion of notes payable</td>
<td>528,009</td>
<td>13,919</td>
<td>528,009</td>
<td>13,919</td>
<td>27,542</td>
<td>4,166</td>
<td>425</td>
<td>425</td>
<td>54</td>
</tr>
<tr>
<td>Exercise of stock options</td>
<td>1,094,308</td>
<td>$49,064</td>
<td>1,094,308</td>
<td>$49,064</td>
<td>1,094,308</td>
<td>$49,064</td>
<td>1,094,308</td>
<td>$49,064</td>
<td>1,094,308</td>
</tr>
<tr>
<td>Vesting of common stock previously subject to vesting requirements</td>
<td>1,094,308</td>
<td>$49,064</td>
<td>1,094,308</td>
<td>$49,064</td>
<td>1,094,308</td>
<td>$49,064</td>
<td>1,094,308</td>
<td>$49,064</td>
<td>1,094,308</td>
</tr>
<tr>
<td>Stock-based compensation expense</td>
<td>1,094,308</td>
<td>$49,064</td>
<td>1,094,308</td>
<td>$49,064</td>
<td>1,094,308</td>
<td>$49,064</td>
<td>1,094,308</td>
<td>$49,064</td>
<td>1,094,308</td>
</tr>
<tr>
<td>Net loss</td>
<td>1,094,308</td>
<td>$49,064</td>
<td>1,094,308</td>
<td>$49,064</td>
<td>1,094,308</td>
<td>$49,064</td>
<td>1,094,308</td>
<td>$49,064</td>
<td>1,094,308</td>
</tr>
<tr>
<td>Balance at December 31, 2018</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
</tr>
<tr>
<td>Exercise of stock options</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
</tr>
<tr>
<td>Vesting of common stock previously subject to vesting requirements</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
</tr>
<tr>
<td>Stock-based compensation expense</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
</tr>
<tr>
<td>Net loss</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
</tr>
<tr>
<td>Balance at December 31, 2019</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
<td>$49,064</td>
<td>1,093,019</td>
</tr>
</tbody>
</table>

See accompanying notes to financial statements
<table>
<thead>
<tr>
<th>Description</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cash flows from operating activities:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net loss</td>
<td>$(7,388)</td>
<td>$(23,982)</td>
</tr>
<tr>
<td>Adjustments to reconcile net loss to net cash used in operating activities:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td>255</td>
<td>537</td>
</tr>
<tr>
<td>Stock based compensation</td>
<td>425</td>
<td>461</td>
</tr>
<tr>
<td>Amortization of investments</td>
<td>—</td>
<td>(166)</td>
</tr>
<tr>
<td>Deferred rent</td>
<td>74</td>
<td>(41)</td>
</tr>
<tr>
<td>Noncash interest</td>
<td>2,631</td>
<td>—</td>
</tr>
<tr>
<td>Change in value of the derivative instrument</td>
<td>378</td>
<td>—</td>
</tr>
<tr>
<td>Gain on extinguishment of notes</td>
<td>(782)</td>
<td>—</td>
</tr>
<tr>
<td>Changes in operating assets and liabilities:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepaid expenses and other current assets</td>
<td>(4,546)</td>
<td>1,903</td>
</tr>
<tr>
<td>Accounts payable</td>
<td>1,123</td>
<td>1,003</td>
</tr>
<tr>
<td>Accrued expenses</td>
<td>1,442</td>
<td>2,276</td>
</tr>
<tr>
<td>Deferred revenue—related party</td>
<td>(515)</td>
<td>(2,966)</td>
</tr>
<tr>
<td>Net cash used in operating activities</td>
<td>(6,903)</td>
<td>(20,975)</td>
</tr>
<tr>
<td><strong>Cash flows from investing activities:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchases of property and equipment</td>
<td>(1,178)</td>
<td>(470)</td>
</tr>
<tr>
<td>Purchases of short-term investments</td>
<td>(28,732)</td>
<td>(44,270)</td>
</tr>
<tr>
<td>Sale and maturities of short-term investments</td>
<td></td>
<td>41,148</td>
</tr>
<tr>
<td>Other</td>
<td>(15)</td>
<td></td>
</tr>
<tr>
<td>Net cash used for investing activities</td>
<td>(29,925)</td>
<td>(3,592)</td>
</tr>
<tr>
<td><strong>Cash flows from financing activities:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payments for offering costs</td>
<td>(152)</td>
<td>(64)</td>
</tr>
<tr>
<td>Proceeds from sale of preferred stock</td>
<td>35,297</td>
<td>—</td>
</tr>
<tr>
<td>Net cash (used in) provided by financing activities</td>
<td>35,145</td>
<td>(64)</td>
</tr>
<tr>
<td><strong>Net decrease in cash and cash equivalents:</strong></td>
<td>(1,685)</td>
<td>(24,631)</td>
</tr>
<tr>
<td><strong>Cash and cash equivalents, beginning of period</strong></td>
<td>33,327</td>
<td>31,644</td>
</tr>
<tr>
<td><strong>Cash and cash equivalents, end of period</strong></td>
<td>$31,644</td>
<td>$7,013</td>
</tr>
<tr>
<td><strong>Supplemental disclosures of noncash financial activities:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conversion of notes payable into Series A redeemable convertible preferred stock</td>
<td>$13,919</td>
<td>—</td>
</tr>
<tr>
<td>Unrealized gain on short-term investments</td>
<td>$—</td>
<td>$54</td>
</tr>
<tr>
<td>Accrued offering costs</td>
<td>$—</td>
<td>$3</td>
</tr>
</tbody>
</table>

See accompanying notes to financial statements

F-5
1. Organization and description of business

Shattuck Labs, Inc. (the “Company”) was incorporated in 2016 in the State of Delaware and is a clinical-stage biopharmaceutical company developing its Agonist Redirected Checkpoint (“ARC™”) platform, a novel class of biologic medicines capable of multifunctional activity with potential applications in oncology and autoimmune diseases. Using its proprietary ARC™ platform, the Company is building a pipeline of therapeutics, initially focused on the treatment of solid tumors and hematologic malignancies. The Company’s lead molecule, SL-279252, is a novel therapeutic derived from the ARC™ platform and its first molecule to begin clinical trials. In addition, the Company has several molecules in preclinical development.

Liquidity

The Company has incurred losses and negative cash flows from operations since inception and has an accumulated deficit of $35.5 million as of December 31, 2019. The Company anticipates incurring additional losses and negative cash flows from operations until such time, if ever, that it can generate significant sales of its product candidates currently in development, and is highly dependent on its ability to find additional sources of funding in the form of licensing of its technology, collaboration agreements, and/or debt and equity financing. The Company’s ability to fund its planned clinical operations, research and development, and commercialization of its product candidates is expected to depend on the amount and timing of cash receipts from these funding sources. Adequate additional funding may not be available to the Company on acceptable terms or at all. The failure to raise funds as and when needed could have a negative impact on the Company’s financial condition and ability to pursue its business strategies. Management believes that the Company’s cash and cash equivalents and short-term investments of $39.1 million as of December 31, 2019, net proceeds of $34.5 million from the Series B redeemable convertible preferred stock offering and $11.3 million in payments from an amended collaboration agreement with Millennium Pharmaceuticals, Inc., a wholly owned subsidiary of Takeda Pharmaceutical Company Limited (“Takeda”), in the first four months of 2020 are sufficient to fund the projected operations of the Company through at least the fourth quarter of 2021.

2. Basis of presentation and summary of significant accounting policies

Basis of Presentation

The accompanying financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America (“GAAP”).

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Significant estimates and assumptions reflected in these financial statements include, but are not limited to, revenue recognition, the accrual of research and development expenses, and the valuation of stock-based awards, and derivative instruments. Estimates are periodically reviewed in-light of changes in circumstances, facts and experience. Changes in estimates are recorded in the period in which they become known. Actual results could differ from management’s estimates.

Unaudited Pro Forma Financial Information

Immediately prior to the closing of a qualified initial public offering (“IPO”), all of the Company’s outstanding redeemable convertible preferred stock will automatically convert into 2,963,554 shares of common stock. In the accompanying statements of operations and comprehensive loss, unaudited pro forma basic and
diluted net loss per share of common stock has been prepared to give effect to the automatic conversion of all outstanding shares of redeemable convertible preferred stock as if they had been converted at the later of the beginning of the reporting period or the issuance date of the redeemable convertible preferred stock. The shares of the Company’s common stock expected to be issued, and the related net proceeds expected to be received, in connection with the planned IPO are excluded from such pro forma information.

Segment Information

Operating segments are defined as components of an enterprise about which separate discrete information is available for evaluation by the chief operating decision maker, or decision-making group, in deciding how to allocate resources and in assessing performance. The Company views its operations and manages its business in one segment.

Fair Value of Financial Instruments

Management believes that the carrying amounts of the Company’s financial instruments, including accounts payable, approximate fair value due to the short-term nature of those instruments. Short-term investments are recorded at their estimated fair value.

Concentration of Risk

Financial instruments that potentially subject the Company to concentrations of credit risk primarily consist of cash, cash equivalents, and short-term investments. The Company maintains its cash and cash equivalents at one accredited financial institution in amounts that exceed federally insured limits. The Company does not believe that it is subject to unusual credit risk beyond the normal credit risk associated with commercial banking relationships. The Company invests in only highly rated debt securities that management believes protects the Company from risk of default and impairment of value.

All of the Company’s revenue is derived from its collaboration agreement with Takeda.

The Company is highly dependent on a third-party manufacturer to supply drug products for its research and development activities of its programs, including clinical and non-clinical studies. These programs could be adversely affected by a significant interruption in the supply of such drug products.

The Company is highly dependent on a contract research organization (“CRO”) to manage its clinical trials. These programs could be adversely affected by a significant disruption in services provided by the CRO.

Cash Equivalents

The Company considers all demand deposits with financial institutions and all highly liquid investments with maturities of ninety days or less at the date of purchase to be cash and cash equivalents. Cash equivalents consists of $5.2 million in short-term government obligations, $25.3 million in a money market fund and $1.1 million in operating accounts as of December 31, 2018 and $6.5 million held in a money market fund and $0.5 million in an operating account at December 31, 2019, and are carried at fair value of the investment based on quoted market prices.

Short-Term Investments

Short-term investments consist of debt securities with a maturity of greater than three months when acquired. The Company classifies its short-term investments at the time of purchase as available-for-sale securities. Available-for-sale securities are carried at fair value. Unrealized gains and losses on available-for-sale securities are reported in accumulated other comprehensive income, a component of stockholders’ deficit, until realized.
Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets include prepaid expenses for general business purposes and supplies, materials, and services used in several research projects, which are stated at cost and amortized on a straight-line basis over the related period of benefit. Supplies and materials have multiple applications for alternative future use and are expensed as they are consumed.

Property and Equipment

Property and equipment are stated at cost, net of accumulated depreciation and amortization. Depreciation and amortization expense is recognized using the straight-line method over the estimated useful life of the asset. Expenditures for repairs and maintenance that do not extend the estimated useful life or improve an asset are expensed as incurred. Upon retirement or sale, the cost and related accumulated depreciation and amortization of assets disposed of are removed from the accounts, and any resulting gain or loss is included in the statement of operations and comprehensive loss.

Depreciation and amortization periods are as follows:

- Office equipment: 3 years
- Furniture and fixtures: 5 to 10 years
- Lab equipment: 5 years
- Leasehold improvements: Shorter of lease term or 15 years

Impairment of Long-Lived Assets

Long-lived assets are reviewed for indications of possible impairment whenever events or changes in circumstance indicate that the carrying amount of an asset may not be recoverable. Recoverability is measured by comparison of the carrying amounts to the future undiscounted cash flows attributable to these assets. An impairment loss is recognized to the extent an asset group is not recoverable, and the carrying amount exceeds the projected discounted future cash flows arising from these assets. There were no impairments of long-lived assets for the years ended December 31, 2018 and 2019.

Deferred Offering Costs

The Company capitalizes certain legal, accounting, and other third-party fees that are directly associated with in-process equity financings as deferred offering costs until such financings are consummated. After consummation of the equity financing, these costs will be recorded as a reduction of additional paid-in capital generated as a result of the offering. Should the equity financing no longer be considered probable of being consummated, all deferred offering costs would be charged to operating expenses in the statement of operations and comprehensive loss. Deferred offering costs were $0.0 million and $0.1 million at December 31, 2018 and 2019, respectively.

Deferred Rent

The Company entered into a lease agreement for its facilities. The lease is classified as an operating lease. The Company records rent expense on a straight-line basis over the term of the lease and, accordingly records the difference between cash rent payments and the recognition of rent expense as a deferred rent liability. Incentives granted under the Company’s facilities leases, including allowances to fund leasehold improvements, are deferred and recognized as adjustments to rental expense on a straight-line basis over the term of the lease.

Series A Redeemable Convertible Preferred Stock

The Company’s Series A redeemable convertible preferred stock (“Preferred Stock”) allows the holders to redeem their shares upon a change in control in the Company. As a result, the Company classifies its Preferred Stock as a liability.
Stock as mezzanine equity. The Company charges specific incremental issuance costs incurred in the offering of Preferred Stock against the gross proceeds of the Preferred Stock.

Revenue Recognition

Collaboration revenue is recognized in accordance with ASC 606, Revenue from Contracts with Customers (“ASC 606”). Arrangements with collaborators may include licenses to intellectual property, research and development services, manufacturing services for clinical and commercial supply, and participation on joint steering committees. The Company evaluates the promised goods or services in the contract to determine which promises, or group of promises, represent performance obligations. In contemplation of whether a promised good or service meets the criteria required of a performance obligation, the Company considers the stage of development of the underlying intellectual property, the capabilities and expertise of the customer relative to the underlying intellectual property, and whether the promised goods or services are integral to or dependent on other promises in the contract. When accounting for an arrangement that contains multiple performance obligations, the Company must develop judgmental assumptions, which may include market conditions, reimbursement rates for personnel costs, development timelines and probabilities of regulatory success to determine the stand-alone selling price for each performance obligation identified in the contract.

When the Company concludes that a contract should be accounted for as a combined performance obligation and recognized over time, the Company must then determine the period over which revenue should be recognized and the method by which to measure revenue. The Company generally recognizes revenue using a cost-based input method.

The Company recognizes collaboration revenue when its customer or collaborator obtains control of promised goods or services, in an amount that reflects the consideration which the Company expects to receive in exchange for those goods or services. To determine revenue recognition for arrangements that the Company determines are within the scope of ASC 606, it performs the following five steps:

i. identify the contract(s) with a customer;
ii. identify the performance obligations in the contract;
iii. determine the transaction price;
iv. allocate the transaction price to the performance obligations within the contract; and
v. recognize revenue when (or as) the entity satisfies a performance obligation.

The Company only applies the five-step model to contracts when it determines that it is probable it will collect the consideration it is entitled to in exchange for the goods or services it transfers to the customer.

At contract inception, once the contract is determined to be within the scope of ASC 606, the Company assesses the goods or services promised within the contract to determine whether each promised good or service is a performance obligation. The promised goods or services in the Company’s arrangements typically consist of a license to the Company’s intellectual property and research, development and manufacturing services. The Company may provide options to additional items in such arrangements, which are accounted for as separate contracts when the customer elects to exercise such options, unless the option provides a material right to the customer. Performance obligations are promises in a contract to transfer a distinct good or service to the customer that (i) the customer can benefit from on its own or together with other readily available resources, and (ii) is separately identifiable from other promises in the contract. Goods or services that are not individually distinct performance obligations are combined with other promised goods or services until such combined group of promises meet the requirements of a performance obligation.

The Company determines transaction price based on the amount of consideration the Company expects to receive for transferring the promised goods or services in the contract. Consideration may be fixed, variable, or a
At contract inception for arrangements that include variable consideration, the Company estimates the probability and extent of consideration it expects to receive under the contract utilizing either the most likely amount method or expected amount method, whichever best estimates the amount expected to be received. The Company then considers any constraints on the variable consideration and includes in the transaction price variable consideration to the extent it is deemed probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved.

The Company then allocates the transaction price to each performance obligation based on the relative standalone selling price and recognizes as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) control is transferred to the customer and the performance obligation is satisfied. For performance obligations which consist of licenses and other promises, the Company utilizes judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress. The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognition.

The Company records amounts as accounts receivable when the right to consideration is deemed unconditional. When consideration is received, or such consideration is unconditionally due, from a customer prior to transferring goods or services to the customer under the terms of a contract, a contract liability is recorded as deferred revenue.

Amounts received prior to satisfying the revenue recognition criteria are recognized as deferred revenue in the Company’s accompanying balance sheet. Deferred revenues expected to be recognized as revenue within the 12 months following the balance sheet date are classified as a current liability. Deferred revenues not expected to be recognized as revenue within the 12 months following the balance sheet date are classified as noncurrent liabilities.

The Company’s collaboration revenue arrangements may include the following:

Up-front License Fees: If a license is determined to be distinct from the other performance obligations identified in the arrangement, the Company recognizes revenues from nonrefundable, up-front fees allocated to the license when the license is transferred to the licensee and the licensee is able to use and benefit from the license. For licenses that are bundled with other promises, the Company utilizes judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue from non-refundable, up-front fees. The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognition.

Milestone Payments: At the inception of an agreement that includes research and development milestone payments, the Company evaluates each milestone to determine when and how much of the milestone to include in the transaction price. The Company first estimates the amount of the milestone payment that the Company could receive using either the expected value or the most likely amount approach. The Company primarily uses the most likely amount approach as that approach is generally most predictive for milestone payments with a binary outcome. Then, the Company considers whether any portion of that estimated amount is subject to the variable consideration constraint (that is, whether it is probable that a significant reversal of cumulative revenue would not occur upon resolution of the uncertainty.) The Company updates the estimate of variable consideration included in the transaction price at each reporting date which includes updating the assessment of the likely amount of consideration and the application of the constraint to reflect current facts and circumstances.

Royalties: For arrangements that include sales-based royalties, including milestone payments based on a level of sales, and the license is deemed to be the predominant item to which the royalties relate, the Company
will recognize revenue at the later of (i) when the related sales occur, or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied (or partially satisfied). To date, the Company has not recognized any revenue related to sales-based royalties or milestone payments based on the level of sales.

To date, the Company has not granted a development and commercialization license nor recognized any revenue related to licenses, sales-based royalties or milestone payments based on the level of sale.

Research and Development Services: The Company will record costs associated with development activities as research and development expenses in the statement of operations and comprehensive loss consistent with ASC 730, Research and Development. The Company considered the guidance in ASC 808, Collaborative Agreements and will recognize the payments received from these agreements as revenue when the related costs are incurred.

**Research and Development Costs**

Research and development cost are expensed as incurred, and include salaries, stock-based compensation and other personnel-related costs, equipment and supplies, preclinical studies, clinical trials, and manufacturing development activities.

A substantial portion of the Company’s ongoing research and development activities are conducted by third-party service providers, including contract research and manufacturing organizations. The Company accrues for expenses resulting from obligations under agreements with CROs, contract manufacturing organizations (“CMOs”), and other outside service providers for which payment flows do not match the periods over which materials or services are provided to the Company. Accruals are recorded based on estimates of services received and efforts expended pursuant to agreements established with CROs, CMOs, and other outside service providers. These estimates are typically based on contracted amounts applied to the proportion of work performed and determined through analysis with internal personnel and external service providers as to the progress or stage of completion of the services. The Company makes significant judgements and estimates in determining the accrual balance in each reporting period. In the event advance payments are made to a CRO, CMO, or outside service provider, the payments will be recorded as a prepaid asset which will be amortized as the contracted services are performed. As actual costs become known, the Company adjusts its accruals. Inputs, such as the services performed, the number of patients enrolled, or the study duration, may vary from the Company’s estimates, resulting in adjustments to research and development expense in future periods. Changes in these estimates that result in material changes to the Company’s accruals could materially affect the Company’s results of operations.

**Stock-Based Compensation**

The Company recognizes the grant-date fair value of stock-based awards issued to employees and nonemployee board members as compensation expense on a straight-line basis over the vesting period of the award while awards containing a performance condition are recognized as expense when the achievement of the performance criteria is considered probable. The Company uses the Black-Scholes option pricing model to determine the grant-date fair value of stock options. The Company adjusts expense for forfeitures in the periods they occur.

**Income Taxes**

The Company uses the asset and liability method of accounting for income taxes. Under this method, deferred tax assets and liabilities are recognized for the expected future tax consequences of temporary differences between the financial statements and the tax bases of assets and liabilities. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect of a change in tax rates on deferred tax assets and liabilities will be recognized in the period that includes the enactment date. Additionally, any changes in income tax laws are immediately recognized in the year of enactment.
A valuation allowance is established against the deferred tax assets to reduce their carrying value to an amount that is more likely than not to be realized. The deferred tax assets and liabilities are classified as noncurrent along with the related valuation allowance. Due to a lack of earnings history, the net deferred tax assets have been fully offset by a valuation allowance.

The Company recognizes benefits of uncertain tax positions if it is more likely than not that such positions will be sustained upon examination based solely on the technical merits, as the largest amount of benefits that is more likely than not to be realized upon the ultimate settlement. The Company’s policy is to recognize interest and penalties related to the unrecognized tax benefits as a component of income tax expense.

**Net Loss Per Share**

Basic loss per share of common stock is computed by dividing net loss attributable to common stockholders by the weighted-average number of shares of common stock outstanding during each period. Diluted loss per share of common stock includes the effect, if any, from the potential exercise or conversion of securities, such as redeemable convertible preferred stock, convertible notes, stock options and unvested shares of restricted stock, which would result in the issuance of incremental shares of common stock. For diluted net loss per share, the weighted-average number of shares of common stock is the same for basic net loss per share due to the fact that when a net loss exists, dilutive securities are not included in the calculation as the impact is anti-dilutive.

The following potentially dilutive securities have been excluded from the computation of diluted weighted-average shares of common stock outstanding, as they would be anti-dilutive:

<table>
<thead>
<tr>
<th></th>
<th>December 31,</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2018</td>
</tr>
<tr>
<td>Convertible preferred stock</td>
<td>1,093,019</td>
</tr>
<tr>
<td>Stock options</td>
<td>167,146</td>
</tr>
<tr>
<td>Unvested restricted stock</td>
<td>7,599</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,267,764</strong></td>
</tr>
</tbody>
</table>

The following table summarizes the calculation of unaudited pro forma basic and diluted net loss per share for the year ended December 31, 2019:

<table>
<thead>
<tr>
<th>Numerator</th>
<th></th>
<th>Denominator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net loss used to compute pro forma net loss per share</td>
<td>$ (23,982)</td>
<td>Weighted average of shares outstanding</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weighted average of shares outstanding</td>
<td>1,103,190</td>
<td>Pro forma adjustment to reflect the automatic conversion of all convertible preferred stock to common stock upon an initial public offering</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,093,019</td>
</tr>
<tr>
<td>Pro forma weighted average number of shares outstanding—basic and diluted</td>
<td>2,196,209</td>
<td>Pro forma net loss per share—basic and diluted</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pro forma net loss per share—basic and diluted</td>
<td>$ (10.92)</td>
<td></td>
</tr>
</tbody>
</table>

**Other Comprehensive Income**

Other comprehensive income is defined as the change in equity of a business enterprise during a period from transactions and other events and circumstances from non-owner sources. Other comprehensive loss is comprised of the net loss and unrealized gains on short-term investments.

**Recently Adopted Accounting Pronouncements**

In February 2016, the FASB issued ASU No. 2016-02, *Leases (“ASC 842”)* which requires a lessee to record a right-of-use asset and a corresponding lease liability on the balance sheet for all leases with terms longer...
than 12 months. A modified retrospective transition approach is required for lessees for capital and operating leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements, with certain practical expedients available. As the Company has elected to use the extended transition period for complying with new or revised accounting standards as available under the JOBS Act, the standard is effective for the Company beginning January 1, 2021, with early adoption permitted. The Company is currently evaluating the expected impact that the standard could have on its financial statements and related disclosures.

In June 2016, the FASB issued ASU No. 2016-13, Financial Instruments-Credit Losses (“ASC 326”): Measurement of Credit Losses on Financial Instruments (ASU 2016-13) which requires that expected credit losses relating to financial assets measured on an amortized cost basis and available-for-sale debt securities be recorded through an allowance for credit losses. ASU 2016-13 limits the amount of credit losses to be recognized for available-for-sale debt securities to the amount by which carrying value exceeds fair value and also requires the reversal of previously recognized credit losses if fair value increases. ASU 2016-13 becomes effective for the Company during the first quarter of 2020. Early adoption is permitted. The Company is currently evaluating the expected impact that the standard could have on its financial statements and related disclosures.

In June 2018, the FASB issued ASU No. 2018-07, Compensation—Stock Compensation (“ASC 718”) Improvements to Nonemployee Share-Based Payment Accounting. The amendments in this update expand the scope of Topic 718 to include stock-based payment transactions for acquiring goods and services from nonemployees. Under this ASU, an entity should apply the requirements of Topic 718 to nonemployee awards except for specific guidance on inputs to an option pricing model and the attribution of costs (i.e., the period of time over which stock-based payment awards vest and the pattern of cost recognition over that period). The Company early adopted this guidance effective January 1, 2019 and it did not have a material impact on the Company’s financial statements and related disclosures.

In August 2018, the FASB issued ASU 2018-13, Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurements, (“ASC 820”) which changes the fair value measurement disclosure requirements of ASC 820, Fair Value Measurements and Disclosures. The goal of the ASU is to improve the effectiveness of ASC 820’s disclosure requirements. The standard is applicable to the Company for fiscal years beginning January 1, 2020, and interim periods within those years. The Company is currently evaluating the potential impact of the adoption of this standard on its related disclosures.

3. Fair Value of Financial Instruments

Fair value is defined as the price that would be received upon the sale of an asset or paid upon the transfer of a liability in an orderly transaction between market participants at the measurement date and in the principal or most advantageous market for that asset or liability. Fair value measurements are classified and disclosed in one of the following categories:

- Level 1: Observable inputs such as quoted prices in active markets for identical assets the reporting entity has the ability to access as of the measurement date:
- Level 2: Inputs, other than quoted prices in active markets, that are observable either directly or indirectly; and
- Level 3: Unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own assumptions

Fair value measurements are classified based on the lowest level of input that is significant to the measurement. The Company’s assessment of the significance of a particular input to the fair value measurement requires judgment, which may affect the valuation of the assets and liabilities and their placement within the fair value hierarchy levels. The determination of the fair values stated below takes into account the market for its financial assets and liabilities, the associated credit risk and other factors as required. The Company considers active markets as those in which transactions for the assets or liabilities occur in sufficient frequency and volume to provide pricing information on an ongoing basis.
The Company’s short-term investment instruments and cash equivalents are classified using Level 1 inputs within the fair value hierarchy because they are valued using quoted market prices, broker or dealer quotations, or alternative pricing sources with reasonable levels of price transparency. There were no changes in valuation techniques during the years ended December 31, 2018 and 2019.

At January 1, 2018, the Company had a derivative instrument related to a feature embedded in convertible debt. The convertible debt was converted to Preferred Stock in 2018 resulting in the termination of the derivative. The table presented below is a summary of changes in the fair value of the Company’s Level 3 valuation for the derivative instrument for the year ended December 31, 2018 (amounts in thousands):

<table>
<thead>
<tr>
<th>Description</th>
<th>December 31, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance at January 1, 2018</td>
<td>$2,267</td>
</tr>
<tr>
<td>Change in fair value</td>
<td>378</td>
</tr>
<tr>
<td>Exchange of feature</td>
<td>(2,645)</td>
</tr>
<tr>
<td>Balance at December 31, 2018</td>
<td>$—</td>
</tr>
</tbody>
</table>

4. Short-Term Investments

The Company classifies its debt securities as short-term investments. Debt securities are comprised of highly liquid investments with minimum “A” rated securities and consist of U.S. Treasury, agency bonds and corporate entity commercial paper with maturities of more than three months but less than one year at the date of purchase. Debt securities as of December 31, 2019 have an average maturity of 0.40 years. The debt securities are reported at fair value with unrealized gains or losses recorded in accumulated other comprehensive gain in the balance sheets.

The following table represents the Company’s available for sale short-term investments by major security type (amounts in thousands):

<table>
<thead>
<tr>
<th>Short-term investments:</th>
<th>December 31, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate securities</td>
<td>$8,930</td>
</tr>
<tr>
<td>U.S. government securities</td>
<td>19,802</td>
</tr>
<tr>
<td>Total short-term investments</td>
<td>$28,732</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Short-term investments:</th>
<th>December 31, 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate securities</td>
<td>$5,375</td>
</tr>
<tr>
<td>U.S. government securities</td>
<td>26,645</td>
</tr>
<tr>
<td>Total short-term investments</td>
<td>$32,020</td>
</tr>
</tbody>
</table>

F-14
5. Property and Equipment

Property and equipment consisted of the following (amounts in thousands):

<table>
<thead>
<tr>
<th>December 31</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2018</td>
<td>2019</td>
</tr>
<tr>
<td>Office equipment</td>
<td>$47</td>
<td>$88</td>
</tr>
<tr>
<td>Furniture and fixtures</td>
<td>156</td>
<td>156</td>
</tr>
<tr>
<td>Lab equipment</td>
<td>1,580</td>
<td>1,982</td>
</tr>
<tr>
<td>Leasehold improvements</td>
<td>948</td>
<td>1,073</td>
</tr>
<tr>
<td>Construction in progress</td>
<td>125</td>
<td>—</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2,856</td>
<td>3,299</td>
</tr>
<tr>
<td>Accumulated depreciation and amortization</td>
<td>(352)</td>
<td>(862)</td>
</tr>
<tr>
<td><strong>Property and equipment, net</strong></td>
<td>$2,504</td>
<td>$2,437</td>
</tr>
</tbody>
</table>

Depreciation and amortization expense for the years ended December 31, 2018 and 2019 was $0.3 million and $0.5 million, respectively.

6. Accrued Expenses

Accrued expenses consisted of the following (amounts in thousands):

<table>
<thead>
<tr>
<th>December 31</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2018</td>
<td>2019</td>
</tr>
<tr>
<td>Research contract costs</td>
<td>$950</td>
<td>$2,648</td>
</tr>
<tr>
<td>Compensation</td>
<td>777</td>
<td>966</td>
</tr>
<tr>
<td>Other</td>
<td>33</td>
<td>425</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$1,760</td>
<td>$4,039</td>
</tr>
</tbody>
</table>

7. Commitments and Contingencies

**Operating Leases**

Future minimum payments, by year and in aggregate, under noncancelable operating leases consist of the following as of December 31, 2019 (amounts in thousands):

<table>
<thead>
<tr>
<th>Year</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>$290</td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td>298</td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td>307</td>
<td></td>
</tr>
<tr>
<td>2023</td>
<td>317</td>
<td></td>
</tr>
<tr>
<td>2024</td>
<td>326</td>
<td></td>
</tr>
<tr>
<td>Thereafter</td>
<td>1,405</td>
<td></td>
</tr>
<tr>
<td><strong>Total minimum lease payments</strong></td>
<td>$2,943</td>
<td></td>
</tr>
</tbody>
</table>

The Company recognized rent expense of $0.3 million for each of the years ended December 31, 2018 and 2019.

**Heat License Agreement**

In June 2016, the Company entered into an Exclusive License Agreement (“Heat License Agreement”) with Heat Biologics Inc. (“Heat”). The Heat License Agreement was subsequently amended in November 2016.
December 2016, and March 2017. Pursuant to the Heat License Agreement, Heat granted to the Company a worldwide, sublicensable exclusive license to research, develop, manufacture, and commercialize products under three provisional patent applications, including all patents issuing from such applications, (“Fusion Protein Patent Rights”), and a worldwide, sublicensable nonexclusive license to research, develop, manufacture, and commercialize certain know how owned and controlled by Heat related to the Fusion Protein Patent Rights.

Under the Heat License Agreement, Heat was required to conduct certain research and development services under a mutually-agreed upon research and development plan and Heat was eligible to receive financial support from the Company for these efforts. Effective March 2017, Heat completed all research and development services under the Heat License Agreement and assigned to the Company three patent applications and all data derived from the research and development activities, referred to collectively as the Research Services Inventions. Pursuant to the terms of the Heat License Agreement, the Company is obligated to use commercially reasonable efforts to diligently research and develop at least one product covered by the Fusion Protein Patent Rights, including the obligation to file an IND application for such product. Our development efforts, including the development of SL-279252 and certain other ARC compounds, to date satisfy these obligations. In addition, the Company is to provide annual reports to Heat on or before the anniversary of the effective date of the Heat License Agreement to inform Heat of the Company’s progress.

Unless sooner terminated or extended, the term of the Heat License Agreement continues until the later of 20 years following the effective date, and the expiration of the last to expire royalty term. Either party may terminate the agreement due to a material breach by the other party (subject to a 90-day cure period) or if the other party files for bankruptcy. In the event the Company terminates the Heat License Agreement due to a material breach by Heat, Heat must assign to the Company all right, title, and interest in the patent rights licensed under the Heat License Agreement. In addition to an upfront payment of $50,000, the Heat License Agreement requires the Company to make further payments to Heat of up to $20.6 million in the aggregate, for the achievement of specified development, regulatory, and commercial sale milestones for certain licensed products. The Company is also required to pay Heat a percentage of certain upfront fees or other non-royalty payments that it receives that are not tied to milestone events under any sublicense of the Fusion Protein Patent Rights. The Company is also required to pay Heat a royalty on all worldwide net sales by the Company, its affiliates, and sublicenses of certain licensed products in the low single digits. Royalties are payable, on a product-by-product and country-by-country basis, commencing on the first commercial sale of such product and continuing until the last-to-expire valid patent claim to the licensed patent rights that cover such product in that country.

**Contractual Obligations**

Contractual obligations represent future cash commitments and liabilities under agreements with third parties, and exclude contingent liabilities for which the Company cannot reasonably predict future payment. The Company’s contractual obligations result primarily from obligations for various contract manufacturing organizations and clinical research organizations, which include potential payments the Company may be required to make under its agreements. The contracts also contain variable costs and milestones that are hard to predict as they are based on such things as patients enrolled and clinical trial sites. The timing of payments and actual amounts paid under contract manufacturing organization, or CMO, and CRO agreements may be different depending on the timing of receipt of goods or services or changes to agreed-upon terms or amounts for some obligations. Also, those agreements are cancelable upon written notice by the Company and, therefore, not long-term liabilities.

**Defined Contribution Plan**

The Company sponsors an employee retirement plan qualifying under Section 401(k) of the Internal Revenue Code for all eligible employees in the United States who are at least 21 years old. The Company made $0.1 million and $0.2 million in matching contributions to the plan for the years ended December 31, 2018 and 2019, respectively.
Litigation

From time to time, the Company may become involved in various legal actions arising in the ordinary course of business. As of December 31, 2019, management was not aware of any existing, pending, or threatened legal actions that would have a material impact on the financial position, results of operations, or cash flows of the Company.

8. Convertible Promissory Notes

In 2016 and 2017, the Company issued and amended several convertible promissory notes in exchange for aggregate proceeds of $10.5 million. The notes accrued simple interest of 6.0% per year and, if not converted, would have matured in July 2018 and March 2019. Upon the completion of a qualified financing event, the outstanding principal and interest related to certain notes automatically converted into the shares issued in connection with the financing event and at 80% of the subscription price while the outstanding principal and interest related to the remaining notes automatically converted at a fixed conversion price.

The Company completed a qualified financing in May 2018 and issued 528,009 shares of Preferred Stock in exchange for the outstanding principal and interest of $10.5 million and $0.8 million, respectively. During the year ended December 31, 2018, the Company recognized interest expense of $2.4 million in connection with the convertible promissory notes prior to their settlement upon conversion into Preferred Stock.

9. Preferred Stock

In May 2018, the Company sold 565,010 shares of Preferred Stock to investors for $62.475 per share for proceeds of $35.1 million net of issuance costs. Upon consummation of the sale of Preferred Stock, the outstanding principal and accrued interest associated with the convertible promissory notes were converted into 528,009 shares of Preferred Stock.

The following is a summary of the rights, preferences, and terms of the Preferred Stock:

**Rank**

The Preferred Stock ranks senior to common stock as to payment of dividends, distributions of assets upon a liquidation event, or otherwise.

**Dividends**

The holders of Preferred Stock are entitled to receive non-cumulative dividends, when and if declared by the Board, and in preference to any declaration or payment of any dividend on the Company’s common stock at the rate of $4.9980 per share. No dividends have been declared to date.

**Voting Rights**

Each share of Preferred Stock entitles the holder to one vote on all matters for which shares of common stock may vote.

**Liquidation Preference**

In the event of a liquidation, dissolution, or winding up of the Company, or in the event the Company merges with or is acquired by another entity, each holder of Preferred Stock has a liquidation preference of $62.475 per share plus any declared and unpaid dividends. In the event of a liquidation, dissolution or winding up of the Company the Preferred Stock holders can elect to either receive their liquidation preference or receive their pro-rata portion of the liquidation proceeds on an “as converted” basis.

F-17
Conversion

Each share of Preferred Stock is convertible into common stock at any time at the option of the holder at a conversion price then in effect and
equal to one-for-one subject to adjustment. All outstanding Preferred Stock will automatically convert into common stock at the conversion price then in
effect upon a qualified initial public offering of common stock with a public offering price of at least $62.4750 per share and aggregate gross proceeds
of at least $50.0 million. All shares of Preferred Stock are convertible into common stock upon the affirmative election of the holders of at least a 55%
of the outstanding shares of Preferred Stock.

Redemption

The Company’s Series A redeemable convertible preferred stock allows the holders to redeem their shares upon a change in control in the
Company. As a result, the Company classifies its Series A redeemable convertible preferred stock as mezzanine equity. The Company charges specific
incremental issuance costs incurred in the offering of Series A redeemable convertible preferred stock against the gross proceeds of the Series A
redeemable convertible preferred stock.

10. Collaboration Agreement—Related Party

In August 2017, the Company entered into a Collaboration Agreement with Takeda related to the development of certain ARC molecules, as
amended in April 2018, October 2018 and March 2020, (the “Collaboration Agreement”). Under the Collaboration Agreement, the Company is
responsible to use commercially reasonable efforts to further research and development of six molecules. At the end of the development term Takeda
may elect (on a molecule-by-molecule basis) to license exclusively and obtain exclusive rights to undertake further clinical development and
commercialization of up to four molecules. Additionally, Takeda was granted a right of first negotiation (“ROFN”) to enter into licenses for each
molecule within a specified class of ARC molecules.

The Company assessed this arrangement in accordance with ASC 606 and concluded that the Collaboration Agreement had four distinct performance obligations
representing the combination of research and development services and participation in a joint development committee associated with the six
molecules. The Company also concluded that, since the option for the exclusive license is deemed to be at fair value that the option does not provide the
customer with a material right; and should be accounted for if and when the option is exercised. Finally the Company noted that the ROFN does not
guarantee that Takeda can negotiate a license for molecules at prices that are below their respective standalone selling prices and further noted that if
Takeda exercises the ROFN, the license fee will be negotiated at standalone selling price for each molecule.

The Company recognizes revenue for the allocated upfront payments using a cost-based input measure. In applying the cost-based input method
of revenue recognition, the Company used actual costs incurred relative to budgeted costs expected to be incurred for the combined performance
obligation. Revenue is recognized based on actual costs incurred as a percentage of total budgeted costs as the Company completes its performance
obligation over the estimated service period. The Company recognizes revenue related to the reimbursable cost as they are incurred.

11. Stock-Based Compensation

In 2016, the Company adopted and subsequently amended the 2016 Stock Incentive Plan (the “Plan”). The total number of shares authorized
under the Plan as of December 31, 2019 was 387,877 and 37,774 shares are

F-18
available for future grants as of December 31, 2019. The Plan permits the granting of options and restricted stock. The terms of the agreements are determined by the Company’s Board of Directors. The Company’s awards vest based on the terms in the agreements and generally vest over four years and have a term of 10 years.

The Company measures employee and nonemployee stock-based awards at grant-date fair value and records compensation expense on a straight-line basis over the vesting period of the award. The Company recorded stock-based compensation expense in the following expense categories of its accompanying statements of operations and comprehensive loss (amounts in thousands):

<table>
<thead>
<tr>
<th></th>
<th>Year Ended December 31,</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2018</td>
</tr>
<tr>
<td>Research and development</td>
<td>$128</td>
</tr>
<tr>
<td>General and administrative</td>
<td>297</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$425</td>
</tr>
</tbody>
</table>

The following table summarizes option activity under the Stock Plan:

<table>
<thead>
<tr>
<th></th>
<th>Options</th>
<th>Weighted Average Exercise Price</th>
<th>Weighted Average Remaining Life (Years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outstanding at January 1, 2019</td>
<td>167,146</td>
<td>14.65</td>
<td>8.49</td>
</tr>
<tr>
<td>Granted</td>
<td>82,300</td>
<td>21.49</td>
<td></td>
</tr>
<tr>
<td>Exercised</td>
<td>(12,375)</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Forfeited</td>
<td>(1,250)</td>
<td>20.15</td>
<td></td>
</tr>
<tr>
<td><strong>Outstanding at December 31, 2019</strong></td>
<td>235,821</td>
<td>17.78</td>
<td>8.95</td>
</tr>
<tr>
<td>Exercisable at the end of the period</td>
<td>84,668</td>
<td>$16.42</td>
<td>8.62</td>
</tr>
<tr>
<td>Vested and expected to vest</td>
<td>231,350</td>
<td>$17.73</td>
<td>8.94</td>
</tr>
</tbody>
</table>

Options granted during the year ended December 31, 2018 and 2019 had weighted-average grant-date fair values of $4.92 and $12.75 per share, respectively. As of December 31, 2019, the unrecognized compensation cost was $1.5 million and will be recognized over an estimated weighted-average amortization period of 2.91 years. The aggregate intrinsic value of options exercised as of December 31, 2018 and 2019 was $0.3 million and $0.4 million, respectively. The aggregate intrinsic value of options outstanding and exercisable as of December 31, 2019 was $0.4 million.

The fair value of each option is estimated on the date of grant using a Black-Scholes option pricing model which takes into account inputs such as the exercise price, the estimated fair value of the underlying common stock at grant date, expected term, expected stock price volatility, risk-free interest rate, and dividend yield. The fair value of stock options during the years ended December 31, 2018 and 2019 was determined using the methods and assumptions discussed below:

- The expected term of employee stock options with service-based vesting is determined using the “simplified” method, whereby the expected life equals the arithmetic average of the vesting term and the original contractual term of the option due to the Company’s lack of sufficient historical data. The expected term of nonemployee options is equal to the contractual term.

- The expected stock price volatility is based on historical volatilities of comparable public entities within the Company’s industry.

- The risk-free interest rate is based on the interest rate payable on U.S. Treasury securities in effect at the time of grant for a period that is commensurate with the expected term.
• The expected dividend yield is 0% because the Company has not historically paid, and does not expect, for the foreseeable future, to pay a dividend on its common stock.

• As the Company’s common stock has not been publicly traded, its Board of Directors periodically estimated the fair value of the Company’s common stock considering, among other things, contemporaneous valuations of its common stock prepared by an unrelated third-party valuation firm.

The grant date fair value of each option grant was estimated throughout the year using the Black-Scholes option-pricing model using the following weighted-average assumptions:

<table>
<thead>
<tr>
<th></th>
<th>Year Ended December 31,</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2018</td>
<td>2019</td>
</tr>
<tr>
<td>Expected term - years</td>
<td>5.70</td>
<td>5.96</td>
</tr>
<tr>
<td>Expected volatility</td>
<td>59.6%</td>
<td>64.9%</td>
</tr>
<tr>
<td>Risk-free interest rate</td>
<td>2.9%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Expected dividends</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Fair value of common stock</td>
<td>$18.99</td>
<td>$21.49</td>
</tr>
</tbody>
</table>

For accounting purposes, the restricted shares are considered the issuance of options as opposed to the sale of stock and as such, the Company has recognized compensation expense for these awards. Twenty-five percent of the shares became immediately vested and the remaining shares vest monthly over 36 months so long as the executive remains employed by or provides service to the Company. In the event the grantee ceases to provide service, the Company has the option to repurchase any or all of the unvested shares at the original issuance price.

The following table summarizes the activity relating to these shares:

<table>
<thead>
<tr>
<th>Balance at January 1, 2018</th>
<th>11,765</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vested</td>
<td>(4,166)</td>
</tr>
<tr>
<td>Outstanding at December 31, 2018</td>
<td>7,599</td>
</tr>
<tr>
<td>Vested</td>
<td>(2,942)</td>
</tr>
<tr>
<td>Outstanding at December 31, 2019</td>
<td>4,657</td>
</tr>
</tbody>
</table>

12. Income Taxes

The Company recorded no federal provision for income taxes as of December 31, 2018 and 2019 due to reported net losses since inception. A reconciliation of the expected income tax expense (benefit) computed using the federal statutory income tax rate to the Company’s effective income tax rate is as follows for the years ended December 31, 2018 and 2019 (amounts in thousands):

<table>
<thead>
<tr>
<th>Income tax benefit computed at federal statutory tax rate</th>
<th>Year Ended December 31,</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2018</td>
</tr>
<tr>
<td>Income tax benefit computed at federal statutory tax rate</td>
<td>$ (1,552)</td>
</tr>
<tr>
<td>State income taxes</td>
<td>(17)</td>
</tr>
<tr>
<td>Change in valuation allowance</td>
<td>1,806</td>
</tr>
<tr>
<td>Return to provision adjustments</td>
<td>—</td>
</tr>
<tr>
<td>General business credits</td>
<td>(800)</td>
</tr>
<tr>
<td>Other permanent differences</td>
<td>95</td>
</tr>
<tr>
<td>Disallowed interest expense</td>
<td>552</td>
</tr>
<tr>
<td>Mark to market on convertible debt</td>
<td>(84)</td>
</tr>
<tr>
<td>Income tax benefit</td>
<td>$ —</td>
</tr>
</tbody>
</table>

F-20
Significant components of the Company’s deferred tax assets and liabilities as of December 31, 2018 and 2019 are as follows (amounts in thousands):

<table>
<thead>
<tr>
<th></th>
<th>December 31,</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2018</td>
</tr>
<tr>
<td><strong>Deferred tax asset:</strong></td>
<td></td>
</tr>
<tr>
<td>Net operating loss carryforwards</td>
<td>$851</td>
</tr>
<tr>
<td>Accrued expenses and other</td>
<td>185</td>
</tr>
<tr>
<td>Stock compensation</td>
<td>—</td>
</tr>
<tr>
<td>Credit carryforwards</td>
<td>1,420</td>
</tr>
<tr>
<td>Deferred revenue</td>
<td>736</td>
</tr>
<tr>
<td>Gross deferred tax asset</td>
<td>3,192</td>
</tr>
<tr>
<td>Less valuation allowance</td>
<td>(2,919)</td>
</tr>
<tr>
<td>Net deferred tax asset</td>
<td>273</td>
</tr>
<tr>
<td><strong>Deferred tax liability:</strong></td>
<td></td>
</tr>
<tr>
<td>Depreciation and amortization</td>
<td>(259)</td>
</tr>
<tr>
<td>Prepaid expenses</td>
<td>(14)</td>
</tr>
<tr>
<td>Total deferred tax liability</td>
<td>(273)</td>
</tr>
<tr>
<td><strong>Total net deferred tax asset</strong></td>
<td>$ —</td>
</tr>
</tbody>
</table>

The Company has established a valuation allowance equal to the net deferred tax asset due to uncertainties regarding the realization of the deferred tax asset based on the Company’s lack of earnings history. The valuation allowance increased by $1.8 million and $5.7 million during the years ended December 31, 2018 and 2019, respectively, primarily due to continuing loss from operations, general business credit carryforwards, and deferred revenue.

As of December 31, 2018, and 2019, the Company had gross U.S. net operating loss carryforwards (“NOLs”) of $3.9 million and $14 million, respectively. As of December 31, 2018, and 2019, the Company had gross state net operating loss carryforwards of $0.2 million. As of December 31, 2018, and 2019, the Company had U.S. tax credit carryforwards of $1.4 million and $2.3 million, respectively. The net operating loss and tax credit carryforwards will begin to expire in 2036, if not utilized. The net operating loss and credit carryforwards are subject to Internal Revenue Service adjustments until the statute closes on the year the net operating loss or credit carryforwards are utilized.

Section 382 of the Internal Revenue Code limits the utilization of U.S. NOLs following a change of control. After the 2018 financial statements were filed, the Company completed a Section 382 study from formation through December 31, 2018. Based on this study, approximately $0.6 million of the December 31, 2016 NOL carryforward and $0.1 million of the December 31, 2016 R&D credit carryforward expired unutilized. As such, the Company has written off these portions of the December 31, 2016 NOL carryforward and R&D credit carryforward with a corresponding reduction of the valuation allowance. The Company is in the process of completing a study to assess whether an ownership change has occurred or whether there have been multiple ownership changes during the year ended December 31, 2019. The Company has not completed its Section 382 study for this period. To the extent that the Company has undergone an ownership change during the year ended December 31, 2019, the utilization of the NOL or R&D credit carryforwards will be subject to an annual limitation under Section 382 or 383 of the Internal Revenue Code, which is determined by first multiplying the value of the Company's stock at the time of the ownership change by the applicable long-term, tax-exempt rate, and then could be subject to additional adjustments, as required. These limitations may result in expiration of a portion of the NOL or R&D credit carryforwards before utilization. Any carryforwards that will expire prior to utilization as a result of such limitations will be removed from deferred tax assets with a corresponding reduction of the valuation allowance.

F-21
As of December 31, 2018, and 2019, the Company had no unrecognized tax benefits. During the years ended December 31, 2019 and 2018, the Company had no interest and penalties related to income taxes. Additionally, the Company does not expect any unrecognized tax benefits to change significantly over the next twelve months. Due to the existence of the valuation allowance, future changes in the Company’s unrecognized tax benefits will not impact its effective tax rate.

The Company files income tax returns in the U.S. and state jurisdictions. The Company is subject to examination by taxing authorities in its significant jurisdictions for the 2016, 2017, and 2018 tax years. There are currently no federal or state income tax audits in progress.

13. Related Party

Takeda has a seat on the Company’s Board of Directors and held an approximate 14% ownership interest in the Company’s outstanding shares as of December 31, 2019. As a result, all revenue, accounts receivable and deferred revenue related to the Collaboration Agreement represented related party transactions.

14. Subsequent Events

The Company has evaluated subsequent events from the balance sheet date through May 4, 2020, the date at which the financial statements were available to be issued, and there are no other items requiring disclosure except for the following:

**Series B Redeemable Convertible Preferred Stock**

In the first quarter of 2020, the Company sold 550,571 shares of Series B redeemable convertible preferred stock for $62.88051 per share for proceeds of $34.5 million, net of issuance costs.

**Coronavirus Pandemic**

On March 10, 2020 World Health Organization characterized the novel COVID-19 virus as a global pandemic. There is significant uncertainty as to the likely effects of this disease which may, among other things, materially impact the Company’s planned clinical trials. This pandemic or outbreak could result in difficulty securing clinical trial site locations, CROs, and/or trial monitors and other critical vendors and consultants supporting the trial. In addition, outbreaks or the perception of an outbreak near a clinical trial site location could impact the Company’s ability to enroll patients. These situations, or others associated with COVID-19, could cause delays in the Company’s clinical trial plans and could increase expected costs, all of which could have a material adverse effect on the Company’s business and its financial condition. At the current time, the Company is unable to quantify the potential effects of this pandemic on its future operations.

On March 27, 2020 the Coronavirus Aid, Relief and Economic Security Act was signed into law. The Company evaluated the key provisions of the Act and determined that there is no accounting impact resulting from its effectiveness.

**Third Amendment to the Takeda Collaboration Agreement**

On March 31, 2020, the Company entered into a third amendment to their Collaboration Agreement with Takeda which will provide for an up-front non-refundable payment from Takeda of $11.3 million and expense reimbursement to fund continued research on a specific molecule.
## Table of Contents

**SHATTUCK LABS, INC.**  
**BALANCE SHEETS**  
(In thousands, except share and per share amounts)

<table>
<thead>
<tr>
<th>Assets</th>
<th>December 31, 2019</th>
<th>June 30, 2020 (unaudited)</th>
<th>June 30, 2020 Pro Forma (unaudited)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current assets</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash and cash equivalents</td>
<td>$ 7,013</td>
<td>$ 131,044</td>
<td>$ 131,044</td>
</tr>
<tr>
<td>Short-term investments</td>
<td>32,074</td>
<td>16,490</td>
<td>16,490</td>
</tr>
<tr>
<td>Prepaid expenses and other current assets</td>
<td>3,355</td>
<td>5,246</td>
<td>5,246</td>
</tr>
<tr>
<td><strong>Total current assets</strong></td>
<td>42,442</td>
<td>152,780</td>
<td>152,780</td>
</tr>
<tr>
<td>Property and equipment, net</td>
<td>2,437</td>
<td>2,572</td>
<td>2,572</td>
</tr>
<tr>
<td>Other assets</td>
<td>90</td>
<td>192</td>
<td>192</td>
</tr>
<tr>
<td><strong>Total assets</strong></td>
<td>$ 44,969</td>
<td>$ 155,544</td>
<td>$ 155,544</td>
</tr>
</tbody>
</table>

| Liabilities, redeemable convertible preferred stock and stockholders’ equity (deficit) | | | |
| **Current liabilities** | | | |
| Accounts payable | $ 3,051 | $ 1,104 | $ 1,104 |
| Accrued expenses | 4,039 | 5,571 | 5,571 |
| Deferred revenue – related party | 12,894 | 7,823 | 7,823 |
| **Total current liabilities** | 19,984 | 14,498 | 14,498 |
| Deferred revenue – related party net of current portion | 9,571 | 21,106 | 21,106 |
| Deferred rent | 898 | 860 | 860 |
| **Total liabilities** | 30,453 | 36,464 | 36,464 |

| Commitments and contingencies (Note 5) | | | |
| Redeemable convertible preferred stock: | | | |
| Series A redeemable convertible preferred stock, $0.0001 par value: 1,093,019 shares authorized, issued, and outstanding as of December 31, 2019 and June 30, 2020 (liquidation value of $68,286 as of June 30, 2020) (actual); no shares authorized, issued, or outstanding at June 30, 2020 (pro forma) | 49,064 | 49,064 | — |
| Series B redeemable convertible preferred stock, $0.0001 par value: 550,571 shares authorized, none and 550,571 issued and outstanding as of December 31, 2019 and June 30, 2020, respectively (liquidation value of $34,620 as of June 30, 2020) (actual); no shares authorized, issued, or outstanding at June 30, 2020 (pro forma) | — | 34,427 | — |
| Series B-1 redeemable convertible preferred stock, $0.0001 par value: 1,319,964 shares authorized, none and 1,319,964 issued and outstanding as of December 31, 2019 and June 30, 2020, respectively (liquidation value of $83,000 as of June 30, 2020) (actual); no shares authorized, issued, or outstanding at June 30, 2020 (pro forma) | — | 82,618 | — |
| Stockholders’ equity (deficit): | | | |
| Common stock, $0.0001 par value: 10,000,000 and 4,950,000 shares authorized; 1,114,282 and 1,121,327 shares issued and 1,109,625 and 1,118,140 shares outstanding at December 31, 2019 and June 30, 2020, respectively (actual); 4,081,694 shares outstanding at June 30, 2020 (pro forma) | — | — | — |
| Additional paid-in capital | 888 | 1,205 | 167,314 |
| Accumulated other comprehensive income | 54 | 18 | 18 |
| Accumulated deficit | (35,490) | (48,252) | (48,252) |
| **Total stockholders’ equity (deficit)** | (34,548) | (47,029) | 119,080 |
| **Total liabilities, redeemable convertible preferred stock and stockholders’ equity (deficit)** | $ 44,969 | $ 155,544 | $ 155,544 |

See accompanying notes to unaudited interim financial statements

F-23
SHATTUCK LABS, INC.

STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(In thousands, except share and per share amounts)
(unaudited)

<table>
<thead>
<tr>
<th></th>
<th>Six Months Ended June 30,</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2019</td>
</tr>
<tr>
<td>Collaboration revenue – related party</td>
<td>$5,282</td>
</tr>
<tr>
<td>Operating expenses:</td>
<td></td>
</tr>
<tr>
<td>Research and development</td>
<td>12,502</td>
</tr>
<tr>
<td>General and administrative</td>
<td>2,696</td>
</tr>
<tr>
<td>Expense from operations</td>
<td>15,198</td>
</tr>
<tr>
<td>Loss from operations</td>
<td>(9,916)</td>
</tr>
<tr>
<td>Other income (expense):</td>
<td></td>
</tr>
<tr>
<td>Interest income</td>
<td>623</td>
</tr>
<tr>
<td>Other</td>
<td>(41)</td>
</tr>
<tr>
<td>Total other income (expense)</td>
<td>582</td>
</tr>
<tr>
<td>Net loss</td>
<td>$(9,334)</td>
</tr>
<tr>
<td>Unrealized gain (loss) on short-term investments</td>
<td>109</td>
</tr>
<tr>
<td>Comprehensive loss</td>
<td>$(9,225)</td>
</tr>
<tr>
<td>Net loss per share – basic and diluted</td>
<td>$(8.49)</td>
</tr>
<tr>
<td>Weighted-average shares outstanding – basic and diluted</td>
<td>1,099,148</td>
</tr>
<tr>
<td>Pro forma net loss per share – basic and diluted</td>
<td></td>
</tr>
<tr>
<td>Pro forma weighted-average shares outstanding – basic and diluted</td>
<td></td>
</tr>
</tbody>
</table>

See accompanying notes to unaudited interim financial statements

F-24
| Shares | Amount   | Shares | Amount   | Shares | Amount   | Shares | Amount   | Shares | Amount   | Shares | Amount   | Shares | Amount   | Shares | Amount   | Shares | Amount   | Shares | Amount   | Shares | Amount   | Shares | Amount   |
|--------|----------|--------|----------|--------|----------|--------|----------|--------|----------|--------|----------|--------|----------|--------|----------|--------|----------|--------|----------|--------|----------|
| Balance at January 1, 2019 | 1,093,019 | $49,064 | $ —   | $ —   | $ —   | $1,094,308 | $ —   | $427 | $ —   | $ (11,508) | $ (11,081) |
| Stock-based compensation expense | — | — | — | — | — | — | — | 153 | — | — | 153 |
| Unrealized gain on investments | — | — | — | — | — | — | — | 109 | — | — | 109 |
| Exercise of stock options | — | — | — | — | — | — | — | 7,285 | — | — | — | — | — | — | — | — |
| Vesting of common stock previously subject to vesting | — | — | — | — | — | — | — | 1,472 | — | — | — | — | — | — | (9,334) | (9,334) |
| Net loss | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Balance at June 30, 2019 | 1,093,019 | $49,064 | $ —   | $ —   | $ —   | $1,103,065 | $ —   | $580 | $ 109 | $ (20,842) | $ (20,153) |
| Balance at January 1, 2020 | 1,093,019 | $49,064 | $ —   | $ —   | $ —   | $1,109,625 | $ —   | $888 | $ 54 | $ (35,490) | $ (34,548) |
| Sale of Series B redeemable convertible preferred stock, net of issuance costs | — | — | 550,571 | 34,427 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sale of Series B-1 redeemable convertible preferred stock, net of issuance costs | — | — | — | — | 1,319,964 | 82,618 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Exercise of stock options | — | — | — | — | — | — | 7,045 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Vesting of common stock previously subject to vesting | — | — | — | — | 1,470 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Stock-based compensation expense | — | — | — | — | — | — | — | 317 | — | — | 317 |
| Unrealized gain on investments | — | — | — | — | — | — | (36) | — | — | (36) |
| Net loss | — | — | — | — | — | — | — | — | — | — | — | (12,762) | (12,762) |
| Balance at June 30, 2020 | 1,093,019 | $49,064 | 550,571 | 34,427 | 1,319,964 | 82,618 | 1,118,140 | $ —   | $1,205 | $ 18 | $ (48,252) | $ (47,029) |

See accompanying notes to unaudited interim financial statements

F-25
<table>
<thead>
<tr>
<th>Description</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cash flows from operations:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net loss</td>
<td>$(9,334)</td>
<td>$(12,762)</td>
</tr>
<tr>
<td>Adjustments to reconcile net loss to net cash used in operations:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td>292</td>
<td>292</td>
</tr>
<tr>
<td>Stock-based compensation</td>
<td>153</td>
<td>317</td>
</tr>
<tr>
<td>Accretion of short-term investments</td>
<td>(53)</td>
<td>(58)</td>
</tr>
<tr>
<td><strong>Changes in operating assets and liabilities:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepaid expenses and other current assets</td>
<td>2,013</td>
<td>(1,891)</td>
</tr>
<tr>
<td>Accounts payable</td>
<td>(992)</td>
<td>(1,947)</td>
</tr>
<tr>
<td>Accrued expenses</td>
<td>416</td>
<td>1,355</td>
</tr>
<tr>
<td>Deferred revenue—related party</td>
<td>1,639</td>
<td>6,464</td>
</tr>
<tr>
<td>Deferred rent</td>
<td>(4)</td>
<td>(38)</td>
</tr>
<tr>
<td><strong>Net cash used in operating activities</strong></td>
<td>(5,870)</td>
<td>(8,268)</td>
</tr>
<tr>
<td><strong>Cash flows from investing activities:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchase of property and equipment</td>
<td>(350)</td>
<td>(427)</td>
</tr>
<tr>
<td>Sale and maturities of short-term investments</td>
<td>19,342</td>
<td>18,345</td>
</tr>
<tr>
<td>Purchases of short-term investments</td>
<td>(21,755)</td>
<td>(2,739)</td>
</tr>
<tr>
<td><strong>Net cash (used in) provided by investing activities</strong></td>
<td>(2,763)</td>
<td>15,179</td>
</tr>
<tr>
<td><strong>Cash flows from financing activities:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payments for public offering costs</td>
<td>—</td>
<td>(111)</td>
</tr>
<tr>
<td>Proceeds from the sale of Series B redeemable convertible preferred stock, net of issuance costs</td>
<td>—</td>
<td>34,458</td>
</tr>
<tr>
<td>Proceeds from the sale of Series B-1 redeemable convertible preferred stock, net of issuance costs</td>
<td>—</td>
<td>82,773</td>
</tr>
<tr>
<td><strong>Net cash provided by financing activities</strong></td>
<td>—</td>
<td>117,120</td>
</tr>
<tr>
<td><strong>Net increase (decrease) in cash and cash equivalents</strong></td>
<td>(8,633)</td>
<td>124,031</td>
</tr>
<tr>
<td><strong>Cash and cash equivalents, beginning of period</strong></td>
<td>31,644</td>
<td>7,013</td>
</tr>
<tr>
<td><strong>Cash and cash equivalents, end of period</strong></td>
<td>$23,011</td>
<td>$131,044</td>
</tr>
</tbody>
</table>

**Supplemental disclosures of non-cash financial activities:**

<table>
<thead>
<tr>
<th>Description</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unrealized gain (loss) on short-term investments</td>
<td>$109</td>
<td>$(36)</td>
</tr>
<tr>
<td>Accrued public offering costs in other assets</td>
<td>—</td>
<td>$25</td>
</tr>
<tr>
<td>Accrued Series B-1 redeemable convertible preferred stock offering costs in other assets</td>
<td>—</td>
<td>$155</td>
</tr>
</tbody>
</table>

See accompanying notes to unaudited interim financial statements
1. Organization and description of business

Shattuck Labs, Inc. (the “Company”) was incorporated in 2016 in the State of Delaware and is a clinical-stage biopharmaceutical company developing dual-sided fusion proteins, including its ARC® and GADLEN™ platforms, novel classes of biologic medicines capable of multifunctional activity with potential applications in oncology and inflammatory diseases. Using its proprietary technology, the Company is building a pipeline of therapeutics, initially focused on the treatment of solid tumors and hematologic malignancies. The Company has two clinical-stage molecules, SL-172154 and SL-279252. In addition, the Company has several molecules in preclinical development.

Liquidity

The Company has incurred losses and negative cash flows from operations since inception and has an accumulated deficit of $48.3 million as of June 30, 2020. The Company anticipates incurring additional losses and negative cash flows from operations until such time, if ever, that it can generate significant sales of its product candidates currently in development, and is highly dependent on its ability to find additional sources of funding in the form of licensing of its technology, collaboration agreements, and/or debt and equity financing. The Company’s ability to fund its planned clinical operations, research and development, and commercialization of its product candidates is expected to depend on the amount and timing of cash receipts from these funding sources. Adequate additional funding may not be available to the Company on acceptable terms, or at all. The failure to raise funds as and when needed could have a negative impact on the Company’s financial condition and ability to pursue its business strategies. Management believes that the Company’s cash and cash equivalents and short-term investments of $147.5 million as of June 30, 2020 are sufficient to fund the projected operations of the Company through at least the fourth quarter of 2021.

On March 10, 2020, the World Health Organization declared the COVID-19 outbreak a pandemic. The virus and actions taken to mitigate its spread have had, and are expected to continue to have, a broad adverse impact on the economies and financial markets of many countries, including the geographical areas in which the Company operates and conducts its business and which the Company’s partners operate and conduct their business. The Company is currently following the recommendations of local health authorities to minimize exposure risk for its team members and visitors. However, the scale and scope of this pandemic is unknown and the duration of the business disruption and related financial impact cannot be reasonably estimated at this time. While we have implemented specific business continuity plans to reduce the potential impact of COVID-19, there is no guarantee that the Company’s continuity plans will be successful.

The Company has already experienced certain disruptions to its business such as work-from-orders for offices and similar disruptions have occurred for its partners. Specifically, the outbreak has caused disruptions in enrollment and treatment of patients in clinical trials in process, and slowdowns and shutdowns of the laboratories and other service providers that are being relied upon in the development of the Company’s product candidates.

The extent to which COVID-19 or any other health epidemic may impact the Company’s results will depend on future developments, which are highly uncertain and cannot be predicted, including new information that may emerge concerning the severity of COVID-19 and the actions to contain COVID-19 or treat its impact, among others. Accordingly, COVID-19 could have a material adverse effect on the Company’s business, results of operations, financial condition, and prospects.
2. Basis of presentation and summary of significant accounting policies

   Basis of Presentation

   The accompanying unaudited interim financial statements have been prepared in conformity with U.S. generally accepted accounting principles ("U.S. GAAP") for interim financial information.

   Interim Financial Statements

   In the opinion of management, the accompanying interim financial statements include all normal and recurring adjustments (which consist primarily of accruals, estimates and assumptions that impact the financial statements) considered necessary to present fairly the Company’s financial position as of June 30, 2020 and its results of operations, statement of changes in redeemable convertible preferred stock and stockholder’s deficit and cash flows for the six months ended June 30, 2019 and 2020. Operating results for the six months ended June 30, 2020 are not necessarily indicative of the results that may be expected for the year ending December 31, 2020. The interim financial statements, presented herein, do not contain the required disclosures under U.S. GAAP for annual financial statements. The accompanying unaudited interim financial statements should be read in conjunction with the annual audited financial statements and related notes as of and for the year ended December 31, 2019.

   Use of Estimates

   The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Significant estimates and assumptions reflected in these financial statements include, but are not limited to, revenue recognition, the accrual of research and development expenses, and the valuation of stock-based awards. Estimates are periodically reviewed in-light of changes in circumstances, facts and experience. Changes in estimates are recorded in the period in which they become known. Actual results could differ from management’s estimates.

   Unaudited Pro Forma Financial Information

   Immediately prior to the closing of a qualified initial public offering ("IPO"), all of the Company’s outstanding redeemable convertible preferred stock will automatically convert into common stock. The accompanying unaudited pro forma balance sheet as of June 30, 2020 assumes the conversion of all outstanding shares of redeemable convertible preferred stock into 2,963,554 shares of common stock. In the accompanying unaudited interim statements of operations and comprehensive loss, unaudited pro forma basic and diluted net loss per share of common stock has been prepared to give effect to the automatic conversion of all outstanding shares of redeemable convertible preferred stock as if they had been converted at the later of the beginning of the reporting period or the issuance date of the redeemable convertible preferred stock. The shares of the Company’s common stock expected to be issued, and the related net proceeds expected to be received, in connection with the planned IPO are excluded from such pro forma information.

   Fair Value of Financial Instruments

   Fair value is defined as the price that would be received upon the sale of an asset or paid upon the transfer of a liability in an orderly transaction between market participants at the measurement date and in the principal or most advantageous market for that asset or liability. Fair value measurements are classified and disclosed in one of the following categories:

   • Level 1: Observable inputs such as quoted prices in active markets for identical assets the reporting entity has the ability to access as of the measurement date;
   • Level 2: Inputs, other than quoted prices in active markets, that are observable either directly or indirectly; and
Level 3: Unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own assumptions.

Fair value measurements are classified based on the lowest level of input that is significant to the measurement. The Company’s assessment of the significance of a particular input to the fair value measurement requires judgment, which may affect the valuation of the assets and liabilities and their placement within the fair value hierarchy levels. The determination of the fair values stated below takes into account the market for its financial assets and liabilities, the associated credit risk and other factors as required. The Company considers active markets as those in which transactions for the assets or liabilities occur in sufficient frequency and volume to provide pricing information on an ongoing basis.

Management believes that the carrying amounts of the Company’s financial instruments, including accounts payable, approximate fair value due to the short-term nature of those instruments. Short-term investments are recorded at their estimated fair value.

Concentration of Risk

Financial instruments that potentially subject the Company to concentrations of credit risk primarily consist of cash, cash equivalents, and short-term investments. The Company maintains its cash and cash equivalents at one accredited financial institution in amounts that exceed federally-insured limits. The Company does not believe that it is subject to unusual credit risk beyond the normal credit risk associated with commercial banking relationships. The Company invests in only highly rated debt securities that management believes protects the Company from risk of default and impairment of value.

All of the Company’s revenue is derived from its collaboration agreement with Millennium Pharmaceuticals, Inc., a wholly owned subsidiary of Takeda Pharmaceuticals (“Takeda”), a wholly owned subsidiary of Takeda Pharmaceutical Company Limited (see Note 8).

The Company is highly dependent on a third-party manufacturer to supply drug products for its research and development activities of its programs, including clinical trials and non-clinical studies. These programs could be adversely affected by a significant interruption in the supply of such drug products.

The Company is highly dependent on two contract research organizations (“CROs”) to manage its clinical trials. These programs could be adversely affected by a significant disruption in services provided by the CROs.

Cash Equivalents

The Company considers all demand deposits with financial institutions and all highly liquid investments with maturities of ninety days or less at the date of purchase to be cash and cash equivalents. Cash equivalents consist of $6.5 million held in a money market fund and $0.5 million held in an operating account at December 31, 2019 and $130.0 million held in a money market fund and $1.0 million held in an operating account at June 30, 2020, and are carried at fair value of the investment based on quoted market prices.

Short-Term Investments

Short-term investments consist of debt securities with a maturity of greater than three months when acquired. The Company classifies its short-term investments at the time of purchase as available-for-sale securities. Available-for-sale securities are carried at fair value. Unrealized gains and losses on available-for-sale securities are reported in accumulated other comprehensive income, a component of stockholders’ deficit, until realized.
Deferred Offering Costs

The Company capitalizes certain legal, accounting, and other third-party fees that are directly associated with in-process equity financings as deferred offering costs until such financings are consummated. After consummation of the equity financing, these costs will be recorded as a reduction of additional paid-in capital generated as a result of the offering. Should the equity financing no longer be considered probable of being consummated, all deferred offering costs would be charged to operating expenses in the statement of operations and comprehensive loss. Deferred offering costs were $0.1 million and $0.2 million at December 31, 2019 and June 30, 2020, respectively.

Series A, Series B and Series B-1 Redeemable Convertible Preferred Stock

The Company records shares of redeemable convertible preferred stock at their respective fair values on the date of issuance, net of issuance costs. The redeemable convertible preferred stock is recorded outside of stockholders’ equity on the balance sheet because the shares contain liquidation features that are not solely within the Company’s control. The Company has elected not to adjust the carrying values of the redeemable convertible preferred stock to the liquidation preferences of such shares because of the uncertainty of whether or when such an event would occur. Subsequent adjustments to increase the carrying value to the liquidation preferences will be made only when it becomes probable that such a liquidation event will occur. See Note 6 for a discussion of the redeemable convertible preferred stock.

Revenue Recognition

Collaboration revenue is recognized in accordance with ASC 606, Revenue from Contracts with Customers (ASC 606). Arrangements with collaborators may include licenses to intellectual property, research and development services, manufacturing services for clinical and commercial supply, and participation on joint steering committees. The Company evaluates the promised goods or services in the contract to determine which promises, or group of promises, represent performance obligations. In contemplation of whether a promised good or service meets the criteria required of a performance obligation, the Company considers the stage of development of the underlying intellectual property, the capabilities and expertise of the customer relative to the underlying intellectual property, and whether the promised goods or services are integral to or dependent on other promises in the contract. When accounting for an arrangement that contains multiple performance obligations, the Company must develop judgmental assumptions, which may include market conditions, reimbursement rates for personnel costs, development timelines and probabilities of regulatory success to determine the stand-alone selling price for each performance obligation identified in the contract.

Upon the amendment of an existing agreement, the Company evaluates whether the amendment represents a modification to an existing contract which would be recorded through a cumulative catch-up to revenue or a separate contract. If it is determined that it is a separate contract, the Company will evaluate the necessary revenue recognition through the five-step process described below.

When the Company concludes that a contract should be accounted for as a combined performance obligation and recognized over time, the Company must then determine the period over which revenue should be recognized and the method by which to measure revenue. The Company generally recognizes revenue using a cost-based input method.

The Company recognizes collaboration revenue when its customer or collaborator obtains control of promised goods or services, in an amount that reflects the consideration which the Company expects to receive in exchange for those goods or services. To determine revenue recognition for arrangements that the Company determines are within the scope of ASC 606, it performs the following five steps:

i. identify the contract(s) with a customer;
ii. identify the performance obligations in the contract;

iii. determine the transaction price;

iv. allocate the transaction price to the performance obligations within the contract and;

v. allocate the transaction price to the performance obligations within the contract recognize revenue when (or as) the entity satisfies a performance obligation.

The Company only applies the five-step model to contracts when it determines that it is probable it will collect the consideration it is entitled to in exchange for the goods or services it transfers to the customer.

At contract inception, once the contract is determined to be within the scope of ASC 606, the Company assesses the goods or services promised within the contract to determine whether each promised good or service is a performance obligation. The promised goods or services in the Company’s arrangements may consist of a license, or options to license, the Company’s intellectual property and research, development and manufacturing services. The Company may provide options to additional items in such arrangements, which are accounted for as separate contracts when the customer elects to exercise such options, unless the option provides a material right to the customer. Performance obligations are promises in a contract to transfer a distinct good or service to the customer that (i) the customer can benefit from on its own or together with other readily available resources, and (ii) is separately identifiable from other promises in the contract. Goods or services that are not individually distinct performance obligations are combined with other promised goods or services until such combined group of promises meet the requirements of a performance obligation.

The Company determines transaction price based on the amount of consideration the Company expects to receive for transferring the promised goods or services in the contract. Consideration may be fixed, variable, or a combination of both. At contract inception for arrangements that include variable consideration, the Company estimates the probability and extent of consideration it expects to receive under the contract utilizing either the most likely amount method or expected amount method, whichever best estimates the amount expected to be received. The Company then considers any constraints on the variable consideration and includes in the transaction price variable consideration to the extent it is deemed probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved.

The Company then allocates the transaction price to each performance obligation based on the relative standalone selling price and recognizes as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) control is transferred to the customer and the performance obligation is satisfied. For performance obligations which consist of licenses and other promises, the Company utilizes judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress. The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognition.

The Company records amounts as accounts receivable when the right to consideration is deemed unconditional. When consideration is received, or such consideration is unconditionally due, from a customer prior to transferring goods or services to the customer under the terms of a contract, a contract liability is recorded as deferred revenue.

Amounts received prior to satisfying the revenue recognition criteria are recognized as deferred revenue in the Company’s accompanying balance sheet. Deferred revenues expected to be recognized as revenue within the 12 months following the balance sheet date are classified as a current liability. Deferred revenues not expected to be recognized as revenue within the 12 months following the balance sheet date are classified as non-current liabilities.

F-31
The Company’s collaboration revenue arrangements may include the following:

Up-front License Fees: If a license is determined to be distinct from the other performance obligations identified in the arrangement, the Company recognizes revenues from nonrefundable, up-front fees allocated to the license when the license is transferred to the licensee and the licensee is able to use and benefit from the license. For licenses that are bundled with other promises, the Company utilizes judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue from non-refundable, up-front fees. The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognition.

Milestone Payments: At the inception of an agreement that includes research and development milestone payments, the Company evaluates each milestone to determine when and how much of the milestone to include in the transaction price. The Company first estimates the amount of the milestone payment that the Company could receive using either the expected value or the most likely amount approach. The Company primarily uses the most-likely amount approach as that approach is generally most predictive for milestone payments with a binary outcome. Then, the Company considers whether any portion of that estimated amount is subject to the variable consideration constraint (that is, whether it is probable that a significant reversal of cumulative revenue would not occur upon resolution of the uncertainty.) The Company updates the estimate of variable consideration included in the transaction price at each reporting date which includes updating the assessment of the likely amount of consideration and the application of the constraint to reflect current facts and circumstances.

Royalties: For arrangements that include sales-based royalties, including milestone payments based on a level of sales, and the license is deemed to be the predominant item to which the royalties relate, the Company will recognize revenue at the later of (i) when the related sales occur, or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied (or partially satisfied). To date, the Company has not recognized any revenue related to sales-based royalties or milestone payments based on the level of sales.

Research and Development Services: The Company will record costs associated with development and process optimization activities as research and development expenses in the statement of operations and comprehensive loss consistent with ASC 730, Research and Development. The Company considered the guidance in ASC 808, Collaborative Agreements and will recognize the payments received from these agreements as revenue when the related costs are incurred.

Research and Development Costs

Research and development cost are expensed as incurred, and include salaries, stock-based compensation and other personnel-related costs, equipment and supplies, preclinical studies, clinical trials, and manufacturing development activities.

A substantial portion of the Company’s ongoing research and development activities are conducted by third-party service providers, including contract research and manufacturing organizations. The Company accrues for expenses resulting from obligations under agreements with CROs, contract manufacturing organizations (“CMOs”), and other outside service providers for which payment flows do not match the periods over which materials or services are provided to the Company. Accruals are recorded based on estimates of services received and efforts expended pursuant to agreements established with CROs, CMOs, and other outside service providers. These estimates are typically based on contracted amounts applied to the proportion of work performed and determined through analysis with internal personnel and external service providers as to the progress or stage of completion of the services. The Company makes significant judgements and estimates in determining the accrual and/or prepaid balance in each reporting period. In the event advance payments are made to a CRO, CMO, or
outside service provider, the payments will be recorded as a prepaid asset which will be amortized as the contracted services are performed. As actual costs become known, the Company adjusts its accruals and prepaid assets accordingly. Inputs, such as the services performed, the number of patients enrolled, or the study duration, may vary from the Company’s estimates, resulting in adjustments to research and development expense in future periods. Changes in these estimates that result in material changes to the Company’s accruals could materially affect the Company’s results of operations.

**Net Loss Per Share**

Basic loss per share of common stock is computed by dividing net loss by the weighted-average number of shares of common stock outstanding during each period. Diluted loss per share of common stock includes the effect, if any, from the potential exercise or conversion of securities, such as redeemable convertible preferred stock, stock options and restricted stock, which would result in the issuance of incremental shares of common stock. For diluted net loss per share, the weighted-average number of shares of common stock is the same for basic net loss per share due to the fact that when a net loss exists, dilutive securities are not included in the calculation as the impact is anti-dilutive.

The following potentially dilutive securities have been excluded from the computation of diluted weighted-average shares of common stock outstanding, as they would be anti-dilutive:

<table>
<thead>
<tr>
<th>Securities</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redeemable convertible preferred stock</td>
<td>1,093,019</td>
<td>2,963,554</td>
</tr>
<tr>
<td>Stock options</td>
<td>174,361</td>
<td>248,642</td>
</tr>
<tr>
<td>Unvested restricted stock</td>
<td>6,127</td>
<td>3,187</td>
</tr>
<tr>
<td></td>
<td>1,273,507</td>
<td>3,215,383</td>
</tr>
</tbody>
</table>

The following table summarizes the calculation of unaudited pro forma basic and diluted net loss per common share for the six months ended June 30, 2020:

<table>
<thead>
<tr>
<th>Numerator</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Net loss used to compute pro forma net loss per share (in thousands)</td>
<td>$ (12,762)</td>
</tr>
<tr>
<td>Denominator</td>
<td></td>
</tr>
<tr>
<td>Weighted-average common shares outstanding</td>
<td>1,114,399</td>
</tr>
<tr>
<td>Pro forma adjustment to reflect the automatic conversion of all redeemable convertible preferred stock to common stock upon an initial public offering</td>
<td>1,671,098</td>
</tr>
<tr>
<td>Pro forma weighted-average number of shares outstanding—basic and diluted</td>
<td>2,785,497</td>
</tr>
<tr>
<td>Pro forma net loss per share—basic and diluted</td>
<td>$ (4.58)</td>
</tr>
</tbody>
</table>

**Other Comprehensive Income (Loss)**

Other comprehensive income (loss) is defined as the change in equity of a business enterprise during a period from transactions and other events and circumstances from non-owner sources. Other comprehensive loss is comprised of the net loss and unrealized gains on short-term investments.

**Recently Adopted Accounting Pronouncements**

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments-Credit Losses ("ASC 326"): Measurement of Credit Losses on Financial Instruments (ASU 2016-13)* which requires that expected credit losses relating to financial assets measured on an amortized cost basis and available-for-sale debt securities be
recorded through an allowance for credit losses. ASU 2016-13 limits the amount of credit losses to be recognized for available-for-sale debt securities to the amount by which carrying value exceeds fair value and also requires the reversal of previously recognized credit losses if fair value increases. ASU 2016-13 became effective for the Company during the first quarter of 2020. The Company adopted this pronouncement and it did not have a material impact on the financial statements or related disclosures.

In August 2018, the FASB issued ASU No. 2018-13, Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurements, which changes the fair value measurement disclosure requirements of ASC 820, Fair Value Measurements and Disclosures ("ASC 820"). The goal of the ASU is to improve the effectiveness of ASC 820’s disclosure requirements. The standard is applicable to the Company for the fiscal year beginning January 1, 2020, and interim periods within that year. The Company adopted this pronouncement and it did not have a material impact on the financial statements or related disclosures.

Recently Issued Accounting Pronouncements (not yet adopted)

In February 2016, the FASB issued ASU No. 2016-02, Leases (ASC 842) which requires a lessee to record a right-of-use asset and a corresponding lease liability on the balance sheet for all leases with terms longer than 12 months. A modified retrospective transition approach is required for lessees for capital and operating leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements, with certain practical expedients available. As the Company has elected to use the extended transition period for complying with new or revised accounting standards as available under the JOBS Act, the standard is effective for the Company beginning January 1, 2022, with early adoption permitted. The Company is currently evaluating the expected impact that the standard could have on its financial statements and related disclosures.

3. Short-Term Investments

The Company classifies its debt securities as short-term investments. Debt securities are comprised of highly liquid investments with minimum “A” rated securities and consist of U.S. Treasury, agency bonds and corporate entity commercial paper with maturities of more than three months but less than one year at the date of purchase. Debt securities as of June 30, 2020 have an average maturity of 0.3 years. The debt securities are reported at fair value with unrealized gains or losses recorded in accumulated other comprehensive income in the balance sheets.

The following table represents the Company’s available for sale short-term investments by major security type (in thousands):

<table>
<thead>
<tr>
<th>Short-term investments</th>
<th>December 31, 2019</th>
<th>Total Fair Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amortized Cost</td>
<td>Gross Unrealized Gain/(Loss)</td>
</tr>
<tr>
<td>Corporate securities</td>
<td>$ 5,375</td>
<td>(17)</td>
</tr>
<tr>
<td>U.S. government securities</td>
<td>26,645</td>
<td>71</td>
</tr>
<tr>
<td>Total short-term investments</td>
<td>$ 32,020</td>
<td>$ 54</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Short-term investments</th>
<th>June 30, 2020</th>
<th>Total Fair Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amortized Cost</td>
<td>Gross Unrealized Gain/(Loss)</td>
</tr>
<tr>
<td>Corporate securities</td>
<td>$ 1,950</td>
<td>(10)</td>
</tr>
<tr>
<td>U.S. government securities</td>
<td>14,522</td>
<td>28</td>
</tr>
<tr>
<td>Total short-term investments</td>
<td>$ 16,472</td>
<td>$ 18</td>
</tr>
</tbody>
</table>
The Company’s short-term investment instruments and cash and cash equivalents are classified using Level 1 inputs in within the fair value hierarchy and are valued using quoted market prices, broker or dealer quotations, or alternative pricing sources with reasonable levels of price transparency.

4. Accrued Expenses

Accrued expenses consisted of the following (in thousands):

<table>
<thead>
<tr>
<th></th>
<th>December 31, 2019</th>
<th>June 30, 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research contract costs</td>
<td>$2,648</td>
<td>$4,365</td>
</tr>
<tr>
<td>Compensation</td>
<td>966</td>
<td>766</td>
</tr>
<tr>
<td>Other</td>
<td>425</td>
<td>440</td>
</tr>
<tr>
<td></td>
<td><strong>$4,039</strong></td>
<td><strong>$5,571</strong></td>
</tr>
</tbody>
</table>

5. Commitments and Contingencies

Operating Leases

On July 24, 2020, the Company entered into an amendment to the lease for the office space in Durham, North Carolina. The amendment expanded the existing leased space. Future minimum payments inclusive of the amended lease, by year and in aggregate, under non-cancelable operating leases consist of the following as of June 30, 2020 (in thousands):

<table>
<thead>
<tr>
<th>Year</th>
<th>Minimum Lease Payments (in thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>$145</td>
</tr>
<tr>
<td>2021</td>
<td>625</td>
</tr>
<tr>
<td>2022</td>
<td>730</td>
</tr>
<tr>
<td>2023</td>
<td>753</td>
</tr>
<tr>
<td>2024</td>
<td>775</td>
</tr>
<tr>
<td>Thereafter</td>
<td>3,340</td>
</tr>
<tr>
<td>Total Minimum Lease Payments</td>
<td><strong>$6,368</strong></td>
</tr>
</tbody>
</table>

The Company recognized rent expense of $0.2 million for the six months ended June 30, 2019 and June 30, 2020.

Heat License Agreement

In connection with a license agreement with Heat Biologics Inc. (“Heat”), the Company is required to make payments of up to $20.6 million in aggregate for the achievement of specified development, regulatory and commercial sales milestones for certain licensed products. The Company is required to pay Heat a percentage of any upfront fees or other non-royalty payments received that are not tied to milestone events under any sublicense of the licensed products. The Company is also required to pay Heat a royalty on all of its worldwide net sales, those of its affiliates and sublicenses of certain licensed products in the low single digits.

Litigation

From time to time, the Company may become involved in various legal actions arising in the ordinary course of business. As of June 30, 2020, management was not aware of any existing, pending, or threatened legal actions that would have a material impact on the financial position, results of operations, or cash flows of the Company.
Contractual Obligations

Contractual obligations represent future cash commitments and liabilities under agreements with third parties, and exclude contingent liabilities for which the Company cannot reasonably predict future payment. The Company’s contractual obligations result primarily from obligations for various contract manufacturing organizations and clinical research organizations, which include potential payments we may be required to make under our agreements. The contracts also contain variable costs and milestones that are hard to predict as they are based on such things as patients enrolled and clinical trial sites. The timing of payments and actual amounts paid under contract manufacturing organization, or CMO, and CRO agreements may be different depending on the timing of receipt of goods or services or changes to agreed-upon terms or amounts for some obligations. Also, those agreements are cancelable upon written notice by the Company and, therefore, not long-term liabilities.

6. Preferred Stock

During the six months ended June 30, 2020, the Company entered into various stock purchase agreements with new and existing investors pursuant to which the Company sold an aggregate 550,571 shares of the Company’s Series B redeemable convertible preferred stock (“Series B”) and 1,319,964 shares of Series B-1 redeemable convertible redeemable preferred stock (“Series B-1”) at $62.88051 per share for aggregate gross proceeds of $117.6 million. Transaction fees of $0.6 million were recorded as a reduction of the carrying value of the Series B and the Series B-1.

The following is a summary of the rights, preferences, and terms of the Company’s Series A redeemable convertible preferred stock, the Series B, and the Series B-1 (“Preferred Stock”):

Rank

The Preferred Stock ranks senior to common stock as to payment of dividends, distributions of assets upon a liquidation event, or otherwise.

Dividends

The holders of Preferred Stock are entitled to receive non-cumulative dividends, when and if declared by the Board, and in preference to any declaration or payment of any dividend on the Company’s common stock at the rate of 8% of the original issue price per share. No dividends have been declared to date.

Voting Rights

Each share of Preferred Stock entitles the holder to one vote on all matters for which shares of common stock may vote. The Series A holders can elect two board members if a minimum of 276,059 shares of Series A are outstanding. If the number of Series A holders falls below 276,059 but not below 110,423 then they can elect one board member. The Series B-1 holders can elect two board members if a minimum of 329,991 shares of Series B-1 are outstanding. The Series B holders vote for remaining board members as a single class with all other shareholders on an “as converted” basis.

Liquidation Preference

In the event of a liquidation, dissolution, or winding up of the Company, or in the event the Company merges with or is acquired by another entity, each holder has a liquidation preference. Liquidating distributions will first be made to holders of shares of Series B-1 at $62.88051 per share and then to holders of Series B and Series A on a pari passu basis at $62.88051 and $62.475 per share, respectively. As the redemption event is outside of our control, all shares of preferred stock have been presented outside of permanent equity. We have also concluded that since the shares of preferred stock are not mandatorily redeemable, but rather are only contingently redeemable, and given that the redemption event is not certain to occur, the shares have not been accounted for as a liability in any of the periods presented.
After all liquidation preferences are fulfilled, the remaining funds and assets of the Company will be distributed between Series B-1 holders and common shareholders ratably based on the number of shares held by common shareholders and the common shares that would be held by Series B-1 holders on an “as converted” basis. If the total amount received by Series B-1 holders is greater than three times the original issue price, than the holders of the Series B-1 are entitled to the greater of three times the original issue price or the amount such holder would have received if all shares of Series B-1 had been converted into common stock immediately prior to such liquidation.

Conversion

Each share of Preferred Stock is convertible into common stock at any time at the option of the holder at a conversion price then in effect and equal to one-for-one subject to adjustment. All outstanding Preferred Stock will automatically convert into common stock at the conversion price then in effect upon a qualified initial public offering of common stock with a public offering price of at least $62.88051 per share and aggregate gross proceeds of at least $50.0 million. All shares of Preferred Stock are convertible into common stock upon the affirmative election of the holders of at least a 65% of the outstanding shares of Preferred Stock.

Redemption

The Preferred Stock allows the holders to redeem their shares upon a change in control in the Company. As a result, the Company classifies the Preferred Stock as mezzanine equity. The Company charges specific incremental issuance costs incurred in the offering of the Preferred Stock against the gross proceeds of the Preferred Stock.

7. Stock-Based Compensation

In 2016, the Company adopted and subsequently amended the 2016 Stock Incentive Plan (the “Plan”). The total number of shares authorized under the Plan as of June 30, 2020 was 557,633, and 187,664 shares remain available for future grants as of June 30, 2020. The Plan permits the granting of options and restricted stock. The terms of the agreements are determined by the Company’s Board of Directors. The Company’s awards vest based on the terms in the agreements and generally vest over four years and have a term of 10 years.

The Company measures employee and non-employee stock-based awards at grant-date fair value and records compensation expense on a straight-line basis over the vesting period of the award. The Company recorded stock-based compensation expense in the following expense categories of its accompanying unaudited interim statements of operations and comprehensive loss (in thousands):

<table>
<thead>
<tr>
<th></th>
<th>Six months ended June 30,</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2019</td>
</tr>
<tr>
<td>Research and development</td>
<td>$ 56</td>
</tr>
<tr>
<td>General and administrative</td>
<td>97</td>
</tr>
<tr>
<td></td>
<td>$153</td>
</tr>
</tbody>
</table>
The following table summarizes option activity under the Stock Plan:

<table>
<thead>
<tr>
<th></th>
<th>Options</th>
<th>Weighted average exercise price</th>
<th>Weighted average remaining contract life</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Balance at January 1, 2020</strong></td>
<td>235,821</td>
<td>17.78</td>
<td></td>
</tr>
<tr>
<td><strong>Granted</strong></td>
<td>19,866</td>
<td>21.69</td>
<td></td>
</tr>
<tr>
<td><strong>Exercised</strong></td>
<td>(7,045)</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td><strong>Forfeited</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Outstanding at June 30, 2020</strong></td>
<td>248,642</td>
<td>$18.57</td>
<td>8.57</td>
</tr>
<tr>
<td><strong>Vested and expected to vest June 30, 2020</strong></td>
<td>245,314</td>
<td>$18.54</td>
<td>8.56</td>
</tr>
<tr>
<td><strong>Exercisable at June 30, 2020</strong></td>
<td>106,478</td>
<td>$17.16</td>
<td>8.21</td>
</tr>
</tbody>
</table>

Options granted during the six months ended June 30, 2020 had a weighted-average grant-date fair value of $13.16. As of June 30, 2020, unrecognized compensation cost for option issued was $1.5 million, and will be recognized over an estimated weighted-average amortization period of 2.67 years. The aggregate intrinsic value of options outstanding and exercisable as of June 30, 2020 was $0.3 million.

The fair value of each option is estimated on the date of grant using a Black-Scholes option pricing model which takes into account inputs such as the exercise price, the estimated fair value of the underlying common stock at grant date, expected term, expected stock price volatility, risk-free interest rate, and dividend yield. The fair value of each grant of stock options was determined by the Company using the methods and assumptions discussed below. Certain of these inputs are subjective and generally required judgement to determine.

- The expected term of employee stock options with service-based vesting is determined using the “simplified” method, whereby the expected life equals the arithmetic average of the vesting term and the original contractual term of the option due to the Company’s lack of sufficient historical data. The expected term of non-employee options is equal to the contractual term.
- The expected stock price volatility is based on historical volatilities of comparable public entities within the Company’s industry.
- The risk-free interest rate is based on the interest rate payable on U.S. Treasury securities in effect at the time of grant for a period that is commensurate with the respective expected term or contractual term.
- The expected dividend yield is 0% because the Company has not historically paid, and does not expect, for the foreseeable future, to pay a dividend on its common stock.
- As the Company’s common stock has not been publicly traded, its board of directors periodically estimated the fair value of the Company’s common stock considering, among other things, contemporaneous valuations of its common stock prepared by an unrelated third-party valuation firm.

The grant date fair value of each option grant was estimated throughout the six months ended June 30, 2020 using the Black-Scholes option-pricing model using the following weighted-average assumptions:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Expected term</strong></td>
<td>5.94</td>
</tr>
<tr>
<td><strong>Expected volatility</strong></td>
<td>67.02%</td>
</tr>
<tr>
<td><strong>Risk-free interest rate</strong></td>
<td>1.73%</td>
</tr>
<tr>
<td><strong>Expected dividends</strong></td>
<td>—</td>
</tr>
<tr>
<td><strong>Fair value of common stock</strong></td>
<td>$21.69</td>
</tr>
</tbody>
</table>

For accounting purposes, restricted shares granted are considered the issuance of options as opposed to the sale of stock and as such, the Company has recognized compensation expense for these awards. Twenty-five
percent of the shares became vested after one year and the remaining shares vest monthly over 36 months so long as the grantee remains employed by or provides service to the Company. In the event the grantee ceases to provide service, the Company has the option to repurchase any or all of the unvested shares at the original issuance price. The following table summarizes the activity relating to these shares for the six months ended June 30, 2020:

<table>
<thead>
<tr>
<th>Awards</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance at January 1, 2020</td>
<td>4,657</td>
</tr>
<tr>
<td>Vested</td>
<td>1,470</td>
</tr>
<tr>
<td>Outstanding at June 30, 2020</td>
<td>3,187</td>
</tr>
</tbody>
</table>

8. Collaboration Agreement—Related Party

In August 2017, the Company entered into a Collaboration Agreement with Takeda related to the development of certain ARC molecules as amended in April 2018, October 2018 and March 2020, (the “Collaboration Agreement”). Under the Collaboration Agreement, the Company is responsible to use its commercially reasonable efforts to further research and develop six molecules in accordance with specified development plans for each molecule. Two Designated Molecules, SL-279252 (“DM1”) and SL-115154 (“DM2”) (collectively referred to as the “DMs”), will be progressed through a Phase 1 clinical trial and four Selected Molecules will be developed through the completion of nonclinical toxicology studies (collectively known as “SMs”). Takeda has an option, which extends through the end of the development term for each molecule, to exclusively license (on a molecule-by-molecule basis) each DM and up to two SMs, which license would grant Takeda exclusive rights to undertake further clinical development and commercialization of the licensed molecule. Additionally, Takeda was granted a right of first negotiation (“ROFN”) to enter into a licenses for each molecule within a specified class of ARC molecules.

The Company received payments of $8.5 million and $11.3 million in the periods ended June 30, 2019 and 2020, respectively, and recognized total revenue of $25.3 million through June 30, 2020 under the Collaboration Agreement. The Company assessed this arrangement in accordance with ASC 606 and concluded that the Collaboration Agreement had four distinct performance obligations representing the combination of research and development services and participation in a joint development committee associated with both DMs, one SM and the remaining three SMs as a group. The Company also concluded that since the option for the exclusive license was deemed to be at standalone selling price it does not provide the customer with a material right and therefore, it does not represent a separate performance obligation. Finally the Company noted that the ROFN does not guarantee that Takeda can negotiate a license for molecules at prices that are below their respective standalone selling prices and further noted that if Takeda exercises the ROFN, the license fee will be negotiated at standalone selling price for each molecule.

On March 31, 2020, the Company and Takeda entered into an amendment to the Collaboration Agreement (Amendment No. 3) which provided for a second dose expansion cohort for DM1, improvements to the DM1 process and manufacturing controls, certain administrative tasks and a non-refundable up-front payment applied to the to license fee for DM1 of $11.3 million. The Company can receive reimbursement for costs incurred in the performance of the second dose expansion cohort up to $3.2 million, plus fifty percent of out-of-pocket costs incurred by the Company for clinical trial materials for the first and second dose expansion cohorts up to $4.0 million and reimbursements of up to $1.6 million for costs related to improvement to the DM1 process and manufacturing controls.

The Company evaluated the consideration anticipated to be received for each performance obligation under Amendment No. 3 and determined that the contractual amounts for each obligation represent the stand-alone selling price and relate directly to the efforts that the Company will exert to fulfill its performance obligation.
The potential reimbursements for costs incurred in the performance of the second dose expansion cohort and costs incurred by the Company for clinical trial materials for the second dose expansion cohort were determined to be variable consideration. The Company determined that the potential reimbursement associated with the second dose expansion cohort was fully constrained and did not include it in the transaction price. The Company anticipates that the reimbursements associated with clinical trial materials will be earned and as such, the amount was included in the transaction price.

The Company further evaluated the terms of Amendment No. 3 to determine if they represented a modification to the existing agreement or a new agreement. The Company determined that improvements to the DM1 process and manufacturing controls are a new and distinct performance obligations with underlying revenue that is to be recorded prospectively. The second dose expansion cohort was determined to be a continuation of research and development services being performed. As such, the second dose expansion cohorts represent a modification to the existing agreement and a continuation under the existing research and development performance obligation.

At the outset of the contract with Takeda the Company viewed the option to license molecules as a discrete performance obligation which would be transferred upon Takeda executing their option and remitting consideration that was negotiated and believed to be in line with the stand-alone value of the option. In conjunction with Amendment No. 3, the $11.3 million payment was applied to the license fee and as such, results in a lower cost to license the molecule. The Company evaluated and determined the prepayment provided a material right. Management determined the stand-alone selling price of the material right using comparable arrangements and probability that Takeda will exercise its option to license. The non-refundable payment was recognized as deferred revenue upon receipt of the up-front payment and will be recognized as revenue upon Takeda entering into the underlying license agreement or when it is certain that Takeda will not exercise its option.

The Company recognizes revenue for the allocated upfront payments using a cost-based input measure. In applying the cost-based input method of revenue recognition, the Company uses actual costs incurred relative to budgeted costs expected to be incurred for the combined performance obligation. Revenue is recognized based on actual costs incurred as a percentage of total budgeted costs as the Company completes its performance obligation over the estimated service period. The Company recognizes revenue related to the reimbursable cost as they are incurred.

The stated development term under the Collaboration Agreement commenced on August 8, 2017 and terminates 90 days after the Phase 1 clinical report is delivered to Takeda for each of the DMs. The development term for the SMs expired in the second quarter of 2019 as the nonclinical toxicology reports for the SMs were delivered to Takeda and the option period for the exclusive license expired.

Revenue recognized under this agreement is related-party revenue.

9. Related-Party Transactions

Takeda has a seat on the Company’s Board of Directors and held an approximate 7.5% ownership interest in the Company’s outstanding shares as of June 30, 2020. As of December 31, 2019, Takeda held an approximate 14% ownership interest in the Company’s outstanding shares. As a result, all revenue, and deferred revenue were associated with the Takeda Collaboration Agreement are represented related-party transactions. Prepaids and other current assets includes $1.4 million of cost that are reimbursable by Takeda under the Collaboration Agreement.

10. Subsequent Events

The Company has evaluated subsequent events from the balance sheet date through August 7, 2020, the date at which the financial statements were available to be issued, and there are no other items requiring disclosure.
Shares
Shattuck Labs, Inc.
Common Stock

PRELIMINARY PROSPECTUS
, 2020

Citigroup
Cowen
Evercore ISI
Needham & Company

Through and including , 2020 (the 25th day after the date of this prospectus), all dealers effecting transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to a dealer’s obligation to deliver a prospectus when acting as an underwriter and with respect to an unsold allotment or subscription.
PART II

INFORMATION NOT REQUIRED IN THE PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution.

The following table sets forth the various expenses, other than underwriting discounts and commissions, payable by the registrant in connection with the sale of common stock being registered. All of the amounts shown are estimated except the Securities and Exchange Commission registration fee and the FINRA filing fee.

<table>
<thead>
<tr>
<th>Amount To Be Paid</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SEC registration fee</td>
<td>$12,980</td>
</tr>
<tr>
<td>FINRA filing fee</td>
<td>15,500</td>
</tr>
<tr>
<td>Nasdaq listing fee</td>
<td>150,000</td>
</tr>
<tr>
<td>Printing and engraving expenses</td>
<td>*</td>
</tr>
<tr>
<td>Legal fees and expenses</td>
<td>*</td>
</tr>
<tr>
<td>Accounting fees and expenses</td>
<td>*</td>
</tr>
<tr>
<td>Transfer agent and registrar fees</td>
<td>*</td>
</tr>
<tr>
<td>Miscellaneous fees and expenses</td>
<td>*</td>
</tr>
<tr>
<td>Total</td>
<td>$</td>
</tr>
</tbody>
</table>

* To be completed by amendment.


The company is a Delaware corporation. Section 145(a) of the Delaware General Corporation Law (the “DGCL”) provides that a Delaware corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, other than an action by or in the right of the corporation, by reason of the fact that such person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys’ fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful.

Section 145(b) of the DGCL provides that a Delaware corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor by reason of the fact that such person acted in any of the capacities set forth above, against expenses (including attorneys’ fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit if the person acted in good faith and in a manner the person reasonably believed to be in, or not opposed to, the best interests of the corporation, except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation, unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine, upon application, that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the court shall deem proper.
Further subsections of DGCL Section 145 provide that:

(1) to the extent a present or former director or officer of a corporation has been successful on the merits or otherwise in the defense of any action, suit or proceeding referred to in subsections (i) and (ii) of Section 145 or in the defense of any claim, issue or matter therein, such person shall be indemnified against expenses, including attorneys’ fees, actually and reasonably incurred by such person in connection therewith;

(2) the indemnification and advancement of expenses provided for pursuant to Section 145 shall not be deemed exclusive of any other rights to which those seeking indemnification or advancement of expenses may be entitled under any bylaw, agreement, vote of stockholders or disinterested directors or otherwise; and

(3) the corporation shall have the power to purchase and maintain insurance of behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against any liability asserted against such person and incurred by such person in any such capacity, or arising out of such person’s status as such, whether or not the corporation would have the power to indemnify such person against such liability under Section 145.

As used in this Item 14, the term “proceeding” means any threatened, pending or completed action, suit or proceeding, whether or not by or in the right of the company, and whether civil, criminal, administrative, investigative or otherwise.

Section 145 of the DGCL makes provision for the indemnification of officers and directors in terms sufficiently broad to indemnify officers and directors of the company under certain circumstances from liabilities (including reimbursement for expenses incurred) arising under the Securities Act of 1933. The company’s organizational documents provide, in effect, that, to the fullest extent and under the circumstances permitted by Section 145 of the DGCL, the company will indemnify any and all of its officers and directors. Before the completion of this offering, the company intends to enter into indemnification agreements with its officers and directors. The company may, in its discretion, similarly indemnify its employees and agents. The company’s certificate of incorporation also relieves its directors from monetary damages to the company or its stockholders for breach of such director’s fiduciary duty as a director to the fullest extent permitted by the DGCL. Under Section 102(b)(7) of the DGCL, a corporation may relieve its directors from personal liability to such corporation or its stockholders for monetary damages for any breach of their fiduciary duty as directors except (i) for a breach of the duty of loyalty, (ii) for failure to act in good faith, (iii) for intentional misconduct or knowing violation of law, (iv) for willful or negligent violations of certain provisions in the DGCL imposing certain requirements with respect to stock repurchases, redemptions and dividends or (v) for any transactions from which the director derived an improper personal benefit.

The company has purchased insurance policies that, within the limits and subject to the terms and conditions thereof, cover certain expenses and liabilities that may be incurred by directors and officers in connection with proceedings that may be brought against them as a result of an act or omission committed or suffered while acting as a director or officer of the company.

The form of Underwriting Agreement, to be entered into in connection with this offering and to be attached as Exhibit 1.1 hereto, provides for the indemnification by the underwriters of us and our officers and directors for certain liabilities, including liabilities arising under the Securities Act, and affords certain rights of contribution with respect thereto.
Item 15. Recent Sales of Unregistered Securities.

Since January 1, 2017, we have made the following sales of unregistered securities:

**Issuances of Capital Stock**

In March 2017, we issued and sold convertible promissory notes in an aggregate principle amount of $7,000,000 to investors.

In April 2018, we issued and sold an aggregate of 1,093,019 shares of our Series A Preferred Stock at a purchase price of $62.4750 per share to new and existing investors in exchange for aggregate consideration of approximately $46.6 million, composed of approximately $35.3 million in cash and $11.3 million in cancellation of indebtedness pursuant to the conversion of our convertible promissory notes.

In January 2020, with subsequent closings in February and March 2020, we issued and sold an aggregate of 550,571 shares of our Series B Preferred Stock at a purchase price of $62.88051 per share to new and existing investors in exchange for aggregate consideration of $34.6 million in cash.

In June 2020, we issued and sold an aggregate of 1,319,964 shares of our Series B-1 Preferred Stock at a purchase price of $62.88051 per share to new and existing investors for aggregate consideration of $83.0 million in cash.

The offers, sales, and issuances of the securities listed in this Item 15 under the subheading “Issuances of Capital Stock” were deemed to be exempt from registration under the Securities Act in reliance on Section 4(a)(2) of the Securities Act or Rule 506 of Regulation D promulgated thereunder as transactions by an issuer not involving a public offering. The recipients of securities in each of these transactions acquired the securities for investment only and not with a view to or for sale in connection with any distribution thereof, and appropriate legends were affixed to the securities issued in these transactions. Each of the recipients of securities in these transactions was an accredited investor within the meaning of Rule 501 of Regulation D under the Securities Act.

**Grants of Stock Options**

Since January 1, 2017, we have granted stock options to purchase an aggregate of [number of shares] shares of our common stock at a weighted average exercise price of $[exercise price] to employees, directors, and non-employee service providers.

None of the foregoing transactions involved any underwriters, underwriting discounts or commissions, or any public offering. The offers, sales and issuances of the securities listed in this Item 15 under the subheading “Grants of Stock Options” were deemed to be exempt from registration under the Securities Act in reliance on Rule 701 promulgated under the Securities Act as offers and sales of securities pursuant to certain compensatory benefit plans and contracts relating to compensation in compliance with Rule 701 or Rule 175.
## Table of Contents


(a) Exhibits

<table>
<thead>
<tr>
<th>Exhibit Number</th>
<th>Description of Exhibit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Form of Underwriting Agreement</td>
</tr>
<tr>
<td>3.1</td>
<td>Amended and Restated Certificate of Incorporation of the registrant, as currently in effect</td>
</tr>
<tr>
<td>3.2</td>
<td>Form of Second Amended and Restated Certificate of Incorporation of the registrant, to be in effect upon completion of this offering</td>
</tr>
<tr>
<td>3.3</td>
<td>Bylaws of the registrant, as currently in effect</td>
</tr>
<tr>
<td>3.4</td>
<td>Form of Amended and Restated Bylaws of the registrant, to be in effect upon completion of this offering</td>
</tr>
<tr>
<td>4.1*</td>
<td>Form of common stock certificate of the registrant</td>
</tr>
<tr>
<td>4.2</td>
<td>Second Amended and Restated Investors’ Rights Agreement, dated as of June 12, 2020, by and among Shattuck Labs, Inc. and certain of its stockholders</td>
</tr>
<tr>
<td>5.1*</td>
<td>Opinion of Gibson, Dunn &amp; Crutcher LLP</td>
</tr>
<tr>
<td>10.1+</td>
<td>Form of Indemnification Agreement for directors and executive officers</td>
</tr>
<tr>
<td>10.2+</td>
<td>Employment Agreement, dated December 5, 2019, by and between Shattuck Labs, Inc. and Josiah C. Hornblower</td>
</tr>
<tr>
<td>10.3+</td>
<td>Amendment No. 1 to Employment Agreement, dated March 27, 2020, by and between Shattuck Labs, Inc. and Josiah C. Hornblower</td>
</tr>
<tr>
<td>10.4+</td>
<td>Employment Agreement, dated December 5, 2019, by and between Shattuck Labs, Inc. and Taylor Schreiber</td>
</tr>
<tr>
<td>10.5+</td>
<td>Amendment No. 1 to Employment Agreement, dated March 27, 2020, by and between Shattuck Labs, Inc. and Taylor Schreiber</td>
</tr>
<tr>
<td>10.6+</td>
<td>Employment Agreement, dated December 5, 2019, by and between Shattuck Labs, Inc. and Arundathy Nirmalini Pandite</td>
</tr>
<tr>
<td>10.7+</td>
<td>Employment Agreement, dated December 5, 2019, by and between Shattuck Labs, Inc. and Erin Ator Thomson</td>
</tr>
<tr>
<td>10.8+</td>
<td>Employment Agreement, dated December 5, 2019, by and between Shattuck Labs, Inc. and Andrew Neill</td>
</tr>
<tr>
<td>10.9+</td>
<td>2020 Equity Incentive Plan</td>
</tr>
<tr>
<td>10.10*+</td>
<td>2020 Employee Stock Purchase Plan</td>
</tr>
<tr>
<td>10.11#</td>
<td>Collaboration Agreement, dated August 8, 2017, by and between Shattuck Labs, Inc. and Millennium Pharmaceuticals, Inc., as amended</td>
</tr>
<tr>
<td>10.12#</td>
<td>Exclusive License Agreement, dated June 3, 2016, by and between Shattuck Labs, Inc. and Heat Biologics, Inc., as amended</td>
</tr>
<tr>
<td>10.13#</td>
<td>Lease Agreement, dated April 17, 2018, between Shattuck Labs, Inc. and Parmer RTP LLC, as amended</td>
</tr>
<tr>
<td>10.14#</td>
<td>Master Services Agreement, dated March 31, 2017, between Shattuck Labs, Inc. and KBI Biopharma, Inc</td>
</tr>
<tr>
<td>23.1</td>
<td>Consent of Independent Registered Public Accounting Firm</td>
</tr>
</tbody>
</table>

II-4
**Item 17. Undertakings.**

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers, and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer, or controlling person of the Registrant in the successful defense of any action, suit, or proceeding) is asserted by such director, officer, or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned Registrant hereby undertakes that:

1. For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance on Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be a part of this registration statement as of the time it was declared effective.

2. For purposes of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Austin, State of Texas, on this 18th day of September, 2020.

Shattuck Labs, Inc.

By: /s/ Dr. Taylor Schreiber
   Dr. Taylor Schreiber
   Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Dr. Taylor Schreiber, Andrew Neill and Erin Ator Thomson, and each of them, as his or her true and lawful attorneys-in-fact and agents, each with full power of substitution and resubstitution, for him or her and in his or her name, place or stead, in any and all capacities (including, without limitation, the capacities listed below), to sign any and all amendments (including post-effective amendments) to this registration statement, and to sign any registration statement for the same offering covered by this registration statement that is to be effective upon filing pursuant to Rule 462(b) promulgated under the Securities Act of 1933, as amended, and all post-effective amendments thereto, and to file the same, with all exhibits thereto and all other documents in connection therewith, with the Securities and Exchange Commission, and hereby grants to such attorneys-in-fact and agents, each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates set forth opposite their names.

<table>
<thead>
<tr>
<th>Signature</th>
<th>Title</th>
<th>Date</th>
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<tbody>
<tr>
<td>/s/ Dr. Taylor Schreiber</td>
<td>Chief Executive Officer and Director</td>
<td>September 18, 2020</td>
</tr>
<tr>
<td>Dr. Taylor Schreiber</td>
<td>(principal executive officer)</td>
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</tr>
<tr>
<td>/s/ Andrew Neill</td>
<td>Vice President of Finance and Corporate Strategy</td>
<td>September 18, 2020</td>
</tr>
<tr>
<td>Andrew Neill</td>
<td>(principal financial and accounting officer)</td>
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<tr>
<td>/s/ Josiah Hornblower</td>
<td>Execution Chairman and Director</td>
<td>September 18, 2020</td>
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<tr>
<td>Josiah Hornblower</td>
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<tr>
<td>/s/ Helen M. Boudreau</td>
<td>Director</td>
<td>September 18, 2020</td>
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<td>Helen M. Boudreau</td>
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<tr>
<td>/s/ Dr. Neil Gibson</td>
<td>Director</td>
<td>September 18, 2020</td>
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<tr>
<td>Dr. Neil Gibson</td>
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<tr>
<td>/s/ Dr. George Golumbeski</td>
<td>Director</td>
<td>September 18, 2020</td>
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<td>Dr. George Golumbeski</td>
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<tr>
<td>/s/ Michael Lee</td>
<td>Director</td>
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<td>Michael Lee</td>
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<tr>
<td>/s/ Tyler Brous</td>
<td>Director</td>
<td>September 18, 2020</td>
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<tr>
<td>Tyler Brous</td>
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<tr>
<td>/s/ Dr. Victor Stone</td>
<td>Director</td>
<td>September 18, 2020</td>
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<td>Dr. Victor Stone</td>
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</tbody>
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[Exhibit 1.1]

Shattuck Labs, Inc.

[•] Shares
Common Stock
($0.0001 par value)

Underwriting Agreement

New York, New York [•], 2020

Citigroup Global Markets Inc.
Cowen and Company, LLC
Evercore Group L.L.C.
As Representatives of the several Underwriters,

c/o Citigroup Global Markets Inc.
388 Greenwich Street
New York, New York 10013

c/o Cowen and Company, LLC
599 Lexington Avenue
New York, New York 10022

c/o Evercore Group L.L.C.
55 East 52nd Street
New York, New York 10055

Ladies and Gentlemen:

Shattuck Labs, Inc., a Delaware corporation (the “Company”), proposes to sell to the several underwriters named in Schedule I hereto (the “Underwriters”), for whom you (the “Representatives”) are acting as representatives, [•] shares of common stock, $0.0001 par value (“Common Stock”) of the Company (said shares to be issued and sold by the Company being hereinafter called the “Underwritten Securities”). The Company also proposes to grant to the Underwriters an option to purchase up to [•] additional shares of Common Stock solely to cover over allotments, if any (the “Option Securities”; the Option Securities, together with the Underwritten Securities, being hereinafter called the “Securities”). To the extent there are no additional Underwriters listed on Schedule I hereto other than you, the term Representatives as used herein shall mean you, as Underwriters, and the terms Representatives and Underwriters shall mean either the singular or plural as the context requires.
As part of the offering contemplated by this underwriting agreement (this “Agreement”), Citigroup Global Markets Inc. has agreed to reserve out of the Securities set forth opposite its name on the Schedule II to this Agreement, up to [•] shares, for sale to the Company’s employees, officers, and directors and other parties associated with the Company (collectively, “Participants”), as set forth in the Prospectus under the heading “Underwriting” (the “Directed Share Program”). The Securities to be sold by Citigroup Global Markets Inc. pursuant to the Directed Share Program (the “Directed Shares”) will be sold by Citigroup Global Markets Inc. pursuant to this Agreement at the public offering price. Any Directed Shares not orally confirmed for purchase by any Participants by 7:30 A.M. New York City time on the business day following the date on which this Agreement is executed will be offered to the public by Citigroup Global Markets Inc. as set forth in the Prospectus.

As used in this Agreement, the “Registration Statement” means the registration statement referred to in paragraph 1(a) hereof, including the exhibits, schedules, if any, and financial statements and any prospectus supplement relating to the Securities that is filed with the Securities and Exchange Commission (the “SEC”) pursuant to Rule 424(b) under the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder (the “Securities Act”) and deemed part of such registration statement pursuant to Rule 430A under the Securities Act (“Rule 430A”), as amended at the date and time that this Agreement is executed and delivered by the parties hereto (the “Execution Time”), and, in the event any post-effective amendment thereto or any registration statement and any amendments thereto filed pursuant to Rule 462(b) under the Securities Act (a “Rule 462(b) Registration Statement”) becomes effective prior to the Closing Date (as defined in Section 3 hereof), shall also mean such registration statement as so amended or such Rule 462(b) Registration Statement, as the case may be; the “Effective Date” means each date and time that the Registration Statement, any post-effective amendment or amendments thereto or any Rule 462(b) Registration Statement became or becomes effective; the “Preliminary Prospectus” means any preliminary prospectus referred to in paragraph 1(a) hereof and any preliminary prospectus included in the Registration Statement at the Effective Date that omits information with respect to the Securities and the offering thereof permitted to be omitted from the Registration Statement when it becomes effective pursuant to Rule 430A (the “Rule 430A Information”); and the “Prospectus” means the prospectus relating to the Securities that is first filed pursuant to Rule 424(b) under the Securities Act (“Rule 424(b)”) after the Execution Time.

As used in this Agreement, the “Disclosure Package” shall mean (i) the Preliminary Prospectus that is generally distributed to investors and used to offer the Securities, (ii) any issuer free writing prospectus, as defined in Rule 433 under the Securities Act (an “Issuer Free Writing Prospectus”), identified in Schedule II hereto, and (iii) any other free writing prospectus, as defined in Rule 405 under the Securities Act (a “Free Writing Prospectus”), that the parties hereto shall hereafter expressly agree in writing to treat as part of the Disclosure Package.

1. Representations and Warranties. The Company represents and warrants to, and agrees with, each Underwriter as set forth below in this Section 1.
(a) The Company has prepared and filed with the SEC a registration statement (file number 333-[•]) on Form S-1, including a related preliminary prospectus, for the registration of the offering and sale of the Securities under the Securities Act. Such Registration Statement, including any amendments thereto filed prior to the Execution Time, has become effective. The Company may have filed one or more amendments thereto, including a related preliminary prospectus, each of which has previously been furnished to you. The Company will file with the SEC a final prospectus relating to the Securities in accordance with Rule 424(b) after the Execution Time. As filed, such final prospectus shall contain all information required by the Securities Act and the rules thereunder and, except to the extent the Representatives shall agree in writing to a modification, shall be in all substantive respects in the form furnished to you prior to the Execution Time or, to the extent not completed at the Execution Time, shall contain only such specific additional information and other changes (beyond that contained in the most recent Preliminary Prospectus) as the Company has advised you, prior to the Execution Time, will be included or made therein.

(b) On the Effective Date, the Registration Statement did, and when the Prospectus is first filed in accordance with Rule 424(b) and on the Closing Date (as defined herein) and on any date on which Option Securities are purchased, if such date is not the Closing Date (a "Settlement Date"), the Prospectus (and any supplement thereto) will, comply in all material respects with the applicable requirements of the Securities Act and the rules thereunder; on the Effective Date, at the Execution Time and on the Closing Date, the Registration Statement did not and will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements therein not misleading; and on the date of any filing pursuant to Rule 424(b) and on the Closing Date and any Settlement Date, the Prospectus (together with any supplement thereto) will not include any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided, however, that the Company makes no representations or warranties as to the information contained in or omitted from the Registration Statement or the Prospectus (or any supplement thereto) in reliance upon and in conformity with information furnished in writing to the Company by or on behalf of any Underwriter through the Representatives specifically for inclusion in the Registration Statement or the Prospectus (or any supplement thereto), it being understood and agreed that the only such information furnished by or on behalf of any Underwriter consists of the information described as such in Section 8 hereof.

(c) (i) The Disclosure Package and the price to the public, the number of Underwritten Securities and the number of Option Securities to be included on the cover page of the Prospectus, when taken together as a whole, (ii) each electronic road show, when taken together as a whole with the Disclosure Package and the price to the public, the number of Underwritten Securities and the number of Option Securities to be included on the cover page of the Prospectus, and (iii) any individual Written Testing-the-Waters Communication (as defined herein), when taken together as a whole with the Disclosure Package and the price to the public, the number of Underwritten Securities and the number of Option Securities to be included on the cover page of the Prospectus, does not contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances under
which they were made, not misleading. The preceding sentence does not apply to statements in or omissions from the Disclosure Package based upon and in conformity with written information furnished to the Company by or on behalf of any Underwriter through the Representatives specifically for use therein, it being understood and agreed that the only such information furnished by or on behalf of any Underwriter consists of the information described as such in Section 8 hereof.

(d) (i) At the time of filing the Registration Statement and (ii) as of the Execution Time (with such date being used as the determination date for purposes of this clause (ii)), the Company was not and is not an Ineligible Issuer (as defined in Rule 405 under the Securities Act (“Rule 405”)), without taking account of any determination by the SEC pursuant to Rule 405 that it is not necessary that the Company be considered an Ineligible Issuer.

(e) From the time of the initial confidential submission of the Registration Statement to the SEC (or, if earlier, the first date on which the Company engaged directly or through any Person authorized to act on its behalf in any Testing-the-Waters Communication) through the Execution Time, the Company has been and is an “emerging growth company,” as defined in Section 2(a) of the Securities Act (an “Emerging Growth Company”). “Testing-the-Waters Communication” means any oral or written communication by the Company or by any person authorized to act on its behalf, with potential investors undertaken in reliance on Section 5(d) of the Securities Act.

(f) The Company (i) has not alone engaged in any Testing-the-Waters Communication other than Testing-the-Waters Communications with the consent of the Representatives with entities that are qualified institutional buyers within the meaning of Rule 144A under the Securities Act or institutions that are accredited investors within the meaning of Rule 501 under the Securities Act and (ii) has not authorized anyone other than the Representatives to engage in Testing-the-Waters Communications, in each case in connection with the offering of Securities. The Company reconfirms that the Representatives have been authorized to act on its behalf in undertaking Testing-the-Waters Communications. The Company has not distributed any Written Testing-the-Waters Communications other than those listed on Schedule III hereto. “Written Testing-the-Waters Communication” means any Testing-the-Waters Communication that is a written communication within the meaning of Rule 405.

(g) Each Issuer Free Writing Prospectus does not include any information that conflicts with the information contained in the Registration Statement. The foregoing sentence does not apply to statements in or omissions from any Issuer Free Writing Prospectus based upon and in conformity with written information furnished to the Company by or on behalf of any Underwriter through the Representatives specifically for use therein, it being understood and agreed that the only such information furnished by or on behalf of any Underwriter consists of the information described as such in Section 8 hereof.
The Company’s authorized equity capitalization is as set forth in the Disclosure Package and the Prospectus; the capital stock of the Company conforms in all respects to the description thereof contained in the Disclosure Package and the Prospectus as of the date stated therein; the outstanding shares of Common Stock have been duly and validly authorized and issued and are fully paid and nonassessable; the Securities have been duly and validly authorized and, when issued and delivered to and paid for by the Underwriters pursuant to this Agreement, will be fully paid and nonassessable; the Securities in book-entry form are in valid and sufficient form; the holders of outstanding shares of capital stock of the Company are not entitled to preemptive or other rights to subscribe for the Securities, except for any such rights as have been effectively waived; and, except as set forth in the Registration Statement, Disclosure Package and the Prospectus, no options, warrants or other rights to purchase, agreements or other obligations to issue, or rights to convert any obligations into or exchange any securities for, shares of capital stock of or ownership interests in the Company are outstanding.

(i) The Company (i) has been duly incorporated and is validly existing as a corporation in good standing under the laws of the jurisdiction in which it is incorporated or organized with full corporate power and authority to own or lease, as the case may be, and to operate its properties and conduct its business as described in the Disclosure Package and the Prospectus, and (ii) is duly qualified to do business as a foreign corporation and is in good standing under the laws of each jurisdiction which requires such qualification, except where the failure to be so qualified or in good standing would not reasonably be expected, singly or in the aggregate, to have a material adverse effect on the condition (financial or otherwise), prospects, earnings, business or properties of the Company, whether or not arising from transactions in the ordinary course of business (a “Material Adverse Effect”).

(j) The Company has no subsidiaries.

(k) There is no franchise, contract or other document of a character required to be described in the Registration Statement or Prospectus, or to be filed as an exhibit to the Registration Statement, which is not described or filed as required (and the Preliminary Prospectus contains in all material respects the same description of the foregoing matters contained in the Prospectus).

This Agreement has been duly authorized, executed and delivered by the Company.

The Company is not and, after giving effect to the offering and sale of the Securities and the application of the proceeds thereof as described in the Disclosure Package and the Prospectus, will not be an “investment company” as defined in the Investment Company Act of 1940, as amended.

No consent, approval, authorization, filing with or order of any court or governmental agency or body is required in connection with the transactions contemplated herein, except such as have been obtained under the Securities Act and such as may be required under the blue sky laws of any jurisdiction in connection with the purchase and distribution of the Securities by the Underwriters in the manner contemplated herein and in the Disclosure Package and the Prospectus.

Neither the issue and sale of the Securities nor the consummation of any other of the transactions herein contemplated nor the fulfillment of the terms hereof will conflict with, result in a breach or violation of, or imposition of any lien, charge or encumbrance upon any property or assets of the Company pursuant to, (i) the charter or by-laws of the Company, (ii) the terms of any indenture, contract, lease, mortgage, deed of trust, note agreement, loan agreement or other agreement, obligation, condition, covenant or instrument to which the Company is a party or bound or to which its property is subject, or (iii) any statute, law, rule, regulation, judgment, order or decree applicable to the Company of any court, regulatory body, administrative agency, governmental body, arbitrator or other authority having jurisdiction over the Company or any of its properties, except in the case of clauses (ii) and (iii) for any such breach, violation or imposition as would not reasonably be expected, individually or in the aggregate, to result in a Material Adverse Effect and as would not materially adversely affect the ability of the Underwriters to consummate the transactions contemplated by this Agreement.

No holders of securities of the Company have rights to the registration of such securities under the Registration Statement, except as have been validly waived in connection with the issuance and sale of the Securities contemplated hereby and as have been described in the Disclosure Package and Prospectus.

The consolidated historical financial statements of the Company included in the Preliminary Prospectus, the Prospectus and the Registration Statement, together with the related notes, present fairly in all material respects the financial condition, results of operations and cash flows of the Company as of the dates and for the periods indicated, comply as to form in all material respects with the applicable accounting requirements of the Securities Act and have been prepared in conformity with generally accepted accounting principles in the United States (“GAAP”) applied on a consistent basis throughout the periods involved (except as otherwise noted therein). The selected financial data set forth under the caption “Selected Financial Information” in the Preliminary Prospectus, the Prospectus and Registration Statement fairly present, in all material respects, on the basis stated in the Preliminary Prospectus, the Prospectus and the Registration Statement, the information included therein.
(s) No action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or its property is pending or, to the knowledge of the Company, threatened that (i) would be reasonably expected to have, individually or in the aggregate, a material adverse effect on the performance of this Agreement or the consummation of any of the transactions contemplated hereby or (ii) could reasonably be expected to have a Material Adverse Effect, except as set forth in or contemplated in the Disclosure Package and the Prospectus (exclusive of any amendment or supplement thereto).

(t) The Company owns or leases all such properties as are necessary to the conduct of its operations as presently conducted, except as would not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect.

(u) The Company is not in violation or default of (i) any provision of its charter or bylaws, (ii) the terms of any indenture, contract, lease, mortgage, deed of trust, note agreement, loan agreement or other agreement, obligation, condition, covenant or instrument to which it is a party or bound or to which its property is subject, or (iii) any statute, law, rule, regulation, judgment, order or decree of any court, regulatory body, administrative agency, governmental body, arbitrator or other authority having jurisdiction over the Company or any of its properties, as applicable, except in the case of clauses (ii) and (iii) for any such violation or default as would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect.

(v) KPMG LLP, who has certified certain financial statements of the Company and delivered its report with respect to the audited consolidated financial statements and schedules included in the Disclosure Package and the Prospectus, is an independent public accounting firm with respect to the Company within the meaning of the Securities Act and the applicable published rules and regulations thereunder.

(w) The Company has filed all tax returns that are required to be filed by it or has requested extensions thereof (except in any case in which the failure to so file would not have a Material Adverse Effect and except as explicitly disclosed in the Disclosure Package and the Prospectus (exclusive of any amendment or supplement thereto)) and has paid all taxes required to be paid by it and any other assessment, fine or penalty levied against it, to the extent that any of the foregoing is due and payable, except for any such assessment, fine or penalty that is currently being contested in good faith by appropriate proceedings (provided that adequate reserves have been established therefor in accordance with GAAP) or as would not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect, and except as explicitly disclosed in the Disclosure Package and the Prospectus (exclusive of any amendment or supplement thereto). There is no tax deficiency that has been, or could reasonably be expected to be, asserted against the Company or any of its properties or assets, except as would not reasonably be expected to have, individually or in the aggregate, a Material Adverse
Effect. No labor problem or dispute with the employees of the Company exists or, to the knowledge of the Company, is threatened or imminent, and the Company is not aware of any existing or imminent labor disturbance by the employees of any of its principal suppliers, that would reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect, except as set forth in or contemplated in the Disclosure Package and the Prospectus (exclusive of any amendment or supplement thereto).

(x) The Company is insured by insurers of recognized financial responsibility against such losses and risks and in such amounts as the Company believes are customary in the businesses in which they are engaged; all policies of insurance and fidelity or surety bonds insuring the Company or its business, assets, employees, officers and directors are in full force and effect; the Company is in compliance with the terms of such policies and instruments in all material respects; and there are no material claims by the Company under any such policy or instrument as to which any insurance company is denying liability or defending under a reservation of rights clause; the Company has not been refused any insurance coverage sought or applied for; and the Company has no reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business at a cost that would not be reasonably expected to have, individually or in the aggregate, a Material Adverse Effect, except as set forth in or contemplated in the Disclosure Package and the Prospectus (exclusive of any amendment or supplement thereto).

(y) The Company possess all licenses, certificates, permits and other authorizations issued by all applicable authorities necessary to conduct its business, except for any such failure to possess as would not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect, and the Company has not received any notice of proceedings relating to the revocation or modification of any such certificate, authorization or permit which, singly or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect, except as set forth in or contemplated in the Disclosure Package and the Prospectus (exclusive of any amendment or supplement thereto).

(z) The Company maintains a system of internal accounting controls (as contemplated under Rule 13a-15(f) of the Securities and Exchange Act 1934, as amended, and the rules and regulations promulgated thereunder (the "Exchange Act")) designed to provide reasonable assurance that (i) transactions are executed in accordance with management’s general or specific authorizations; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain asset accountability; (iii) access to assets is permitted only in accordance with management’s general or specific authorization; and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. The Company’s internal controls over financial reporting are effective and the Company is not aware of any material weakness in its internal controls over financial reporting.
(aa) The Company maintains “disclosure controls and procedures” (as such term is defined in Rule 13a-15(e) under the Exchange Act); and such disclosure controls and procedures are effective.

(bb) The Company has not taken, directly or indirectly (without giving effect to the activities of the Underwriters), any action designed to or that would constitute or that might reasonably be expected to cause or result in, under the Exchange Act or otherwise, stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Securities.

(cc) To the knowledge of the Company, the Company is (i) in compliance with all applicable foreign, U.S. federal, state and local laws and regulations relating to the protection of human health and safety, the environment or hazardous or toxic substances or wastes, pollutants or contaminants (“Environmental Laws”), (ii) has received and is in compliance with all permits, licenses or other approvals required of them under applicable Environmental Laws to conduct its business and (iii) has not received notice of any actual or potential liability under any Environmental Law, except where such non-compliance with Environmental Laws, failure to receive required permits, licenses or other approvals, or liability would not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect, except as set forth in or contemplated in the Disclosure Package and the Prospectus (exclusive of any amendment or supplement thereto). Except as set forth in the Disclosure Package and the Prospectus, the Company has not been named as a “potentially responsible party” under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended.

(dd) On the basis of any periodic review of the effect of Environmental Laws on the business, operations and properties of the Company, the Company has reasonably concluded that the costs and liabilities associated therewith would not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect, except as set forth in or contemplated in the Disclosure Package and the Prospectus (exclusive of any amendment or supplement thereto).

(ee) Nothing has come to the attention of the Company that has caused the Company to believe that the statistical and market-related data included in the Registration Statement, the Disclosure Package and the Prospectus is not based on or derived from sources that are reliable and accurate in all material respects, and, to the extent required by such sources, the Company has obtained the written consent to the use of such data from such sources.

(ff) None of the following events has occurred or exists: (i) a failure to fulfill the obligations, if any, under the minimum funding standards of Section 302 of the United States Employee Retirement Income Security Act of 1974, as amended (“ERISA”), and the regulations and published interpretations thereunder with respect to a Plan (as defined herein), determined without regard to any waiver of such obligations or extension of any amortization period, which such failure would reasonably be expected to
have, individually or in the aggregate, a Material Adverse Effect; (ii) an audit or investigation by the Internal Revenue Service, the U.S. Department of Labor, the Pension Benefit Guaranty Corporation or any other federal or state governmental agency or any foreign regulatory agency with respect to the employment or compensation of employees by the Company that would reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect; (iii) any breach of any contractual obligation, or any violation of law or applicable qualification standards, with respect to the employment or compensation of employees by the Company that would reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect. None of the following events has occurred or is reasonably likely to occur: (i) a material increase in the aggregate amount of contributions required to be made to all Plans in the current fiscal year of the Company compared to the amount of such contributions made in the most recently completed fiscal year of the Company; (ii) a material increase in the “accumulated post-retirement benefit obligations” (within the meaning of Statement of Financial Accounting Standards 106) of the Company compared to the amount of such obligations in the most recently completed fiscal year of the Company; (iii) any event or condition giving rise to a liability under Title IV of ERISA or other law applicable to the Plan that would reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect; or (iv) the filing of a claim by one or more employees or former employees of the Company related to their employment or compensation that would reasonably be expected to have a Material Adverse Effect. For purposes of this paragraph, the term “Plan” means a plan (within the meaning of Section 3(3) of ERISA) with respect to which the Company may have any liability.

(gg) There is and has been no failure on the part of the Company and any of the Company’s directors or officers, in their capacities as such, to comply with any provision of the Sarbanes-Oxley Act of 2002, as amended, and the rules and regulations promulgated in connection thereunder (the “Sarbanes-Oxley Act”), including Section 402 relating to loans and Sections 302 and 906 relating to certifications, that are then in effect and with which the Company is required to comply as of the Effective Date.

(hh) The Company is not a party to any contract, agreement or understanding with any person (other than this Agreement) that would give rise to a valid claim against the Company or any Underwriter for a brokerage commission, finder’s fee or like payment in connection with the offering and sale of the Securities.

(ii) Neither the Company nor, to the knowledge of the Company, any director, officer, agent, employee, affiliate or other person acting on behalf of the Company is aware of or has taken any action, directly or indirectly, that could result in a violation or a sanction for violation by such persons of the U.S. Foreign Corrupt Practices Act of 1977 or the U.K. Bribery Act 2010, each as may be amended, or similar applicable anti-corruption law of any other relevant jurisdiction (collectively, the “Anti-Corruption Laws”); and the Company has instituted and maintains policies and procedures designed to ensure compliance with the Anti-Corruption laws. No part of the proceeds of the offering will be used by the Company, directly or indirectly, in violation of the Anti-Corruption Laws.
(jj) The operations of the Company are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements and the anti-money laundering statutes and the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any governmental agency (collectively, the “Anti-Money Laundering Laws”) and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company with respect to the Anti-Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(kk) Neither the Company nor, to the knowledge of the Company, any director, officer, agent, employee or affiliate of the Company (i) is, or is controlled or more than 50% owned in the aggregate by or is acting on behalf of, one or more individuals or entities that are currently the subject of any sanctions administered or enforced by the United States (including any administered or enforced by the Office of Foreign Assets Control of the U.S. Department of the Treasury, the U.S. Department of State or the Bureau of Industry and Security of the U.S. Department of Commerce), the United Nations Security Council, the European Union, a member state of the European Union (including sanctions administered or enforced by Her Majesty’s Treasury of the United Kingdom) or other relevant sanctions authority (collectively, “Sanctions” and such persons, “Sanctioned Persons” and each such person, a “Sanctioned Person”), (ii) is located, organized or resident in a country or territory that is, or whose government is, the subject of Sanctions that broadly prohibit dealings with that country or territory (collectively, “Sanctioned Countries” and each, a “Sanctioned Country”) or (iii) will, directly or indirectly, use the proceeds of this offering, or lend, contribute or otherwise make available such proceeds to any joint venture partner or other individual or entity to fund or facilitate any activities or business of or with a Sanctioned Person or Sanctioned Country, or in any other manner that would result in a violation of any Sanctions by, or could result in the imposition of Sanctions against, any individual or entity (including any individual or entity participating in the offering, whether as an underwriter, advisor, investor or otherwise).

(ll) The Company has not engaged in any dealings or transactions with or for the benefit of a Sanctioned Person, or with or in a Sanctioned Country, in the preceding 3 years, nor does the Company have any plans to engage in dealings or transactions with or for the benefit of a Sanctioned Person, or with or in a Sanctioned Country.

(mm) Except as described in the Registration Statement, the Disclosure Package and the Prospectus, the Company owns, or has obtained valid and enforceable licenses for, the inventions, patent applications, patents, trademarks, trade names, service names, copyrights, trade secrets and other intellectual property described in the Registration Statement, the Disclosure Package and the Prospectus as being owned or licensed by them or which are necessary for the conduct of its business as currently conducted or as currently proposed to be conducted in the Registration Statement, the Disclosure Package and the Prospectus (collectively, “Intellectual Property”). To the Company’s knowledge, except as described in the Registration Statement, the Disclosure
Package and the Prospectus: (i) there are no third parties who have rights to any Intellectual Property, and the Company has taken all reasonable steps necessary to secure their respective interests in the Intellectual Property from their respective employees and contractors; (ii) there is no infringement by third parties of any Intellectual Property; (iii) the Company is not infringing the intellectual property rights of third parties; and (iv) the Company is the sole owner of the Intellectual Property owned by it and has the valid right to use such Intellectual Property. Except as described in the Registration Statement, the Disclosure Package and the Prospectus, there is no pending, or, to the Company’s knowledge, threatened action, suit, proceeding or claim by others: (A) challenging the Company’s rights in or to any Intellectual Property; (B) challenging the validity, enforceability or scope of any Intellectual Property; or (C) asserting that the Company infringes or otherwise violates, or would, upon the commercialization of any product or service described in the Registration Statement, the Disclosure Package and the Prospectus as under development, infringe, misappropriate or violate, any patent, trademark, trade name, service name, copyright, trade secret or other proprietary rights of others. To the Company’s knowledge, except as described in the Registration Statement, the Disclosure Package and the Prospectus, the Company has complied with the material terms of each agreement pursuant to which Intellectual Property has been licensed to the Company, and all such agreements are in full force and effect. The product candidates described in the Registration Statement, the Disclosure Package and the Prospectus as under development by the Company fall within the scope of the claims of one or more patents or patent applications owned by, or exclusively licensed to, the Company.

(nn) To the knowledge of the Company, all patents and patent applications owned by or exclusively licensed to the Company or under which the Company has rights have been properly filed and each issued patent is being diligently maintained; to the knowledge of the Company, the parties prosecuting such applications have complied with their duty of disclosure to the U.S. Patent and Trademark Office (the “USPTO”) in connection with such applications; to the Company’s knowledge, there is no patent or patent application that contains claims that dominate or may dominate (as such term is described in 35 U.S.C. §135 and 37 C.F.R. 41.100 to 41.208) with the issued or pending claims of any of the Intellectual Property of the Company; to the Company’s knowledge, there is no prior art material to any patent or patent application of the Intellectual Property of the Company that may render any U.S. patent held by the Company invalid or any U.S. patent application held by the Company unpatentable; and the Company is not aware of any facts required to be disclosed to the USPTO that were not disclosed to the USPTO and which would preclude the grant of a patent in connection with any such application or would reasonably be expected to form the basis of a finding of invalidity with respect to any patents that have been issued with respect to such applications.

(oo) Except as described in the Registration Statement, the Disclosure Package and the Prospectus, the Company: (i) has operated and currently operates its business in compliance in all material respects with all applicable Health Care Laws (as defined below) and any other applicable requirements of the Food and Drug Administration (“FDA”), the Department of Health and Human Services and any comparable foreign or other regulatory authority to which they are subject (collectively,
the “Applicable Regulatory Authorities”) applicable to the ownership, testing, development, manufacture, packaging, processing, use, distribution, storage, import, export or disposal of any of the Company’s product candidates; (ii) has not received any FDA Form 483, written notice of adverse finding, warning letter, untitled letter or other correspondence or written notice from any court or arbitrator or governmental or regulatory authority alleging or asserting non-compliance with (A) any Health Care Laws or (B) or any licenses, certificates, approvals, clearances, exemptions, registrations, authorizations, permits and supplements or amendments thereto required by any such Health Care Laws (“Regulatory Authorizations”); (iii) possesses all Regulatory Authorizations required to conduct its business as currently conducted and such Regulatory Authorizations are valid and in full force and effect and the Company is not in violation, in any material respect, of any term of any such Regulatory Authorizations; (iv) has not received notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from the Applicable Regulatory Authorities or any other third party alleging that any product operation or activity is in material violation of any Health Care Laws or Regulatory Authorizations and has no knowledge that the Applicable Regulatory Authorities or any other third party is considering any such claim, litigation, arbitration, action, suit, investigation or proceeding; (v) has not received notice that any of the Applicable Regulatory Authorities has taken, is taking or intends to take action to limit, suspend, modify or revoke any material Regulatory Authorizations and has no knowledge that any of the Applicable Regulatory Authorities is considering such action; (vi) has filed, obtained, maintained or submitted all material reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Health Care Laws or Regulatory Authorizations and that all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were materially complete and correct on the date filed (or were materially corrected or supplemented by a subsequent submission); (vii) is not a party to or has any ongoing reporting obligations pursuant to any corporate integrity agreements, deferred or non-prosecution agreements, monitoring agreements, consent decrees, settlement orders, plans of correction or similar agreements with or imposed by any Applicable Regulatory Authority; and (viii) along with its employees, officers and directors, has not been excluded, suspended or debarred from participation in any government health care program or human clinical research or, to the knowledge of the Company, is subject to a governmental inquiry, investigation, proceeding, or other similar action that could reasonably be expected to result in debarment, suspension, or exclusion. The term “Health Care Laws” means Title XVIII of the Social Security Act, 42 U.S.C. §§ 1395-1395shh (the Medicare statute); Title XIX of the Social Security Act, 42 U.S.C. §§ 1396-1396v (the Medicaid statute); the Federal Anti-Kickback Statute, 42 U.S.C. § 1320a-7(b); the civil False Claims Act, 31 U.S.C. §§ 3729 et seq.; the criminal False Claims Act 42 U.S.C. 1320a-7b(a); any criminal laws relating to health care fraud and abuse, including but not limited to 18 U.S.C. Sections 286, 287, 1347 and 1349 and the health care fraud criminal provisions under the Health Insurance Portability and Accountability Act of 1996, 42 U.S.C. §§ 1320d et seq., (“HIPAA”); the Civil Monetary Penalties Law, 42 U.S.C. §§ 1320a-7a and 1320a-7b; the Physician Payments Sunshine Act, 42 U.S.C. § 1320a-7; the Exclusion Laws, 42 U.S.C. § 1320a-7; HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, 42 U.S.C. §§ 17921 et seq.; the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. §§ 301 et seq.; the Public Health Service Act, 42 U.S.C. §§ 201 et seq.; the regulations promulgated pursuant to such laws; and any similar federal, state and local laws and regulations.
To the Company’s knowledge, the manufacturing facilities and operations of its suppliers are operated in compliance in all material respects with all applicable statutes, rules, regulations and policies of the Applicable Regulatory Authorities.

None of the Company’s product candidates have received marketing approval from any Applicable Regulatory Authority. All clinical and pre-clinical studies and trials conducted by or on behalf of or sponsored by the Company, or in which the Company has participated with respect to its product candidates, including without limitation, any such studies and trials that are described in or the results of which are referred to in the Registration Statement, the Disclosure Package and the Prospectus (collectively, “Company Trials”) were, and if still pending are, being conducted in all material respects in accordance with all applicable Health Care Laws, standard medical and scientific research procedures and any applicable rules, regulations and policies of the jurisdiction in which such trials and studies are being conducted; the descriptions in the Registration Statement, the Disclosure Package and the Prospectus of the results of any Company Trials are accurate and complete descriptions in all material respects and fairly present the data derived therefrom; the Company has no knowledge of any other studies or trials not described in the Registration Statement, the Disclosure Package and the Prospectus, the results of which are inconsistent with or call into question the results described or referred to in the Registration Statement, the Disclosure Package and the Prospectus; the Company has operated at all times and is currently in compliance in all material respects with all applicable Health Care Laws; the Company has not received, and the Company has no knowledge after due inquiry that any of its collaboration partners have received, any written notices, correspondence or other communications from the Applicable Regulatory Authorities or any other governmental entity requiring or threatening the termination, material modification or suspension of Company Trials, other than ordinary course communications with respect to modifications in connection with the design and implementation of such studies or trials, and, to the Company’s knowledge, there are no reasonable grounds for the same. No investigational new drug application or comparable submission filed by or on behalf of the Company with the FDA has been terminated or suspended by the FDA or any other Applicable Regulatory Authority. In using or disclosing patient information received by the Company in connection with a Company Trial, the Company has complied in all material respects with all applicable laws and regulatory rules or requirements, including, without limitation, HIPAA and the rules and regulations thereunder. To the Company’s knowledge, none of the Company Trials involved any investigator who has been disqualified as a clinical investigator or has been found by the FDA to have engaged in scientific misconduct.
(rr) The Company’s information technology and computer systems, networks, hardware, software, data and databases (collectively, “IT Systems and Data”) are adequate for, and operate and perform in all material respects as required in connection with the operation of the business of the Company as currently conducted, free and clear of all material bugs, errors, defects, Trojan horses, time bombs, malware and other corruptants. The Company has implemented and maintained commercially reasonable controls, policies, procedures, and safeguards to maintain and protect their material confidential information and the integrity, continuous operation, redundancy and security of all IT Systems and Data used in connection with its business. (i) Except as may be included in the Registration Statement, the General Disclosure Package and the Prospectus, (x) there has been no material security breach or other material compromise of or relating to any of the Company’s IT Systems and Data as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, and (γ) the Company has not been notified of, and has no knowledge of any event or condition that would reasonably be expected to result in, any material security breach or other material compromise to its IT Systems and Data and (ii) the Company has implemented backup and disaster recovery technology that the Company reasonably believes is consistent with industry standards and practices.

(ss) The Company has been and is presently in compliance in all material respects with all applicable laws or statutes and all judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, internal policies and contractual obligations relating to the privacy and security of IT Systems and Data and to the protection of such IT Systems and Data from unauthorized use, access, misappropriation or modification (“Data Protection Requirements”). The execution, delivery and performance of this Agreement or any other agreement referred to in this Agreement will not result in a breach of any of the Data Protection Requirements. The Company further certifies that it: (i) has not received notice of any actual or potential liability under or relating to, or actual or potential violation of, any of the Data Protection Requirements, and has no knowledge of any event or condition that would reasonably be expected to result in any such notice; (ii) is not currently conducting or paying for, in whole or in part, any investigation, remediation, or other corrective action pursuant to any Data Protection Requirement; or (iii) is not a party to any order, decree, or agreement that imposes any obligation or liability by any regulatory body or governmental authority under any Data Protection Requirement, in each case except as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(tt) Except as disclosed in the Registration Statement, the Disclosure Package and the Prospectus, the Company (i) does not have any material lending or other relationship with any bank or lending affiliate of any Underwriter and (ii) does not intend to use any of the proceeds from the sale of the Securities hereunder to repay any outstanding debt owed to any affiliate of any Underwriter.
Furthermore, the Company represents and warrants to the Underwriters that the Registration Statement, the Prospectus, any Preliminary Prospectus and any Issuer Free Writing Prospectuses comply, and any further amendments or supplements thereto will comply, with any applicable laws or regulations of foreign jurisdictions in which the Prospectus or any Preliminary Prospectus and any Issuer Free Writing Prospectus, as amended or supplemented, if applicable, are distributed in connection with the Directed Share Program, and that no authorization, approval, consent, license, order, registration or qualification of or with any government, governmental instrumentality or court, other than such as have been obtained, is necessary under the securities laws and regulations of foreign jurisdictions in which the Directed Shares are offered outside the United States. The Company has not offered, or caused the Underwriters to offer, Securities to any person pursuant to the Directed Share Program with the specific intent to unlawfully influence (i) a customer or supplier of the Company to alter the customer’s or supplier’s level or type of business with the Company, or (ii) a trade journalist or publication to write or publish favorable information about the Company or its products.

Any certificate signed by any officer of the Company and delivered to the Representatives or counsel for the Underwriters in connection with the offering of the Securities shall be deemed a representation and warranty by the Company, as to matters covered thereby, to each Underwriter.

2. Purchase and Sale.

(a) Subject to the terms and conditions and in reliance upon the representations and warranties herein set forth, the Company agrees to sell to each Underwriter, and each Underwriter agrees, severally and not jointly, to purchase from the Company, at a purchase price of $[•] per share, the amount of the Underwritten Securities set forth opposite such Underwriter's name in Schedule I hereto.

(b) Subject to the terms and conditions and in reliance upon the representations and warranties herein set forth, the Company hereby grants an option to the several Underwriters to purchase, severally and not jointly, up to [•] Option Securities at the same purchase price per share as the Underwriters shall pay for the Underwritten Securities, less an amount per share equal to any dividends or distributions declared by the Company and payable on the Underwritten Securities but not payable on the Option Securities. Said option may be exercised only to cover over-allotments in the sale of the Underwritten Securities by the Underwriters. Said option may be exercised in whole or in part at any time on or before the 30th day after the date of the Prospectus upon written or telegraphic notice by the Representatives to the Company setting forth the number of Option Securities as to which the several Underwriters are exercising the option and the Settlement Date. The number of Option Securities to be purchased by each Underwriter shall be the same percentage of the total number of Option Securities to be purchased by the several Underwriters as such Underwriter is purchasing of the Underwritten Securities, subject to such adjustments as you in your absolute discretion shall make to eliminate any fractional shares.

3. Delivery and Payment. Delivery of and payment for the Underwritten Securities and the Option Securities (if the option provided for in Section 2(b) hereof shall have been exercised on or before the first Business Day (as defined herein) immediately preceding the Closing Date) shall be made at 10:00 AM, New York City time, on [•], 2020, or at such time on
such later date not more than three Business Days after the foregoing date as the Representatives shall designate, which date and time may be postponed by agreement between the Representatives and the Company or as provided in Section 9 hereof (such date and time of delivery and payment for the Securities being herein called the “Closing Date”). As used herein, “Business Day,” shall mean any day other than a Saturday, a Sunday or a legal holiday or a day on which banking institutions or trust companies are authorized or obligated by law to close in New York City. Delivery of the Securities shall be made to the Representatives for the respective accounts of the several Underwriters against payment by the several Underwriters through the Representatives of the purchase price thereof to or upon the order of the Company by wire transfer payable in same-day funds to an account specified by the Company. Delivery of the Underwritten Securities and the Option Securities shall be made through the facilities of The Depository Trust Company unless the Representatives shall otherwise instruct.

If the option provided for in Section 2(b) hereof is exercised after the first Business Day immediately preceding the Closing Date, the Company will deliver the Option Securities (at the expense of the Company) to the Representatives, at 388 Greenwich Street, New York, New York, on the date specified by the Representatives (which shall be within three Business Days after exercise of said option) for the respective accounts of the several Underwriters, against payment by the several Underwriters through the Representatives of the purchase price thereof to or upon the order of the Company by wire transfer payable in same-day funds to an account specified by the Company. If settlement for the Option Securities occurs after the Closing Date, the Company will deliver to the Representatives on the Settlement Date for the Option Securities, and the obligation of the Underwriters to purchase the Option Securities shall be conditioned upon receipt of, supplemental opinions, certificates and letters confirming as of such date the opinions, certificates and letters delivered on the Closing Date pursuant to Section 6 hereof.

4. **Offering by Underwriters.** It is understood that the several Underwriters propose to offer the Securities for sale to the public as set forth in the Prospectus.

5. **Agreements.** The Company agrees with the several Underwriters that:

(a) Prior to the termination of the offering of the Securities, the Company will not file any amendment to the Registration Statement or supplement to the Prospectus or any Rule 462(b) Registration Statement unless the Company has furnished you a copy for your review prior to filing and will not file any such proposed amendment or supplement to which you reasonably object. The Company will cause the Prospectus, properly completed, and any supplement thereto to be filed in a form approved by the Representatives with the SEC pursuant to the applicable paragraph of Rule 424(b) within the time period prescribed and will provide evidence satisfactory to the Representatives of such timely filing. The Company will promptly advise the Representatives (i) when the Prospectus, and any supplement thereto, shall have been filed (if required) with the SEC pursuant to Rule 424(b) or when any Rule 462(b) Registration Statement shall have been filed with the SEC, (ii) when, prior to termination of the offering of the Securities, any amendment to the Registration Statement shall have been filed or become effective, (iii) of any request by the SEC or its staff for any amendment to the Registration
Statement, or any Rule 462(b) Registration Statement, or for any supplement to the Prospectus or for any additional information, (iv) of the issuance by the SEC of any stop order suspending the effectiveness of the Registration Statement or of any notice objecting to its use or the institution or threatening of any proceeding for that purpose and (v) of the receipt by the Company of any notification with respect to the suspension of the qualification of the Securities for sale in any jurisdiction or the institution or threatening of any proceeding for such purpose.

The Company will use its reasonable best efforts to prevent the issuance of any such stop order or the occurrence of any such suspension or objection to the use of the Registration Statement and, upon such issuance, occurrence or notice of objection, to obtain as soon as possible the withdrawal of such stop order or relief from such occurrence or objection, including, if necessary, by filing an amendment to the Registration Statement or a new registration statement and using its reasonable best efforts to have such amendment or new registration statement declared effective as soon as practicable.

(b) If, at any time prior to the filing of the Prospectus pursuant to Rule 424(b), any event occurs as a result of which the Disclosure Package would include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein in the light of the circumstances under which they were made or the circumstances then prevailing not misleading, the Company will (i) notify promptly the Representatives so that any use of the Disclosure Package may cease until it is amended or supplemented; (ii) amend or supplement the Disclosure Package to correct such statement or omission; and (iii) supply any amendment or supplement to you in such quantities as you may reasonably request.

(c) If, at any time when a prospectus relating to the Securities is required to be delivered under the Securities Act (including in circumstances where such requirement may be satisfied pursuant to Rule 172 under the Securities Act ("Rule 172")), any event occurs as a result of which the Prospectus as then supplemented would include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein in the light of the circumstances under which they were made or the circumstances then prevailing not misleading, or if it shall be necessary to amend the Registration Statement or supplement the Prospectus to comply with the Securities Act or the rules thereunder, the Company promptly will (i) notify the Representatives of any such event; (ii) prepare and file with the SEC, subject to the second sentence of paragraph (a) of this Section 5, an amendment or supplement which will correct such statement or omission or effect such compliance; and (iii) supply any supplemented Prospectus to you in such quantities as you may reasonably request.

(d) As soon as practicable, the Company will make generally available to its security holders and to the Representatives an earnings statement or statements of the Company which will satisfy the provisions of Section 11(a) of the Securities Act and Rule 158 under the Securities Act.
(e) Upon request, the Company will furnish to the Representatives and counsel for the Underwriters, without charge, conformed copies of the Registration Statement (including exhibits thereto) and to each other Underwriter a copy of the Registration Statement (without exhibits thereto) and, so long as delivery of a prospectus by an Underwriter or dealer may be required by the Securities Act (including in circumstances where such requirement may be satisfied pursuant to Rule 172), as many copies of each Preliminary Prospectus, the Prospectus and each Issuer Free Writing Prospectus and any supplement thereto as the Representatives may reasonably request. The Company will pay the expenses of printing or other production of all documents relating to the offering of the Securities.

(f) The Company will use its reasonable best efforts to arrange, if necessary, for the qualification of the Securities for sale under the laws of such jurisdictions as the Representatives may reasonably designate and will maintain such qualifications in effect so long as required for the distribution of the Securities; provided that in no event shall the Company be obligated to qualify to do business in any jurisdiction where it is not now so qualified or to take any action that would subject it to service of process in suits, other than those arising out of the offering or sale of the Securities, in any jurisdiction where it is not now so subject.

(g) The Company will not, without the prior written consent of the Representatives, on behalf of the Underwriters, offer, sell, contract to sell, pledge, or otherwise dispose of (or enter into any transaction which is designed to, or might reasonably be expected to, result in the disposition (whether by actual disposition or effective economic disposition due to cash settlement or otherwise) by the Company or any affiliate of the Company or any person in privity with the Company or any affiliate of the Company) directly or indirectly, including the filing or submission (or participation in the filing or submission) of a registration statement with the SEC in respect of, or establish or increase a put equivalent position or liquidate or decrease a call equivalent position within the meaning of Section 16 of the Exchange Act, any other shares of Common Stock or any securities convertible into, or exercisable, or exchangeable for, shares of Common Stock; or publicly announce an intention to effect any such transaction, for a period of 180 days after the date of this Agreement, provided, however, that the Company may (i) effect the transactions contemplated hereby, (ii) issue and sell shares of Common Stock, or any securities convertible into or exercisable or exchangeable for shares of Common Stock, pursuant to any stock option plan, incentive plan, employee stock purchase plan, stock bonus plan, stock ownership plan, dividend reinvestment plan or other plan or arrangement of the Company described in the Registration Statement, the Disclosure Package and the Prospectus (collectively, the “Company Plans”), (iii) issue shares of Common Stock issuable upon the conversion of securities or the exercise of warrants or options or the settlement of restricted stock units outstanding at the Execution Time or issued thereafter pursuant to a Company Plan, (iv) file one or more registration statements on Form S-8 relating to any Company Plan, and (v) issue shares of Common Stock, or any securities convertible into or exercisable or exchangeable for shares of Common Stock, or enter into an agreement to issue shares of Common Stock, or any securities convertible into or exercisable or exchangeable for shares of Common Stock, in connection with any bona fide merger, joint venture, strategic alliance, commercial or other collaborative transaction, or the acquisition or
license of the business, property, technology or other assets of another individual or entity, or the assumption of an employee benefit plan in connection with such a merger or acquisition, provided, however, that the aggregate number of shares of Common Stock, or securities convertible into or exercisable or exchangeable for shares of Common Stock, that the Company may issue or agree to issue pursuant to this clause (v) shall not exceed 5% of the total outstanding shares of Common Stock immediately following the issuance of the Underwritten Securities, and provided, further, that the recipients of such securities issued pursuant to clauses (ii)-(v) provide to the Representatives a signed lock-up agreement in the form described in Section 6(i) hereof.

(h) If the Representatives, in their sole discretion, agree to release or waive the restrictions set forth in a lock-up letter described in Section 6(i) hereof for an officer or director of the Company and provide the Company with notice of the impending release or waiver at least three Business Days before the effective date of the release or waiver, the Company agrees to announce the impending release or waiver by a press release substantially in the form of Exhibit B hereto through a major news service at least two Business Days before the effective date of the release or waiver.

(i) The Company will not take, directly or indirectly (without giving effect to activities by the Underwriters), any action designed to or that would constitute or that might reasonably be expected to cause or result in, under the Exchange Act or otherwise, stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Securities.

(j) The Company agrees to pay the costs and expenses relating to the following matters: (i) the preparation, printing or reproduction and filing with the SEC of the Registration Statement (including financial statements and exhibits thereto), each Preliminary Prospectus, the Prospectus and each Issuer Free Writing Prospectus, and each amendment or supplement to any of them; (ii) the printing (or reproduction) and delivery (including postage, air freight charges and charges for counting and packaging) of such copies of the Registration Statement, each Preliminary Prospectus, the Prospectus and each Issuer Free Writing Prospectus, and all amendments or supplements to any of them, as may, in each case, be reasonably requested for use in connection with the offering and sale of the Securities; (iii) the preparation, printing, authentication, issuance and delivery of certificates for the Securities, including any stamp or transfer taxes in connection with the original issuance and sale of the Securities; (iv) the printing (or reproduction) and delivery of this Agreement, any blue sky memorandum and all other agreements or documents printed (or reproduced) and delivered in connection with the offering of the Securities; (v) the registration of the Securities under the Exchange Act and the listing of the Securities on the Nasdaq Global Market; (vi) any registration or qualification of the Securities for offer and sale under the securities or blue sky laws of the several states (including filing fees and the reasonable fees and expenses of counsel for the Underwriters relating to such registration and qualification); (vii) any filings required to be made with the Financial Industry Regulatory Authority, Inc. (including filing fees and the reasonable fees and expenses of counsel for the Underwriters relating to such filings); (viii) the transportation and other expenses incurred by or on behalf of
Company representatives in connection with presentations to prospective purchasers of the Securities; provided, however, that if the Representatives and the Company mutually agree that an aircraft shall be chartered in connection with any road show, the Company shall be responsible for 50% of the costs and expenses of such chartered aircraft and the Underwriters shall be responsible for the remaining 50% of such costs and expenses; (ix) the fees and expenses of the Company’s accountants and the fees and expenses of counsel (including local and special counsel) for the Company; and (x) all other costs and expenses incident to the performance by the Company of its obligations hereunder; provided, however, that the reasonable fees and expenses of counsel for the Underwriters incurred pursuant to clauses (vi) and (vii) of this Section 5(j) shall not exceed $40,000 in the aggregate.

(k) The Company agrees to pay (i) all fees and disbursements of counsel incurred by the Underwriters in connection with the Directed Share Program, (ii) all documented costs and expenses incurred by the Underwriters in connection with the printing (or reproduction) and delivery (including postage, air freight charges and charges for counting and packaging) of copies of the Directed Share Program material and (iii) all stamp duties, similar taxes or duties or other taxes, if any, incurred by the Underwriters in connection with the Directed Share Program.

(l) The Company agrees that, unless it has or shall have obtained the prior written consent of the Representatives, and each Underwriter, severally and not jointly, agrees with the Company that, unless it has or shall have obtained, as the case may be, the prior written consent of the Company, it has not made and will not make any offer relating to the Securities that would constitute an Issuer Free Writing Prospectus or that would otherwise constitute a Free Writing Prospectus required to be filed by the Company with the SEC or retained by the Company under Rule 433 under the Securities Act (“Rule 433”); provided that the prior written consent of the parties hereto shall be deemed to have been given in respect of the Free Writing Prospectuses included in Schedule II hereto and any electronic road show. Any such free writing prospectus consented to by the Representatives or the Company is hereinafter referred to as a “Permitted Free Writing Prospectus.” The Company agrees that (x) it has treated and will treat, as the case may be, each Permitted Free Writing Prospectus as an Issuer Free Writing Prospectus and (y) it has complied and will comply, as the case may be, with the requirements of Rule 164 under the Securities Act (“Rule 164”) and Rule 433 applicable to any Permitted Free Writing Prospectus, including in respect of timely filing with the SEC, legending and record keeping.

(m) The Company will promptly notify the Representatives if the Company ceases to be an Emerging Growth Company at any time prior to the later of (a) completion of the distribution of the Securities within the meaning of the Securities Act and (b) completion of the 180-day restricted period referred to in Section 5(g) hereof.
(n) If at any time following the distribution of any Written Testing-the-Waters Communication, any event occurs as a result of which such Written Testing-the-Waters Communication would include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein in the light of the circumstances under which they were made or the circumstances then prevailing not misleading, the Company will (i) notify promptly the Representatives so that use of the Written Testing-the-Waters Communication may cease until it is amended or supplemented; (ii) amend or supplement the Written Testing-the-Waters Communication to correct such statement or omission; and (iii) supply any amendment or supplement to the Representatives in such quantities as may be reasonably requested.

Furthermore, the Company covenants with Citigroup Global Markets Inc. that the Company will comply with all applicable securities and other applicable laws, rules and regulations in each foreign jurisdiction in which the Directed Shares are offered in connection with the Directed Share Program.

6. Conditions to the Obligations of the Underwriters. The obligations of the Underwriters to purchase the Underwritten Securities and the Option Securities, as the case may be, shall be subject to the accuracy of the representations and warranties on the part of the Company contained herein as of the Execution Time, the Closing Date and any Settlement Date pursuant to Section 3 hereof, to the accuracy of the statements of the Company made in any certificates pursuant to the provisions hereof, to the performance by the Company of its obligations hereunder and to the following additional conditions:

(a) The Prospectus, and any supplement thereto, have been filed in the manner and within the time period required by Rule 424(b); any material required to be filed by the Company pursuant to Rule 433(d) shall have been filed with the SEC within the applicable time periods prescribed for such filings by Rule 433; and no stop order suspending the effectiveness of the Registration Statement or any notice objecting to its use shall have been issued and no proceedings for that purpose shall have been instituted or threatened.

(b) The Company shall have requested and caused Gibson, Dunn & Crutcher LLP, counsel for the Company, to have furnished to the Representatives their opinion and negative assurance letter, dated the Closing Date and addressed to the Representatives, in form and substance satisfactory to the Representatives.

(c) The Company shall have requested and caused Morgan, Lewis & Bockius LLP, intellectual property/patent counsel for the Company, to have furnished to the Representatives their opinion, dated the Closing Date and addressed to the Representatives, in form and substance satisfactory to the Representatives.

(d) The Representatives shall have received from Latham & Watkins LLP, counsel for the Underwriters, such opinion or opinions, dated the Closing Date and addressed to the Representatives, with respect to the issuance and sale of the Securities, the Registration Statement, the Disclosure Package, the Prospectus (together with any supplement thereto) and other related matters as the Representatives may reasonably require, and the Company shall have furnished to such counsel such documents as they reasonably request for the purpose of enabling them to pass upon such matters.
(e) The Company shall have furnished to the Representatives a certificate of the Company, signed by the Chairman of the Board or the President and the principal financial or accounting officer of the Company, dated the Closing Date, to the effect that the signers of such certificate have carefully examined the Registration Statement, the Disclosure Package, the Prospectus and any amendment or supplement thereto, as well as each electronic road show used in connection with the offering of the Securities, and this Agreement and that:

   (i) the representations and warranties of the Company in this Agreement are true and correct on and as of the Closing Date with the same effect as if made on the Closing Date and the Company has complied with all the agreements and satisfied all the conditions on its part to be performed or satisfied at or prior to the Closing Date;

   (ii) no stop order suspending the effectiveness of the Registration Statement or any notice objecting to its use has been issued and no proceedings for that purpose have been instituted or, to the Company’s knowledge, threatened; and

   (iii) since the date of the most recent financial statements included in the Disclosure Package and the Prospectus (exclusive of any amendment or supplement thereto), there has been no Material Adverse Effect, except as set forth in or contemplated in the Disclosure Package and the Prospectus (exclusive of any amendment or supplement thereto).

(f) The Company shall have requested and caused KPMG LLP to have furnished to the Representatives, at the Execution Time and at the Closing Date, letters, dated respectively as of the Execution Time and as of the Closing Date, in form and substance satisfactory to the Representatives.

(g) The Securities shall have been listed and admitted and authorized for trading on the Nasdaq Global Market, and satisfactory evidence of such actions shall have been provided to the Representatives.

(h) Subsequent to the Execution Time or, if earlier, the dates as of which information is given in the Registration Statement (exclusive of any amendment thereof) and the Prospectus (exclusive of supplement thereto), there shall not have been (i) any change or decrease specified in the letter or letters referred to in paragraph (e) of this Section 6 or (ii) any change, or any development involving a prospective change, in or affecting the condition (financial or otherwise), earnings, business or properties of the Company, taken as a whole, whether or not arising from transactions in the ordinary course of business, except as set forth in or contemplated in the Disclosure Package and the Prospectus (exclusive of any amendment or supplement thereto) the effect of which, in any case referred to in clause (i) or (ii) above, is, in the sole judgment of the Representatives, so material and adverse as to make it impractical or inadvisable to proceed with the offering or delivery of the Securities as contemplated by the Registration Statement (exclusive of any amendment thereof), the Disclosure Package and the Prospectus (exclusive of any amendment or supplement thereto).
(i) Prior to the Closing Date, the Company shall have furnished to the Representatives such further information, certificates and documents as the Representatives may reasonably request.

(j) At or prior to the Execution Time, the Company shall have furnished to the Representatives a letter substantially in the form of Exhibit A hereto from each officer and director of the Company and substantially all holders of the Company’s equity securities addressed to the Representatives.

If any of the conditions specified in this Section 6 shall not have been fulfilled when and as provided in this Agreement, or if any of the opinions and certificates mentioned above or elsewhere in this Agreement shall not be reasonably satisfactory in form and substance to the Representatives and counsel for the Underwriters, this Agreement and all obligations of the Underwriters hereunder may be canceled at, or at any time prior to, the Closing Date by the Representatives. Notice of such cancellation shall be given to the Company in writing or by telephone, facsimile or electronic mail confirmed in writing.

The documents required to be delivered by this Section 6 shall be delivered at the office of Latham & Watkins LLP, counsel for the Underwriters, at 885 Third Avenue, New York, New York 10022-4834, on the Closing Date.

7. Reimbursement of Underwriters’ Expenses. If this Agreement is terminated because any condition to the obligations of the Underwriters set forth in Section 6 hereof is not satisfied, because of any termination pursuant to Section 10 hereof or because of any refusal, inability or failure on the part of the Company to perform any agreement herein or comply with any provision hereof other than by reason of a default by any of the Underwriters if (i) prior to the Closing Date with respect to the Underwritten Securities, the Company will reimburse the Underwriters severally on demand for all documented out-of-pocket expenses (including reasonable fees and disbursements of counsel for the Underwriters) that shall have been incurred by them in connection with the proposed purchase and sale of the Underwritten Securities or (ii) after the Closing Date with respect to the Underwritten Securities but prior to a Settlement Date with respect to the purchase of any Option Securities, the Company shall reimburse the Underwriters severally on demand for all documented out-of-pocket expenses, including reasonable fees and disbursements of counsel for the Underwriters, incurred in connection with the proposed purchase of any such Option Securities; provided that if this Agreement is terminated by the Representatives pursuant to Section 9 hereof, the Company will have no obligation to reimburse any defaulting Underwriter.

8. Indemnification and Contribution.

(a) The Company agrees to indemnify and hold harmless each Underwriter, the directors, officers, employees, affiliates and agents of each Underwriter and each person who controls any Underwriter within the meaning of either the Securities Act or the Exchange Act against any and all losses, claims, damages or liabilities, joint or
to which they or any of them may become subject under the Securities Act, the Exchange Act or other Federal or state statutory law or regulation, at common law or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon any untrue statement or alleged untrue statement of a material fact contained in the registration statement for the registration of the Securities as originally filed or in any amendment thereof, or in any Preliminary Prospectus, or the Prospectus, any Issuer Free Writing Prospectus (including, for the avoidance of doubt, in any road show as defined in Rule 433(h) under the Securities Act), or any Written Testing-the-Waters Communication or in any amendment thereof or supplement thereto, or arise out of or are based upon the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, and agrees to reimburse each such indemnified party, as incurred, for any documented legal or other expenses reasonably incurred by them in connection with investigating or defending any such loss, claim, damage, liability or action; provided, however, that the Company will not be liable in any such case to the extent that any such loss, claim, damage or liability arises out of or is based upon any such untrue statement or alleged untrue statement or omission or alleged omission made therein in reliance upon and in conformity with written information furnished to the Company by or on behalf of any Underwriter through the Representatives specifically for inclusion therein. This indemnity agreement will be in addition to any liability which the Company may otherwise have.

(b) Each Underwriter severally and not jointly agrees to indemnify and hold harmless the Company, each of its directors, each of its officers who signs the Registration Statement, and each person who controls the Company within the meaning of either the Securities Act or the Exchange Act, to the same extent as the foregoing indemnity from the Company to each Underwriter, but only with reference to written information relating to such Underwriter furnished to the Company by or on behalf of such Underwriter through the Representatives specifically for inclusion in the documents referred to in the foregoing indemnity. This indemnity agreement will be in addition to any liability which any Underwriter may otherwise have. The Company acknowledges that the statements set forth (i) in the last paragraph of the cover page regarding delivery of the Securities and, under the heading “Underwriting,” (ii) the list of Underwriters and their respective participation in the sale of the Securities, (iii) the sentences related to concessions and reallowances and (iv) the paragraph related to stabilization, syndicate covering transactions and penalty bids in the Preliminary Prospectus and the Prospectus constitute the only information furnished in writing by or on behalf of the several Underwriters for inclusion in the Preliminary Prospectus, the Prospectus or any Issuer Free Writing Prospectus.

(c) The Company agrees to indemnify and hold harmless Citigroup Global Markets Inc., the directors, officers, employees, affiliates and agents of Citigroup Global Markets Inc. and each person, who controls Citigroup Global Markets Inc. within the meaning of either Section 15 of the Securities Act or Section 20 of the Exchange Act (“Citigroup Entities”), from and against any and all losses, claims, damages and liabilities to which they may become subject under the Securities Act, the Exchange Act or other
Federal or state statutory law or regulation, at common law or otherwise (including, without limitation, any legal or other expenses reasonably incurred in connection with defending or investigating any such action or claim), insofar as such losses, claims damages or liabilities (or actions in respect thereof) (i) arise out of or are based upon any untrue statement or alleged untrue statement of a material fact contained in the prospectus wrapper material prepared by or with the consent of the Company for distribution in foreign jurisdictions in connection with the Directed Share Program attached to the Prospectus, any Preliminary Prospectus or any Issuer Free Writing Prospectus, or arise out of or are based upon the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statement therein, when considered in conjunction with the Prospectus or any applicable Preliminary Prospectus, not misleading; (ii) caused by the failure of any Participant to pay for and accept delivery of the securities which, which by the end of the first business day following the date of this Agreement, were subject to a properly confirmed agreement to purchase; or (iii) related to, arising out of, or in connection with the Directed Share Program, except that this clause (iii) shall not apply to the extent that such loss, claim, damage or liability is finally judicially determined to have resulted primarily from the gross negligence or willful misconduct of the Citigroup Entities.

(d) Promptly after receipt by an indemnified party under this Section 8 of notice of the commencement of any action, such indemnified party will, if a claim in respect thereof is to be made against the indemnifying party under this Section 8, notify the indemnifying party in writing of the commencement thereof; but the failure so to notify the indemnifying party (i) will not relieve it from liability under paragraph (a) or (b) above unless and to the extent it did not otherwise learn of such action and such failure results in the forfeiture by the indemnifying party of substantial rights and defenses and (ii) will not, in any event, relieve the indemnifying party from any obligations to any indemnified party other than the indemnification obligation provided in paragraph (a) or (b) above. The indemnifying party shall be entitled to appoint counsel of the indemnifying party’s choice at the indemnifying party’s expense to represent the indemnified party in any action for which indemnification is sought (in which case the indemnifying party shall not thereafter be responsible for the fees and expenses of any separate counsel retained by the indemnified party or parties except as set forth below); provided, however, that such counsel shall be satisfactory to the indemnified party. Notwithstanding the indemnifying party’s election to appoint counsel to represent the indemnified party in an action, the indemnified party shall have the right to employ separate counsel (including local counsel), and the indemnifying party shall bear the reasonable fees, costs and expenses of such separate counsel (it being understood, however, that the indemnifying party shall not be liable for the fees and expenses of more than one separate counsel, in addition to local counsel) if (i) the use of counsel chosen by the indemnifying party to represent the indemnified party would present such counsel with a conflict of interest, (ii) the actual or potential defendants in, or targets of, any such action include both the indemnified party and the indemnifying party and the indemnified party shall have reasonably concluded that there may be legal defenses available to it and/or other indemnified parties which are different from or additional to those available to the indemnifying party, (iii) the indemnifying party shall not have employed counsel
satisfactory to the indemnified party to represent the indemnified party within a reasonable time after notice of the institution of such action or (iv) the indemnifying party shall authorize the indemnified party to employ separate counsel at the expense of the indemnifying party. An indemnifying party will not, without the prior written consent of the indemnified parties, settle or compromise or consent to the entry of any judgment with respect to any pending or threatened claim, action, suit or proceeding in respect of which indemnification or contribution may be sought hereunder (whether or not the indemnified parties are actual or potential parties to such claim or action) unless such settlement, compromise or consent (i) includes an unconditional release of each indemnified party from all liability arising out of such claim, action, suit or proceeding and (ii) does not include a statement as to or an admission of fault, culpability or a failure to act, by or on behalf of any indemnified party. Notwithstanding anything contained herein to the contrary, if indemnity may be sought pursuant to Section 8(c) hereof in respect of such action or proceeding, then in addition to such separate firm for the indemnified parties, the indemnifying party shall be liable for the reasonable fees and expenses of not more than one separate firm (in addition to any local counsel) for Citigroup Global Markets Inc., the directors, officers, employees and agents of Citigroup Global Markets Inc., and all persons, if any, who control Citigroup Global Markets Inc. within the meaning of either the Securities Act or the Exchange Act for the defense of any losses, claims, damages and liabilities arising out of the Directed Share Program.

(e) In the event that the indemnity provided in paragraph (a), (b), (c) or (d) of this Section 8 is unavailable to or insufficient to hold harmless an indemnified party for any reason, the Company and the Underwriters severally agree to contribute to the aggregate losses, claims, damages and liabilities (including legal or other expenses reasonably incurred in connection with investigating or defending the same) (collectively, “Losses”) to which the Company and one or more of the Underwriters may be subject in such proportion as is appropriate to reflect the relative benefits received by the Company on the one hand and by the Underwriters on the other hand from the offering of the Securities. If the allocation provided by the immediately preceding sentence is unavailable for any reason, the Company and the Underwriters severally shall contribute in such proportion as is appropriate to reflect not only such relative benefits but also the relative fault of the Company on the one hand and of the Underwriters on the other hand in connection with the statements or omissions which resulted in such Losses as well as any other relevant equitable considerations. Benefits received by the Company shall be deemed to be equal to the total net proceeds from the offering (before deducting expenses) received by it, and benefits received by the Underwriters shall be deemed to be equal to the total underwriting discounts and commissions, in each case as set forth on the cover page of the Prospectus. Relative fault shall be determined by reference to, among other things, whether any untrue or any alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information provided by the Company on the one hand or the Underwriters on the other hand, the intent of the parties and their relative knowledge, access to information and opportunity to correct or prevent such untrue statement or omission. The Company and the Underwriters agree that it would not be just and equitable if contribution were determined by pro rata allocation or any other method of
allocation which does not take account of the equitable considerations referred to above. Notwithstanding the provisions of this paragraph (e), in no event shall an Underwriter be required to contribute any amount in excess of the amount by which the total underwriting discounts and commissions received by such Underwriter with respect to the offering of the Securities exceeds the amount of any damages that such Underwriter has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. Notwithstanding the provisions of this paragraph (e), no person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. For purposes of this Section 8, each person who controls an Underwriter within the meaning of either the Securities Act or the Exchange Act and each director, officer, employee, affiliate and agent of an Underwriter shall have the same rights to contribution as such Underwriter, and each person who controls the Company within the meaning of either the Securities Act or the Exchange Act, each officer of the Company who shall have signed the Registration Statement and each director of the Company shall have the same rights to contribution as the Company, subject in each case to the applicable terms and conditions of this paragraph (e).

9. **Default by an Underwriter.** If any one or more Underwriters shall fail to purchase and pay for any of the Securities agreed to be purchased by such Underwriter or Underwriters hereunder and such failure to purchase shall constitute a default in the performance of its or their obligations under this Agreement, the remaining Underwriters shall be obligated severally to take up and pay for (in the respective proportions which the amount of Securities set forth opposite their names in Schedule I hereto bears to the aggregate amount of Securities set forth opposite the names of all the remaining Underwriters) the Securities which the defaulting Underwriter or Underwriters agreed but failed to purchase; provided, however, that in the event that the aggregate amount of Securities which the defaulting Underwriter or Underwriters agreed but failed to purchase shall exceed 10% of the aggregate amount of Securities set forth in Schedule I hereto, the remaining Underwriters shall have the right to purchase all, but shall not be under any obligation to purchase any, of the Securities, and if such non-defaulting Underwriters do not purchase all the Securities, this Agreement will terminate without liability to any non-defaulting Underwriter or the Company. In the event of a default by any Underwriter as set forth in this Section 9, the Closing Date shall be postponed for such period, not exceeding five Business Days, as the Representatives shall determine in order that the required changes in the Registration Statement and the Prospectus or in any other documents or arrangements may be effected. Nothing contained in this Agreement shall relieve any defaulting Underwriter of its liability, if any, to the Company and any non-defaulting Underwriter for damages occasioned by its default hereunder.

10. **Termination.** This Agreement shall be subject to termination in the absolute discretion of the Representatives, by notice given to the Company prior to delivery of and payment for the Securities, if at any time prior to such delivery and payment (i) (A) trading in the Company’s Common Stock shall have been suspended by the SEC on the Nasdaq Global Market or (B) trading in securities generally on the New York Stock Exchange or the Nasdaq Global Market shall have been suspended or limited or minimum prices shall have been established on either of such exchanges, (ii) a banking moratorium shall have been declared.
either by Federal or New York State authorities, (iii) there shall have occurred a material disruption in commercial banking or securities settlement or clearance services or (iv) there shall have occurred any outbreak or escalation of hostilities, declaration by the United States of a national emergency or war, or other calamity or crisis or escalation thereof the effect of which on financial markets is such as to make it, in the sole judgment of the Representatives, impractical or inadvisable to proceed with the offering or delivery of the Securities as contemplated by the Preliminary Prospectus or the Prospectus (exclusive of any amendment or supplement thereto).

11. **Representations and Indemnities to Survive.** The respective agreements, representations, warranties, indemnities and other statements of the Company or its officers and of the Underwriters set forth in or made pursuant to this Agreement will remain in full force and effect, regardless of any investigation made by or on behalf of any Underwriter or the Company or any of the officers, directors, employees, agents, affiliates or controlling persons referred to in Section 8 hereof, and will survive delivery of and payment for the Securities. The provisions of Sections 7 and 8 hereof shall survive the termination or cancellation of this Agreement.

12. **Notices.** All communications hereunder will be in writing and effective only on receipt, and, if sent to the Representatives, will be mailed, delivered or telefaxed to Citigroup Global Markets Inc. at 388 Greenwich Street, New York, New York 10013, Attention: General Counsel, facsimile number: +1 (646) 291-1469; Cowen and Company, LLC at 599 Lexington Avenue, New York, New York 10022, Attention: Head of Equity Capital Markets, Fax: +1 (646) 562-1249; Cowen and Company, LLC at 599 Lexington Avenue, New York, New York 10022, Attention: Head of Equity Capital Markets, Fax: +1 (646) 562-1249 with a copy to the General Counsel, Fax: +1 (646) 562-1130; Evercore Group L.L.C. at 55 East 52nd Street, New York, New York 10055, Attention: Ken Masotti, email address: masotti@evercore.com; or, if sent to Shattuck Labs, Inc., will be mailed, delivered or telefaxed to 1018 W. 11th Street, Suite 100, Austin, TX 78703, Facsimile: [•], Attention: [•].

13. **Successors.** This Agreement will inure to the benefit of and be binding upon the parties hereto and their respective successors and the officers, directors, employees, agents and controlling persons referred to in Section 8 hereof, and no other person will have any right or obligation hereunder.

14. **Jurisdiction.** The Company agrees that any suit, action or proceeding against the Company brought by any Underwriter, the directors, officers, employees, affiliates and agents of any Underwriter, or by any person who controls any Underwriter, arising out of or based upon this Agreement or the transactions contemplated hereby may be instituted in any State or U.S. federal court in The City of New York and County of New York, and waives any objection which it may now or hereafter have to the laying of venue of any such proceeding, and irrevocably submits to the non-exclusive jurisdiction of such courts in any suit, action or proceeding.

15. **Recognition of the U.S. Special Resolution Regimes.**

(a) In the event that any Underwriter that is a Covered Entity becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer from such Underwriter of this Agreement, and any interest and obligation in or under this Agreement, will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if this Agreement, and any such interest and obligation, were governed by the laws of the United States or a state of the United States.
(b) In the event that any Underwriter that is a Covered Entity or a BHC Act Affiliate of such Underwriter becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under this Agreement that may be exercised against such Underwriter are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if this Agreement were governed by the laws of the United States or a state of the United States.

As used in this Section 15, “BHC Act Affiliate” has the meaning assigned to the term “affiliate” in, and shall be interpreted in accordance with, 12 U.S.C. § 1841(k); “Covered Entity” means any of the following: (i) a “covered entity” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b), (ii) a “covered bank” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b) or (iii) a “covered FSI” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b); “Default Right” has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable; and “U.S. Special Resolution Regime” means each of (i) the Federal Deposit Insurance Act and the regulations promulgated thereunder and (ii) Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations promulgated thereunder.

16. No Fiduciary Duty. The Company hereby acknowledges that (a) the purchase and sale of the Securities pursuant to this Agreement is an arm’s-length commercial transaction between the Company, on the one hand, and the Underwriters and any affiliate through which it may be acting, on the other hand, and does not constitute a recommendation, investment advice or solicitation of any action by the Underwriters, (b) the Underwriters are acting as principal and not as an agent or fiduciary of the Company, (c) the Company’s engagement of the Underwriters in connection with the offering of the Securities and the process leading up to the offering is as independent contractors and not in any other capacity and (d) none of the activities of the Underwriters in connection with the transactions contemplated herein constitutes a recommendation, investment advice or solicitation of any action by the Underwriters with respect to any entity or natural person. Furthermore, the Company agrees that it is solely responsible for making its own judgments in connection with the offering of the Securities (irrespective of whether any of the Underwriters has advised or is currently advising the Company on related or other matters). The Company agrees that it will not claim that the Underwriters have rendered advisory services of any nature or respect, or owe an agency, fiduciary or similar duty to the Company, in connection with such transaction or the process leading thereto.

17. Integration. This Agreement supersedes all prior agreements and understandings (whether written or oral) between the Company and the Underwriters, or any of them, with respect to the subject matter hereof.
18. **Applicable Law.** This Agreement will be governed by and construed in accordance with the laws of the State of New York applicable to contracts made and to be performed within the State of New York.

19. **Waiver of Jury Trial.** The Company and the Underwriters hereby irrevocably waive, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Agreement or the transactions contemplated hereby.

20. **Counterparts; Electronic Signatures.** This Agreement may be signed in one or more counterparts, each of which shall constitute an original and all of which together shall constitute one and the same agreement. A party’s electronic signature (complying with the New York Electronic Signatures and Records Act (N.Y. State Tech. §§ 301-309), as amended from time to time, or other applicable law) of this Agreement shall have the same validity and effect as a signature affixed by the party’s hand.

21. **Headings.** The section headings used herein are for convenience only and shall not affect the construction hereof.

   [Signature page follows]  

   31
If the foregoing is in accordance with your understanding of our agreement, please sign and return to us the enclosed duplicate hereof, whereupon this letter and your acceptance shall represent a binding agreement among the Company and the several Underwriters.

Very truly yours,

SHATTUCK LABS, INC.

By: __________________________________________
   Name:  
   Title:  

[Signature Page to Underwriting Agreement]
The foregoing Agreement is hereby confirmed and accepted as of the date first above written.

Citigroup Global Markets Inc.
Cowen and Company, LLC
Evercore Group L.L.C.

By: Citigroup Global Markets Inc.

By: Cowen and Company, LLC

By: Evercore Group L.L.C.

For themselves and the other several Underwriters named in Schedule I to the foregoing Agreement.
<table>
<thead>
<tr>
<th>Underwriters</th>
<th>Number of Underwritten Securities to be Purchased</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citigroup Global Markets Inc.</td>
<td>[*]</td>
</tr>
<tr>
<td>Cowen and Company, LLC</td>
<td>[*]</td>
</tr>
<tr>
<td>Evercore Group L.L.C.</td>
<td>[*]</td>
</tr>
<tr>
<td>Needham &amp; Company, LLC</td>
<td>[*]</td>
</tr>
<tr>
<td>Total</td>
<td>[*]</td>
</tr>
</tbody>
</table>
SCHEDULE II

Schedule of Free Writing Prospectuses included in the Disclosure Package

[list all Free Writing Prospectuses included in the Disclosure Package]

II-1
SCHEDULE III

Schedule of Written Testing-the-Waters Communication

[list all Written Testing-the-Waters Communications]

III-1
Shattuck Labs, Inc.
Public Offering of Common Stock

[•], 2020

Citigroup Global Markets Inc.
Cowen and Company, LLC
Evercore Group L.L.C.

As Representatives of the several Underwriters,

c/o Citigroup Global Markets Inc.
388 Greenwich Street
New York, New York 10013

c/o Cowen and Company, LLC
599 Lexington Avenue
New York, New York 10022

c/o Evercore Group L.L.C.
55 East 52nd Street
New York, New York 10055

Ladies and Gentlemen:

This letter agreement is being delivered to you in connection with the proposed underwriting agreement (the “Underwriting Agreement”), among Shattuck Labs, Inc., a Delaware corporation (the “Company”), and each of you as representatives (the “Representatives”) of a group of Underwriters named therein, relating to an underwritten public offering of Common Stock, $0.0001 par value (the “Common Stock”), of the Company (the “Offering”).

In order to induce you and the other Underwriters (as defined in the Underwriting Agreement) to enter into the Underwriting Agreement, the undersigned will not, without the prior written consent of the Representatives, offer, sell, contract to sell, pledge or otherwise dispose of (or enter into any transaction which is designed to, or might reasonably be expected to, result in the disposition (whether by actual disposition or effective economic disposition due to cash settlement or otherwise) by the undersigned or any affiliate of the undersigned or any person in privity with the undersigned or any affiliate of the undersigned), directly or indirectly, including the filing (or participation in the filing) of a registration statement with the Securities and Exchange Commission in respect of, or establish or increase a put equivalent position or liquidate or decrease a call equivalent position within the meaning of Section 16 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and the rules and regulations of the

Ex. A-1
Securities and Exchange Commission promulgated thereunder with respect to, any shares of capital stock of the Company or any securities convertible into, or exercisable or exchangeable for, such capital stock, or publicly announce an intention to effect any such transaction, for a period from the date hereof until 180 days after the date of the Underwriting Agreement (the “Lock-Up Period”), subject to the exceptions set forth in this letter agreement. If the undersigned is an officer or director of the Company, the undersigned further agrees that the foregoing restrictions shall be equally applicable to any issuer-directed shares of Common Stock the undersigned may purchase in the Offering.

The foregoing restrictions shall not apply to:

(a) the transfer of shares of Common Stock or other securities of the Company acquired in the Offering (other than any issuer-directed shares of Common Stock purchased in the Offering by an officer or director of the Company) or in open market transactions on or after the completion of the Offering; provided, that no filing by any party under the Exchange Act or other public announcement shall be required or shall be voluntarily made in connection with such transfers (other than a filing on Schedule 13D, 13F or 13G that is required to be filed during the Lock-Up Period); or

(b) the transfer of shares of Common Stock or other securities convertible into, or exercisable or exchangeable for, shares of Common Stock owned by the undersigned:

(i) as a bona fide gift or charitable contribution;

(ii) to the immediate family (as defined below) of the undersigned;

(iii) to any trust for the direct or indirect benefit of the undersigned or the immediate family of the undersigned, including by will or intestate succession;

(iv) by will, other testamentary document or intestate succession to the legal representative, heir, beneficiary, trustee or the immediate family of the undersigned;

(v) as a distribution or other transfer by a partnership to its partners or by a limited liability company to its members or by a corporation to its stockholders or other equity holders or to any wholly-owned subsidiary of such corporation; or

(vi) to any affiliate, as defined in Rule 405 under the Securities Act of 1933, as amended, of the undersigned, limited partners, general partners, limited liability company members or stockholders of the undersigned, or if the undersigned is a corporation to any wholly owned subsidiary of such corporation;

provided, that in the case of any transfer, disposition or distribution pursuant to clauses (b)(i)-(vi) above, (A) each transferee, donee or distributee shall execute and deliver a lock-up agreement in the form of this letter agreement to the Representatives and (B) no filing by any party (donor, donee, transferor or transferee) under the Exchange Act or other public announcement shall be required or shall be voluntarily made in connection with such transfer, disposition or distribution during the Lock-Up Period (other than a filing on a Form 5 made after the expiration of the Lock-Up Period).

Ex. A-2
Furthermore, no provision in this letter agreement shall be deemed to restrict or prohibit:

(1) the transfer of the undersigned’s Common Stock or any security convertible into, or exercisable or exchangeable for, Common Stock to the Company in connection with (A) the termination of the undersigned’s employment with the Company or (B) pursuant to agreements under which the Company has the option to repurchase such shares; provided, that in the case of a transfer pursuant to this clause (1), any filing required to be made by any party under the Exchange Act during the Lock-Up Period shall clearly indicate in the footnotes thereto that such transfer relates to the circumstances described in this clause (1). Subject to the foregoing, no public announcement shall be made voluntarily in connection with such transfer (other than a filing on a Form 5 made after the expiration of the Lock-Up Period);

(2) the exercise by the undersigned of any option to purchase or the purchase by the undersigned of any shares of Common Stock pursuant to any stock incentive plan or stock purchase plan of the Company; provided, that the underlying shares of Common Stock shall continue to be subject to the restrictions on transfer set forth in this letter agreement;

(3) the conversion of the outstanding preferred stock of the Company into shares of Common Stock; provided, that any such shares received upon such conversion shall be subject to the restrictions on transfer set forth in this letter agreement;

(4) the transfer of shares of Common Stock or any security convertible into, or exercisable or exchangeable for, Common Stock to the Company to cover tax withholdings upon a vesting event of any equity award granted under any stock incentive plan or stock purchase plan of the Company; provided, that any filing under Section 16 of the Exchange Act with regard to the transfer shall clearly indicate in the footnotes thereto that the filing relates to the circumstances described in this clause (4) and no other public announcement shall be required or shall be made voluntarily in connection with such transfer during the Lock-Up Period;

(5) the transfer of shares of Common Stock by operation of law pursuant to a court order or a settlement agreement related to the distribution of assets in connection with the dissolution of a marriage or civil union, provided that any transferee agrees to be bound by the restrictions on transfer set forth herein; provided further, that any required filing under Section 16 of the Exchange Act shall indicate in the footnotes thereto that the filing relates to the circumstances described in this clause (5) and no other public announcement shall be required or shall be made voluntarily in connection with such transfer during the Lock-Up Period;

(6) the establishment of a trading plan pursuant to Rule 10b5-1 under the Exchange Act for the transfer of Common Stock; provided, that such plan does not provide for any transfers or dispositions of Common Stock during the Lock-Up Period; provided further, that to the extent a public announcement or filing under the Exchange Act, if any, is required of or voluntarily made by or on behalf of the undersigned or the Company regarding the establishment of such plan, such public announcement or filing shall include a statement to the effect that no transfer of Common Stock may be made under such plan during the Lock-Up Period; and

Ex. A-3
(7) the transfer of shares of Common Stock or any security convertible into, or exercisable or exchangeable for, Common Stock pursuant to a bona fide third-party tender offer for securities of the Company, merger, consolidation or other similar transaction made to all holders of the Company’s securities involving a Change of Control (as defined below) of the Company, which transaction is approved by the Board of Directors of the Company; provided, that all of the undersigned’s securities subject to this letter agreement that are not so transferred, sold, tendered or otherwise disposed of remain subject to this letter agreement; provided further, that it shall be a condition of the transfer that if the tender offer, merger, consolidation or other such transaction is not completed, the undersigned’s securities subject to this letter agreement shall remain subject to the restrictions herein.

For purposes of this letter agreement, “immediate family” shall mean any relationship by blood, marriage or adoption, not more remote than first cousin. For purposes of this letter agreement, “Change of Control” means the consummation of any bona fide third party tender offer, merger, consolidation or other similar transaction, in one transaction or a series of related transactions, the result of which is that any “person” (as defined in Section 13(d)(3) of the Exchange Act), or group of persons, other than the Company or its subsidiaries, becomes the beneficial owner (as defined in Rules 13d-3 and 13d-5 of the Exchange Act) of 50% or more of the total voting power of the voting stock of the Company (or the surviving entity).

The undersigned now has, and, except as contemplated by clauses (i)-(vi) above, for the duration of this letter agreement will have, good and marketable title to the undersigned’s shares of capital stock of the Company or any securities convertible into, or exercisable or exchangeable for, such capital stock, free and clear of all liens, encumbrances, and claims whatsoever, other than any charitable pledge of such securities that by its terms could not result in any transfer, disposition or distribution of such securities during the Lock-Up Period.

If the undersigned is an officer or director of the Company, (i) each of the Representatives agree that, at least three business days before the effective date of any release or waiver of the foregoing restrictions in connection with a transfer of shares of Common Stock, the Representatives will notify the Company of the impending release or waiver, and (ii) the Company has agreed in the Underwriting Agreement to announce the impending release or waiver by press release through a major news service at least two business days before the effective date of the release or waiver. Any release or waiver granted by the Representatives hereunder to any such officer or director shall only be effective two business days after the publication date of such press release. The provisions of this paragraph will not apply if (a) the release or waiver is effected solely to permit a transfer not for consideration and (b) the transferee has agreed in writing to be bound by the same terms described in this letter agreement to the extent and for the duration that such terms remain in effect at the time of the transfer.

Ex. A-4
The undersigned agrees that, without the prior written consent of the Representatives, it will not, during the Lock-Up Period, make any demand for or exercise any right with respect to, the registration of any shares of capital stock of the Company or any securities convertible into, or exercisable or exchangeable for such capital stock and hereby waives any and all notice requirements and other rights (including, if applicable, those rights set forth in that certain Second Amended and Restated Investors’ Rights Agreement, dated as of June 12, 2020, by and among the Company, the undersigned and the other parties thereto (as the same may be amended and/or restated from time to time, the “Rights Agreement”), with respect to any such registration, including with respect to the Offering.

This letter agreement shall automatically terminate and be of no further effect (i) January 31, 2021, in the event the closing of the Offering shall not have occurred on or before such date (provided that the Company may, by written notice to the undersigned prior to such date, extend such date for a period of up to an additional six months), (ii) prior to the execution of the Underwriting Agreement, upon such date the Company notifies the Representatives in writing that it does not intend to proceed with the Offering, (iii) the registration statement filed with the Securities and Exchange Commission in connection with the Offering is withdrawn, or (iv) upon the termination of the Underwriting Agreement prior to the Closing Date (as defined in the Underwriting Agreement) in accordance with the terms thereof.

The undersigned hereby acknowledges and agrees that the underwriters have not provided any recommendation or investment advice nor have the underwriters solicited any action from the undersigned with respect to the offering of the securities and the undersigned has consulted their own legal, accounting, financial, regulatory and tax advisors to the extent deemed appropriate.

The undersigned hereby represents and warrants that the undersigned has full power and authority to enter into this letter agreement and that this letter agreement has been duly authorized (if the undersigned is not a natural person), executed and delivered by the undersigned and is a valid and binding agreement of the undersigned. This letter agreement and all authority herein conferred are irrevocable and shall survive the death or incapacity of the undersigned (if a natural person) and shall be binding upon the heirs, personal representatives, successors and assigns of the undersigned. The electronic signature of the undersigned (complying with the New York Electronic Signatures and Records Act (N.Y. State Tech. §§ 301-309), as amended from time to time, or other applicable law) of this letter agreement shall have the same validity and effect as a signature affixed by the hand of the undersigned.

This letter agreement shall be governed by, and construed in accordance with, the laws of the State of New York.

(Signature Page Follows)

Very truly yours,

Ex. A-5
IF AN INDIVIDUAL:

By: __________________________
    (duly authorized signature)

Name: __________________________
    (please print full name)

Address: __________________________

E-mail: __________________________

Ex. A-6

IF AN ENTITY:

By: __________________________
    (please print complete name of entity)

Name: __________________________
    (duly authorized signature)

Name: __________________________
    (please print full name)

Title: __________________________
    (please print full title)

Address: __________________________

E-mail: __________________________
Shattuck Labs, Inc. (the “Company”) announced today that Citigroup Global Markets Inc., Cowen and Company, LLC and Evercore Group L.L.C., the lead book-running managers in the Company’s recent public sale of [*] shares of common stock, is [waiving] [releasing] a lock-up restriction with respect to [*] shares of the Company’s common stock held by [certain officers or directors] [an officer or director] of the Company. The [waiver] [release] will take effect on [insert date], 20__, and the shares may be sold on or after such date.

This press release is not an offer for sale of the securities in the United States or in any other jurisdiction where such offer is prohibited, and such securities may not be offered or sold in the United States absent registration or an exemption from registration under the United States Securities Act of 1933, as amended.
Dear [insert name]:

This letter is being delivered to you in connection with the offering by Shattuck Labs, Inc. (the “Company”) of [*] shares of common stock, $0.0001 par value (the “Common Stock”), of the Company and the lock-up letter dated [insert date], 20__ (the “Lock-up Letter”), executed by you in connection with such offering, and your request for a [waiver] [release] dated [insert date], 20__, with respect to [*] shares of Common Stock (the “Shares”).

Citigroup Global Markets Inc., Cowen and Company, LLC and Evercore Group L.L.C. hereby agree to [waive] [release] the transfer restrictions set forth in the Lock-up Letter, but only with respect to the Shares, effective [insert date], 20__; provided, however, that such [waiver] [release] is conditioned on the Company announcing the impending [waiver] [release] by press release through a major news service at least two business days before effectiveness of such [waiver] [release]. This letter will serve as notice to the Company of the impending [waiver] [release].

Except as expressly [waived] [released] hereby, the Lock-up Letter shall remain in full force and effect.

Yours very truly,

Citigroup Global Markets Inc.

By: 

__________________________
Name: 
Title: 

Cowen and Company, LLC

By: 

__________________________
Name: 
Title:
Evercore Group L.L.C.

By:

Name:
Title:

cc: Shattuck Labs, Inc.

Ex. B-2
SHATTUCK LABS, INC.

AMENDED AND RESTATED

CERTIFICATE OF INCORPORATION

(Pursuant to Sections 242 and 245 of the
General Corporation Law of the State of Delaware)

Shattuck Labs, Inc., a corporation organized and existing under and by virtue of the provisions of the General Corporation Law of the State of Delaware (the “General Corporation Law”), does hereby certify as follows:

1. The name of this corporation is Shattuck Labs, Inc. This corporation was originally incorporated pursuant to the General Corporation Law on May 9, 2016 under the name Shattuck Labs, Inc.

2. The Board of Directors of this corporation duly adopted resolutions proposing to amend and restate the Amended and Restated Certificate of Incorporation of this corporation, declaring said amendment and restatement to be advisable and in the best interests of this corporation and its stockholders, and authorizing the appropriate officers of this corporation to solicit the consent of the stockholders therefor, which resolution setting forth the proposed amendment and restatement is as follows.

RESOLVED, that the Amended and Restated Certificate of Incorporation of this corporation be amended and restated in its entirety to read as set forth on Exhibit A attached hereto and incorporated herein by this reference.

Exhibit A referred to in the resolution above is attached hereto as Exhibit A and is hereby incorporated herein by this reference.

3. This Amended and Restated Certificate of Incorporation was approved by the holders of the requisite number of shares of this corporation in accordance with Section 228 of the General Corporation Law.

4. This Amended and Restated Certificate of Incorporation, which restates and integrates and further amends the provisions of this corporation’s Certificate of Incorporation, has been duly adopted in accordance with Sections 242 and 245 of the General Corporation Law.

IN WITNESS WHEREOF, this Amended and Restated Certificate of Incorporation has been executed by a duly authorized officer of this corporation on this 10th day of June, 2020.

By: /s/ Taylor Schreiber
   Taylor Schreiber
   Chief Executive Officer
ARTICLE I: NAME.

The name of this corporation is Shattuck Labs, Inc. (the “Corporation”).

ARTICLE II: REGISTERED OFFICE.

The address of the registered office of the Corporation in the State of Delaware is 1675 S. State Street, Suite B, City of Dover, County of Kent, Delaware 19901. The name of its registered agent at such address is Capitol Services, Inc.

ARTICLE III: PURPOSE.

The nature of the business or purposes to be conducted or promoted is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law.

ARTICLE IV: AUTHORIZED SHARES.

The total number of shares of all classes of stock that the Corporation will have authority to issue is (a) 4,950,000 shares of Common Stock, $0.0001 par value per share (“Common Stock”), and (b) 2,963,554 shares of Preferred Stock, $0.0001 par value per share (“Preferred Stock”). As of the effective date of this Amended and Restated Certificate of Incorporation (this “Certificate”), 1,093,019 shares of the authorized Preferred Stock of the Corporation are hereby designated “Series A Preferred Stock,” 550,571 shares of the authorized Preferred Stock of the Corporation are hereby designated “Series B Preferred Stock” and 1,319,964 shares of the authorized Preferred Stock of the Corporation are hereby designated “Series B-1 Preferred Stock.”

The following is a statement of the designations and the rights, powers and privileges, and the qualifications, limitations or restrictions thereof, in respect of each class of capital stock of the Corporation.

A. COMMON STOCK

1. General. The voting, dividend and liquidation rights of the holders of the Common Stock are subject to and qualified by the rights, powers and privileges of the holders of the Preferred Stock set forth herein.

2. Voting. The holders of the Common Stock are entitled to one vote for each share of Common Stock held at all meetings of stockholders (and written actions in lieu of meetings). Unless required by law, there will be no cumulative voting. The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by (in addition to any vote of the holders of one or more series of Preferred Stock that may be required by the terms of this Certificate) the affirmative vote of the holders of shares of
capital stock of the Corporation representing a majority of the votes represented by all outstanding shares of capital stock of the Corporation entitled to vote, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law and without a separate class vote of the holders of the Common Stock.

B. PREFERRED STOCK

The following rights, powers and privileges, and restrictions, qualifications and limitations, will apply to the Preferred Stock. Unless otherwise indicated, references to “Sections” in this Part B of this Article IV refer to sections of this Part B.

1. Dividends.

1.1 Non-Cumulative Preferred Stock Dividend Preference. The Corporation will not pay or set aside any dividends on shares of any other class or series of capital stock of the Corporation (other than dividends on shares of Common Stock payable in shares of Common Stock) in any calendar year unless (in addition to the obtaining of any consents required elsewhere in this Certificate) the holders of shares of each series of Preferred Stock then outstanding will first receive, or simultaneously receive, on a pari passu basis, out of funds legally available therefor, a dividend on each outstanding share of Preferred Stock in an amount equal to 8% of the Original Issue Price (as defined below) per share of such series of Preferred Stock. The foregoing dividends will not be cumulative and will be paid when, as and if declared by the Board of Directors of the Corporation (the “Board”).

The “Original Issue Price” shall mean (i) in the case of the Series A Preferred Stock, $62.4750 per share, (ii) in the case of the Series B Preferred Stock, $62.88051 per share and (iii) in the case of the Series B-1 Preferred Stock, $62.88051 per share, in each case subject to appropriate adjustment in the event of any stock splits and combinations of shares and for dividends paid on the applicable series of Preferred Stock in shares of such stock.

1.2 Participation. If, after dividends in the full preferential amount specified in Section 1.1 for the Preferred Stock have been paid or set apart for payment in any calendar year of the Corporation, the Board declares additional dividends out of funds legally available therefor in that calendar year, then such additional dividends will be declared pro rata on the Common Stock and the Preferred Stock on a pari passu basis according to the number of shares of Common Stock held by such holders. For this purpose each holder of shares of Preferred Stock is to be treated as holding the greatest whole number of shares of Common Stock then issuable upon conversion of all shares of Preferred Stock held by such holder pursuant to Sections 4 and 5.

1.3 Non-Cash Dividends. Whenever a dividend provided for in this Section 1 will be payable in property other than cash, the value of such dividend will be deemed to be the fair market value of such property as determined in good faith by the Board.

2. Liquidation, Dissolution or Winding Up; Certain Mergers, Consolidations and Asset Sales.

2.1 Payments to Holders of Preferred Stock. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation or any Deemed Liquidation Event (as defined below):
2.1.1 First, the holders of shares of Series B-1 Preferred Stock then outstanding will be entitled to be paid out of the funds and assets available for distribution to the Corporation’s stockholders, before any payment will be made to the holders of Series B Preferred Stock, the holders of Series A Preferred Stock, or the holders of Common Stock by reason of their respective ownership thereof, an amount per share equal to the Original Issue Price for the Series B-1 Preferred Stock, plus any dividends declared but unpaid thereon. If upon any such liquidation, dissolution, winding up or Deemed Liquidation Event of the Corporation, the funds and assets available for distribution to the stockholders of the Corporation will be insufficient to pay the holders of shares of Series B-1 Preferred Stock the full amounts to which they are entitled under this Section 2.1.1, the holders of shares of Series B-1 Preferred Stock will share ratably in any distribution of the funds and assets available for distribution in proportion to the respective amounts that would otherwise be payable in respect of the shares of Series B-1 Preferred Stock held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

2.1.2 Second, the holders of shares of Series A Preferred Stock and Series B Preferred Stock then outstanding (collectively, the “Other Preferred Stock”) will be entitled, on a pari passu basis, to be paid out of the funds and assets available for distribution to the Corporation’s stockholders, before any payment will be made to the holders of Common Stock by reason of their ownership thereof, an amount per share equal to the greater of (a) the Original Issue Price for such series of Other Preferred Stock, plus any dividends declared but unpaid thereon, or (b) such amount per share as would have been payable had all shares of Other Preferred Stock been converted into Common Stock pursuant to Sections 4 and 5 immediately prior to such liquidation, dissolution, winding up or Deemed Liquidation Event. If upon any such liquidation, dissolution, winding up or Deemed Liquidation Event of the Corporation, the funds and assets available for distribution to the stockholders of the Corporation will be insufficient to pay the holders of shares of Other Preferred Stock the full amounts to which they are entitled under this Section 2.1.2, the holders of shares of Other Preferred Stock will share ratably in any distribution of the funds and assets available for distribution in proportion to the respective amounts that would otherwise be payable in respect of the shares of Other Preferred Stock held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full. The aggregate amount which a holder of a share of Other Preferred Stock is entitled to receive under Section 2.1.2 is hereinafter referred to as the “Other Preferred Liquidation Amount.”

2.2 Payments to Holders of Common Stock and Series B-1 Preferred Stock. In the event of any voluntary or involuntary liquidation, dissolution, winding up or Deemed Liquidation Event of the Corporation, after the payment of all preferential amounts required to be paid to the holders of shares of Preferred Stock as provided in Section 2.1, the remaining funds and assets available for distribution to the stockholders of the Corporation will be distributed among the holders of shares of Series B-1 Preferred Stock and Common Stock, sharing ratably based on the number of shares of Common Stock held by each such holder (or, with respect to shares of Series B-1 Preferred Stock held by each such holder, treating for this purpose all such shares of Series B-1 Preferred Stock as if they had been converted to Common Stock pursuant to the terms of this Certificate immediately prior to such liquidation, dissolution, winding up or Deemed Liquidation Event of the Corporation); provided, however, that if the aggregate amount per share that the holders of Series B-1 Preferred Stock would be entitled to receive under Sections 2.1 and 2.2 would exceed three times the aggregate Original Issue Price for a share of Series B-1
Preferred Stock (the "Maximum Participation Amount"), then each holder of Series B-1 Preferred Stock should instead be entitled to receive upon such liquidation, dissolution or winding up of the Corporation an amount per share equal to the greater of (i) the Maximum Participation Amount and (ii) the amount such holder would have received if all shares of Series B-1 Preferred Stock had been converted into Common Stock immediately prior to such liquidation, dissolution, winding up or Deemed Liquidation Event of the Corporation. The total amount per share which a holder of Series B-1 Preferred Stock is entitled to receive under Sections 2.1 and 2.2 is hereinafter referred to as the "Series B-1 Liquidation Amount" and collectively with the Other Preferred Liquidation Amount, the "Preferred Liquidation Amount."

2.3 Deemed Liquidation Events:

2.3.1 Definition. Each of the following events will be considered a "Deemed Liquidation Event" unless the holders of at least 65% of the then outstanding shares of Preferred Stock (voting together as a single class on an as-converted basis) (the "Requisite Holders") elect otherwise by written notice sent to the Corporation at least five days prior to the effective date of any such event:

(a) a merger or consolidation (each a "Combination") in which (i) the Corporation is a constituent party or (ii) a subsidiary of the Corporation is a constituent party and the Corporation issues shares of its capital stock pursuant to such Combination, except any such Combination involving the Corporation or a subsidiary in which the shares of capital stock of the Corporation outstanding immediately prior to such Combination continue to represent, or are converted into or exchanged for equity securities that represent, immediately following such Combination, a majority, by voting power, of the equity securities of (1) the surviving or resulting party or (2) if the surviving or resulting party is a wholly owned subsidiary of another party immediately following such Combination, the parent of such surviving or resulting party; provided that, for the purpose of this Section 2.3.1, all shares of Common Stock issuable upon exercise of Options (as defined in Section 5.1 below) outstanding immediately prior to such Combination or upon conversion of Convertible Securities (as defined in Section 5.1 below) outstanding immediately prior to such Combination will be deemed to be outstanding immediately prior to such Combination and, if applicable, deemed to be converted or exchanged in such Combination on the same terms as the actual outstanding shares of Common Stock are converted or exchanged; or

(b) the sale, lease, transfer, exclusive license or other disposition, in a single transaction or series of related transactions, by the Corporation or any subsidiary or subsidiaries of the Corporation, of all or substantially all the assets of the Corporation and its subsidiaries taken as a whole, (or, if substantially all of the assets of the Corporation and its subsidiaries taken as a whole are held by one or more subsidiaries, the sale or disposition (whether by consolidation, merger, conversion or otherwise) of such subsidiaries of the Corporation), except where such sale, lease, transfer, exclusive license or other disposition is made to the Corporation or one or more wholly owned subsidiaries of the Corporation (an "Asset Disposition"). For the avoidance of doubt, the grant by the Corporation of any number of exclusive licenses will only be considered a Deemed Liquidation Event for purposes of this paragraph if such licenses, individually or in the aggregate, constitute a license of all or substantially all of the assets of the Corporation.
Effecting a Deemed Liquidation Event,

(a) The Corporation will not have the power to effect a Deemed Liquidation Event referred to in Subsection 2.3.1(a)(ii) unless the agreement or plan or merger or consolidation for such transaction provides that the consideration payable to the stockholders of the Corporation in such Deemed Liquidation Event will be paid to the holders of capital stock of the Corporation in accordance with Subsections 2.1 and 2.2.

(b) In the event of a Deemed Liquidation Event referred to in Subsection 2.3.1(a)(ii) or 2.3.1(b), if the Corporation does not effect a dissolution of the Corporation under the General Corporation Law within 90 days after such Deemed Liquidation Event, then (i) the Corporation will send a written notice to each holder of Preferred Stock no later than the 90th day after the Deemed Liquidation Event advising such holders of their right (and the requirements to be met to secure such right) pursuant to the terms of the following clause (ii) to require the redemption of such shares of Preferred Stock, and (ii) if the Requisite Holders so request in a written instrument delivered to the Corporation not later than 120 days after such Deemed Liquidation Event, the Corporation will use the consideration received by the Corporation for such Deemed Liquidation Event (net of any retained liabilities associated with the assets sold or technology licensed, as determined in good faith by the Board), together with any other assets of the Corporation available for distribution to its stockholders, all to the extent permitted by Delaware law governing distributions to stockholders (the “Available Proceeds”), on the 150th day after such Deemed Liquidation Event, to redeem all outstanding shares of Preferred Stock at a price per share equal to the applicable Preferred Liquidation Amount with respect to each such share. Notwithstanding the foregoing, in the event of a redemption pursuant to the preceding sentence, if the Available Proceeds are not sufficient to redeem all outstanding shares of Preferred Stock, the Corporation will redeem each holder’s shares of Preferred Stock in accordance with the liquidation preferences set forth in Subsections 2.1 through 2.2 as soon as it may lawfully do so under Delaware law governing distributions to stockholders.

(c) Following an election by the holders of Preferred Stock to demand redemption as provided in Subsection 2.3.2(b), the Corporation will promptly send written notice of the redemption pursuant to Section 2.3.2(b) (the “Redemption Notice”) to each holder of record of Preferred Stock stating (i) the number of shares of each series of Preferred Stock held by such holder as of the date of such election; (ii) the date of redemption (the “Redemption Date”) and the price at which shares of each series of Preferred Stock will be redeemed (the “Redemption Price”); (iii) the date on which the holder’s right to convert such shares terminates (as determined in accordance with Section 4.1); and (iv) for holders of shares in certificated form, that the holder is to surrender to the Corporation, in the manner and at the place designated, his, her or its certificate or certificates representing the shares of Preferred Stock to be redeemed.

(d) On or before the Redemption Date, each holder of shares of Preferred Stock, unless such holder has exercised his, her or its right to convert such shares as provided in Section 4, will, if a holder of shares in certificated form, surrender the certificate or
certificates representing such shares (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation, in the manner and at the place designated in the Redemption Notice, and thereupon the Redemption Price for such shares will be payable to the order of the person whose name appears on such certificate or certificates as the owner thereof.

(e) If the Redemption Notice will have been duly given, and if on the Redemption Date the Redemption Price payable upon redemption of the shares of Preferred Stock is paid or tendered for payment or deposited with an independent payment agent so as to be available therefor in a timely manner, then notwithstanding that any certificates evidencing any of the shares of Preferred Stock so called for redemption will not have been surrendered, dividends with respect to such shares of Preferred Stock will cease to accrue after the Redemption Date and all rights with respect to such shares will forthwith after the Redemption Date terminate, except only the right of the holders to receive the Redemption Price without interest upon surrender of any such certificate or certificates therefor.

2.3.3 Allocation of Escrow and Contingent Consideration. In the event of a Deemed Liquidation Event and unless the Requisite Holders elect otherwise by written notice sent to the Corporation at least five days prior to the effective date of any such event, if any portion of the consideration payable by the acquirer is placed into escrow or is payable only upon satisfaction of contingencies, the definitive agreement or escrow agreement entered into in such Deemed Liquidation Event will provide that (a) the portion of such consideration that is payable at the closing of such transaction will be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2.1 and 2.2 as if such consideration were the only consideration payable in connection with such Deemed Liquidation Event, and (b) any additional consideration which becomes payable to the stockholders of the Corporation upon satisfaction of such contingencies or upon release from escrow will be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2.1 and 2.2 after taking into account the previous payment of the initial consideration as part of the same transaction.

2.3.4 Amount Deemed Paid or Distributed. The funds and assets deemed paid or distributed to the holders of capital stock of the Corporation upon any such Combination or Asset Disposition will be the cash or the value of the property, rights or securities paid or distributed to such holders by the Corporation or the acquiring person, firm or other entity. If the amount deemed paid or distributed under this Section 2.3.4 is made in property other than in cash, the value of such distribution will be the fair market value of such property, as determined in good faith by the Board; provided, however, that the following will apply:

(a) For securities not subject to investment letters or other similar restrictions on free marketability:

(i) if traded on a securities exchange, the value will be deemed to be the average of the closing prices of the securities on such exchange over the 30-day period ending three days prior to the closing of such transaction;
(ii) if actively traded over-the-counter, the value will be deemed to be the average of the closing bid prices over the 30-day period ending three days prior to the closing of such transaction; or

(iii) if there is no active public market, the value will be the fair market value thereof, as determined in good faith by the Board, including at least one of the Preferred Directors.

(b) The method of valuation of securities subject to investment letters or other similar restrictions on free marketability (other than restrictions arising solely by virtue of a stockholder’s status as an affiliate or former affiliate) will take into account an appropriate discount (as determined in good faith by the Board) from the market value as determined pursuant to clause (a) above so as to reflect the approximate fair market value thereof.

The foregoing methods for valuing non-cash consideration to be distributed in connection with a Combination or Asset Disposition will, with the appropriate approval of the definitive agreements governing such Combination or Asset Disposition by the stockholders under the General Corporation Law and Section 3.3, be superseded by the determination of such value set forth in the definitive agreements governing such Combination or Asset Disposition.


3.1 General. On any matter presented to the stockholders of the Corporation for their action or consideration at any meeting of stockholders of the Corporation (or by written consent of stockholders in lieu of meeting), each holder of outstanding shares of Preferred Stock will be entitled to cast the number of votes equal to the number of whole shares of Common Stock into which the shares of Preferred Stock held by such holder are convertible as of the record date for determining stockholders entitled to vote on such matter. Fractional votes will not be permitted and any fractional voting rights available on an as-converted basis (after aggregating all shares into which shares of Preferred Stock held by each holder could be converted) will be rounded to the nearest whole number (with one-half being rounded upward). Except as provided by law or by the other provisions of this Certificate, holders of Preferred Stock will vote together with the holders of Common Stock as a single class on an as-converted basis, will have full voting rights and powers equal to the voting rights and powers of the holders of Common Stock, and will be entitled, notwithstanding any provision hereof, to notice of any stockholders’ meeting in accordance with the Bylaws of the Corporation.

3.2 Election of Directors.

3.2.1 Election. For so long as at least 276,059 shares of Series A Preferred Stock remain outstanding (as such number is adjusted for stock splits and combinations of shares and for dividends paid on the Series A Preferred Stock in shares of such stock) (the “Series A Threshold”), the holders of record of the shares of Series A Preferred Stock, exclusively and as a separate class, will be entitled to elect two directors of the Corporation (the “Series A Directors”); provided that if the Series A Threshold is not met, for so long as at least 110,423 shares of Series A Preferred Stock remain outstanding, but no more than 276,058 shares of Series A Preferred Stock remain outstanding (as each such number is adjusted for stock splits and combinations of shares
and for dividends paid on the Series A Preferred Stock in shares of such stock), the holders of record of the shares of Series A Preferred Stock, exclusively and as a separate class, will be entitled to elect one Series A Director. For so long as at least 329,991 shares of Series B-1 Preferred Stock remain outstanding (as such number is adjusted for stock splits and combinations of shares and for dividends paid on the Series B-1 Preferred Stock in shares of such stock), the holders of record of the shares of Series B-1 Preferred Stock, exclusively and as a separate class, will be entitled to elect two directors of the Corporation (the “Series B-1 Directors” and collectively with the Series A Directors, the “Preferred Directors”); provided, that one of such Series B-1 Directors shall be an industry expert. The holders of record of the shares of Common Stock, exclusively and as a separate class, will be entitled to elect three directors of the Corporation (the “Common Directors”). The holders of record of the shares of Common Stock and of every other class or series of voting stock (including the Preferred Stock), voting together as a single class on an as-converted basis, will be entitled to elect the remaining number of directors of the Corporation (the “Remaining Directors”).

3.2.2 Vacancies. Any director elected as provided in the preceding sentences may be removed with or without cause by, and any vacancy in the office of any such removed director may be filled by, and only by, the affirmative vote of the holders of the shares of the class, classes or series that are entitled to elect such director to office under the provisions of Section 3.2 (the “Specified Stock”), given either at a special meeting of such stockholders duly called for that purpose or pursuant to a written consent of stockholders, or by any remaining director or directors elected by the holders of such class or series pursuant to this Section 3.2. Notwithstanding the foregoing, the initial Series B-1 Directors may be appointed by a majority of the members of the Board then in office.

3.2.3 Procedure. At any meeting held for the purpose of electing a director, the presence in person or by proxy of the holders of a majority of the outstanding shares of the Specified Stock entitled to elect such director will constitute a quorum for the purpose of electing such director and the candidate or candidates to be elected by such Specified Stock will be those who receive the highest number of affirmative votes (on an as-converted basis) of the outstanding shares of such Specified Stock. In the case of an action taken by written consent without a meeting, the candidate or candidates to be elected by such Specified Stock will be those who are elected by the written consent of the holders of a majority of such Specified Stock.

3.3 Preferred Stock Protective Provisions. For so long as at least 1,408,302 shares of Preferred Stock remain outstanding (as such number is adjusted for stock splits and combinations of shares and for dividends paid on the Preferred Stock in shares of such stock), the Corporation will not, either directly or indirectly by amendment, merger, consolidation or otherwise, do any of the following without (in addition to any other vote required by law or this Certificate) the written consent, or affirmative vote at a meeting and evidenced in writing, of the Requisite Holders:

(a) alter or change the rights, powers or preferences of the Preferred Stock set forth in this Certificate or the bylaws of the Corporation, as then in effect, in a way that adversely affects the Preferred Stock; or

(b) increase or decrease the authorized number of shares of Preferred Stock; or
(c) authorize or create (by reclassification or otherwise) any new class or series of capital stock having rights, powers or preferences set forth in this Certificate, as then in effect, that are senior to or on a parity with any series of Preferred Stock or authorize or create (by reclassification or otherwise) any security convertible into or exercisable for any such new class or series of capital stock; or

(d) (i) reclassify, alter or amend any existing security of the Corporation that is pari passu with any series of Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to any series of Preferred Stock in respect of any such right, preference, or privilege or (ii) reclassify, alter or amend any existing security of the Corporation that is junior to any series of Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to or pari passu with such series of Preferred Stock in respect of any such right, preference or privilege; or

(e) redeem or repurchase any shares of Common Stock or Preferred Stock, other than (i) pursuant to an agreement with an employee, consultant, director or other service provider to the Corporation or any of its wholly owned subsidiaries (collectively, “Service Providers”) giving the Corporation the right to repurchase shares at the original cost thereof upon the termination of services, (ii) an exercise of a right of first refusal in favor of the Corporation pursuant to an agreement with any Service Provider, which exercise has been approved by the Board or (iii) as approved by the Board; or

(f) declare or pay any dividend or otherwise make a distribution to holders of Preferred Stock or Common Stock, other than a dividend on the Common Stock payable in shares of Common Stock; or

(g) increase the number of shares of Common Stock or Preferred Stock subject to issuance under any stock plan or arrangement for the benefit of Service Providers unless such increase is approved by the Board; or

(h) liquidate, dissolve or wind-up the business and affairs of the Corporation, effect any merger or consolidation or any other Deemed Liquidation Event, or consent, agree or commit to any of the foregoing without conditioning such consent, agreement or commitment upon obtaining the approval required by this Section 3.3; or

(i) amend this Section 3.3.
3.4 Series A Preferred Stock Protective Provisions. For so long as any shares of Series A Preferred Stock remain outstanding (as such number is adjusted for stock splits and combinations of shares and for dividends paid on the Series A Preferred Stock in shares of such stock), the Corporation will not, either directly or indirectly by amendment, merger, consolidation or otherwise, do any of the following without (in addition to any other vote required by law or this Certificate) the written consent, or affirmative vote at a meeting and evidenced in writing, of the holders of a majority of the then outstanding shares of Series A Preferred Stock, consenting or voting as a separate class:

(a) amend, alter, repeal or waive any provision in this Certificate or the bylaws of the Corporation in a manner adverse to the Series A Preferred Stock (which, for the avoidance of doubt, shall not include the designation of a new series of Preferred Stock that is senior to the Series A Preferred Stock); or

(b) increase or decrease the authorized number of shares of Series A Preferred Stock; or

(c) amend this Section 3.4.

3.5 Series B Preferred Stock Protective Provisions. For so long as any shares of Series B Preferred Stock remain outstanding (as such number is adjusted for stock splits and combinations of shares and for dividends paid on the Series B Preferred Stock in shares of such stock), the Corporation will not, either directly or indirectly by amendment, merger, consolidation or otherwise, do any of the following without (in addition to any other vote required by law or this Certificate) the written consent, or affirmative vote at a meeting and evidenced in writing, of the holders of a majority of the then outstanding shares of Series B Preferred Stock, consenting or voting as a separate class:

(a) amend, alter, repeal or waive any provision in this Certificate or the bylaws of the Corporation in a manner adverse to the Series B Preferred Stock (which, for the avoidance of doubt, shall not include the designation of a new series of Preferred Stock that is senior to the Series B Preferred Stock); or

(b) increase or decrease the authorized number of shares of Series B Preferred Stock; or

(c) amend this Section 3.5.

3.6 Series B-1 Preferred Stock Protective Provisions. For so long as any shares of Series B-1 Preferred Stock remain outstanding (as such number is adjusted for stock splits and combinations of shares and for dividends paid on the Series B-1 Preferred Stock in shares of such stock), the Corporation will not, either directly or indirectly by amendment, merger, consolidation or otherwise, do any of the following without (in addition to any other vote required by law or this Certificate) the written consent, or affirmative vote at a meeting and evidenced in writing, of the holders of a majority of the then outstanding shares of Series B-1 Preferred Stock, consenting or voting as a separate class:

(a) amend, alter, repeal or waive any provision in this Certificate or the bylaws of the Corporation in a manner adverse to the Series B-1 Preferred Stock (which, for the avoidance of doubt, shall not include the designation of a new series of Preferred Stock that is senior to the Series B-1 Preferred Stock); or

(b) increase or decrease the authorized number of shares of Series B-1 Preferred Stock; or
create, or authorize the creation of, or issue, or authorize the issuance of any debt security or create any lien or security
interest (except for purchase money liens or statutory liens of landlords, mechanics, materialmen, workmen, warehousemen and other similar
persons arising or incurred in the ordinary course of business) or incur other indebtedness for borrowed money, including but not limited to
obligations and contingent obligations under guarantees, or permit any subsidiary to take any such action with respect to any debt security lien,
security interest or other indebtedness for borrowed money, if the aggregate indebtedness of the Corporation and its subsidiaries for borrowed
money following such action would exceed $5,000,000 other than purchase-money loans or equipment leases incurred in the ordinary course; or

(d) amend this Section 3.6.

4. **Conversion Rights.** The holders of the Preferred Stock will have conversion rights as follows (the “Conversion Rights”):

4.1 **Right to Convert.**

4.1.1 **Conversion Ratio.** Each share of a series of Preferred Stock will be convertible, at the option of the holder thereof, at any
time, and without the payment of additional consideration by the holder thereof, into such number of fully paid and nonassessable shares of Common
Stock as is determined by dividing the Original Issue Price for such series of Preferred Stock by the Conversion Price (as defined below) for such series
of Preferred Stock in effect at the time of conversion. The “Conversion Price” for each series of Preferred Stock will initially mean the Original Issue
Price for such series of Preferred Stock. Such initial Conversion Price, and the rate at which shares of Preferred Stock may be converted into shares of
Common Stock, will be subject to adjustment as provided in Section 5.

4.1.2 **Termination of Conversion Rights.** In the event of a liquidation, dissolution or winding up of the Corporation or a Deemed
Liquidation Event, the Conversion Rights will terminate at the close of business on the last full day preceding the date fixed for the payment of any such
amounts distributable on such event of the holders of Preferred Stock.

4.1.3 **Notice of Conversion.** In order for a holder of Preferred Stock to voluntarily convert shares of Preferred Stock into shares of
Common Stock, such holder will surrender the certificate or certificates for such shares of Preferred Stock (or, if such registered holder alleges that any
such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the
Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate), at the
office of the transfer agent for the Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent),
together with written notice that such holder elects to convert all or any number of the shares of the Preferred Stock represented by such certificate or
certificates and, if applicable, any event on which such conversion is contingent (a “Contingency Event”). Such notice will state such holder’s name or
the names of the nominees in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. If required by the
Corporation, certificates surrendered for conversion will be endorsed or accompanied by a written instrument or instruments of transfer, in form
reasonably satisfactory to the Corporation, duly executed by the registered holder or such holder’s
attorney duly authorized in writing. The close of business on the date of receipt by the transfer agent (or by the Corporation if the Corporation serves as its own transfer agent) of such certificates (or lost certificate affidavit and agreement) and notice (or, if later, the date on which all Contingency Events have occurred) will be the time of conversion (the “Conversion Time”), and the shares of Common Stock issuable upon conversion of the shares represented by such certificate will be deemed to be outstanding of record as of such time. The Corporation will, as soon as practicable after the Conversion Time, (a) issue and deliver to such holder of Preferred Stock, or to such holder’s nominee(s), a certificate or certificates for the number of full shares of Common Stock issuable upon such conversion in accordance with the provisions hereof and a certificate for the number (if any) of the shares of Preferred Stock represented by the surrendered certificate that were not converted into Common Stock, (b) pay in cash such amount as provided in Section 5.7.3 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and (c) pay all declared but unpaid dividends on the shares of Preferred Stock converted.

4.1.4 Effect of Voluntary Conversion. All shares of Preferred Stock that will have been surrendered for conversion as herein provided will no longer be deemed to be outstanding and all rights with respect to such shares will immediately cease and terminate at the Conversion Time, except only the right of the holders thereof to receive shares of Common Stock in exchange therefor, to receive payment in lieu of any fraction of a share otherwise issuable upon such conversion as provided in Section 5.7.3 and to receive payment of any dividends declared but unpaid thereon. Any shares of Preferred Stock so converted will be retired and cancelled and may not be reissued.

4.2 Mandatory Conversion.

4.2.1 Automatic Conversion. Upon either (a) the closing of the sale of shares of Common Stock to the public in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended (the “Securities Act”), resulting in at least $50,000,000 of gross proceeds to the Corporation at a price per share to the public of at least $62.88051 (as adjusted for stock splits, stock dividends, recapitalizations or the like) (a “Qualified IPO”) or (b) the date and time, or the occurrence of an event, specified by vote or written consent of the Requisite Holders (the time of such closing or the date and time specified or the time of the event specified in such vote or written consent is referred to herein as the “Mandatory Conversion Time”), (i) all outstanding shares of Preferred Stock will automatically be converted into shares of Common Stock, at the applicable ratio described in Section 4.1.1 as the same may be adjusted from time to time in accordance with Section 5 and (ii) such shares may not be reissued by the Corporation.

4.2.2 Mandatory Conversion Procedural Requirements.

(a) All holders of record of shares of Preferred Stock will be sent written notice of the Mandatory Conversion Time and the place designated for mandatory conversion of all such shares of Preferred Stock pursuant to Sections 4.2.1 and 9. Unless otherwise provided in this Certificate, such notice need not be sent in advance of the occurrence of the Mandatory Conversion Time. Upon receipt of such notice, each holder of shares of Preferred Stock will surrender such holder’s certificate or certificates for all such shares (or, if such holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may.
be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation at the place designated in such notice, and will thereafter receive certificates for the number of shares of Common Stock to which such holder is entitled pursuant to this Section 4.2.

(b) If so required by the Corporation, certificates surrendered for conversion will be endorsed or accompanied by written instrument or instruments of transfer, in form reasonably satisfactory to the Corporation, duly executed by the registered holder or by such holder’s attorney duly authorized in writing. All rights with respect to the Preferred Stock converted pursuant to this Section 4.2, including the rights, if any, to receive notices and vote (other than as a holder of Common Stock), will terminate at the Mandatory Conversion Time (notwithstanding the failure of the holder or holders thereof to surrender the certificates at or prior to such time), except only the rights of the holders thereof, upon surrender of their certificate or certificates (or lost certificate affidavit and agreement) therefor, to receive the items provided for in the next sentence of this Section 4.2.2(b). As soon as practicable after the Mandatory Conversion Time and the surrender of the certificate or certificates (or lost certificate affidavit and agreement) for Preferred Stock, the Corporation will issue and deliver to such holder, or to such holder’s nominee(s), a certificate or certificates for the number of full shares of Common Stock issuable on such conversion in accordance with the provisions hereof, together with cash as provided in Section 5.7.3 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and the payment of any declared but unpaid dividends on the shares of Preferred Stock converted. Such converted Preferred Stock will be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Preferred Stock (and the applicable series thereof) accordingly.

5. Adjustments to Conversion Price.

5.1 Adjustments for Diluting Issuances.

5.1.1 Special Definitions. For purposes of this Article IV, the following definitions will apply:

(a) “Option” will mean any right, option or warrant to subscribe for, purchase or otherwise acquire Common Stock or Convertible Securities from the Corporation.

(b) “Original Issue Date” will mean the date on which the first share of Series B-1 Preferred Stock was issued.

(c) “Convertible Securities” will mean any evidences of indebtedness, shares or other securities issued by the Corporation that are directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options.
(d) “Additional Shares of Common Stock” with respect to a series of Preferred Stock will mean all shares of Common Stock issued (or, pursuant to Section 5.1.2 below, deemed to be issued) by the Corporation after the Original Issue Date, other than the following shares of Common Stock and shares of Common Stock deemed issued pursuant to the following Options and Convertible Securities (collectively as to all such shares and shares deemed issued, “Exempted Securities”):

(i) shares of Common Stock, Options or Convertible Securities issued (x) upon conversion of such series of Preferred Stock or (y) as a dividend or distribution on such series of Preferred Stock;

(ii) shares of Common Stock, Options or Convertible Securities issued by reason of a dividend, stock split, split-up or other distribution on or subdivision of shares of Common Stock that is covered by Section 5.2, 5.3, 5.4, 5.5 or 5.6;

(iii) shares of Common Stock or Options to acquire shares of Common Stock, including but not limited to stock appreciation rights payable in shares of Common Stock or in Options or Convertible Securities, issued to Service Providers pursuant to a plan, agreement or arrangement approved by the Board;

(iv) shares of Common Stock or Convertible Securities actually issued upon the exercise of Options, or shares of Common Stock actually issued upon the conversion or exchange of Convertible Securities, in each case provided that such issuance is pursuant to the terms of such Option or Convertible Security;

(v) shares of Common Stock, Options or Convertible Securities issued to banks, equipment lessors or other financial institutions pursuant to a debt financing or equipment leasing transaction approved by the Board;

(vi) shares of Common Stock, Options or Convertible Securities issued pursuant to a bona fide acquisition of another entity by the Corporation by merger or consolidation with, purchase of substantially all of the assets of, or purchase of more than fifty percent of the outstanding equity securities of, the other entity, or issued pursuant to a bona fide joint venture agreement, provided that such issuances are approved by the Board;

(vii) shares of Common Stock, Options or Convertible Securities issued in connection with sponsored research, collaboration, technology license, development, OEM, marketing or other similar agreements or strategic partnerships approved by the Board;

(viii) shares of Common Stock, Options or Convertible Securities issued as a result of a decrease in the Conversion Price of any series of Preferred Stock resulting from the operation of Section 5.1.3;

(ix) shares issued in connection with a Qualified IPO; or

(x) shares of Common Stock, Options or Convertible Securities issued in accordance with Section 5.1.1A below.

- 14-
5.1.1A No Adjustment of Conversion Price. Subject to the remainder of this Section 5.1.1A, no adjustment in the Conversion Price for a particular series ofPreferred Stock shall be made as the result of the issuance or deemed issuance of Additional Shares of Common Stock if the Corporation receives written notice from (i) the holders of at least a majority of the then outstanding shares of Series A Preferred Stock on an as-converted basis agreeing that no adjustment will be made to the Conversion Price of Series A Preferred Stock as a result of the issuance or deemed issuance (the “Series A Approval”); provided, that no Series A Approval shall be required if such issuance or deemed issuance would not result in an adjustment in the Conversion Price of the Series A Preferred Stock (ii) the holders of at least a majority of the then outstanding shares of Series B Preferred Stock on an as-converted basis agreeing that no adjustment will be made to the Conversion Price of the Series B Preferred Stock as a result of the issuance or deemed issuance (the “Series B Approval”); provided, that no Series B Approval shall be required if such issuance or deemed issuance would not result in an adjustment in the Conversion Price of the Series B Preferred Stock, and (iii) the holders of at least 65% of the then outstanding shares of Series B-1 Preferred Stock on an as-converted basis agreeing that no adjustment will be made to the Conversion Price of the Series B-1 Preferred Stock as a result of the issuance or deemed issuance (the “Series B-1 Approval” and together with the Series A Approval and the Series B Approval, the “Series Approvals”); provided, that no Series B-1 Approval shall be required if such issuance or deemed issuance would not result in an adjustment in the Conversion Price of the Series B-1 Preferred Stock. Notwithstanding the foregoing, if the issuance or deemed issuance of Common Stock would result in an adjustment of the Conversion Price for each and every series of Preferred Stock then outstanding, then in lieu and in substitution of the Series Approvals, no adjustment in the Conversion Price for any and all series of Preferred Stock shall be made as the result of the issuance or deemed issuance of Additional Shares of Common Stock if the Corporation receives written notice from the Requisite Holders agreeing that no adjustment will be made to the Conversion Price for any and all series of Preferred Stock as a result of the issuance or deemed issuance.

5.1.2 Deemed Issue of Additional Shares of Common Stock.

(a) If the Corporation at any time or from time to time after the Original Issue Date will issue any Options or Convertible Securities (excluding Options or Convertible Securities which are themselves Exempted Securities) or will fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares of Common Stock (as set forth in the instrument relating thereto, assuming the satisfaction of any conditions to exercisability, convertibility or exchangeability (including the passage of time) but without regard to any provision contained therein for a subsequent adjustment of such number including by way of anti-dilution adjustment) issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, will be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date will have been fixed, as of the close of business on such record date.

(b) If the terms of any Option or Convertible Security, the issuance of which resulted in an adjustment to the Conversion Price of a series of Preferred Stock pursuant to the terms of Section 5.1.3, are revised as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (i) any increase or decrease in the
number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any such Option or Convertible Security or (ii) any increase or decrease in the consideration payable to the Corporation upon such exercise, conversion and/or exchange, then, effective upon such increase or decrease becoming effective, the Conversion Price of such series of Preferred Stock computed upon the original issue of such Option or Convertible Security (or upon the occurrence of a record date with respect thereto) will be readjusted to such Conversion Price of such series of Preferred Stock as would have obtained had such revised terms been in effect upon the original date of issuance of such Option or Convertible Security. Notwithstanding the foregoing, no readjustment pursuant to this Section 5.1.2(b) will have the effect of increasing the Conversion Price of a series of Preferred Stock to an amount which exceeds the lower of (1) the Conversion Price for such series of Preferred Stock in effect immediately prior to the original adjustment made as a result of the issuance of such Option or Convertible Security, or (2) the Conversion Price for such series of Preferred Stock that would have resulted from any issuances of Additional Shares of Common Stock (other than deemed issuances of Additional Shares of Common Stock as a result of the issuance of such Option or Convertible Security) between the original adjustment date and such readjustment date.

(c) If the terms of any Option or Convertible Security (excluding Options or Convertible Securities that are themselves Exempted Securities), the issuance of which did not result in an adjustment to the Conversion Price of a series of Preferred Stock pursuant to the terms of Section 5.1.3 (either because the consideration per share (determined pursuant to Section 5.1.4) of the Additional Shares of Common Stock subject thereto was equal to or greater than the Conversion Price of such series of Preferred Stock then in effect, or because such Option or Convertible Security was issued before the Original Issue Date), are revised after the Original Issue Date as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (i) any increase in the number of shares of Common Stock issuable upon the exercise, conversion or exchange of any such Option or Convertible Security or (ii) any decrease in the consideration payable to the Corporation upon such exercise, conversion or exchange, then such Option or Convertible Security, as so amended or adjusted, and the Additional Shares of Common Stock subject thereto (determined in the manner provided in Section 5.1.2(a)) will be deemed to have been issued effective upon such increase or decrease becoming effective.

(d) Upon the expiration or termination of any unexercised Option or unconverted or unexchanged Convertible Security (or portion thereof) that resulted (either upon its original issuance or upon a revision of its terms) in an adjustment to the Conversion Price of a series of Preferred Stock pursuant to the terms of Section 5.1.3, the Conversion Price of such series of Preferred Stock will be readjusted to such Conversion Price of such series of Preferred Stock as would have obtained had such Option or Convertible Security (or portion thereof) never been issued.

(e) If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, is calculable at the time such Option or Convertible Security is issued or amended but is subject to adjustment based - 16 -
upon subsequent events, any adjustment to the Conversion Price of a series of Preferred Stock provided for in this Section 5.1.2 will be effected at the
time of such issuance or amendment based on such number of shares or amount of consideration without regard to any provisions for subsequent
adjustments (and any subsequent adjustments will be treated as provided in Sections 5.1.2(b) and 5.1.2(c)). If the number of shares of Common Stock
issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon
such exercise, conversion and/or exchange, cannot be calculated at all at the time such Option or Convertible Security is issued or amended, any
adjustment to such Conversion Price that would result under the terms of this Section 5.1.2 at the time of such issuance or amendment will instead be
effected at the time such number of shares and/or amount of consideration is first calculable (even if subject to subsequent adjustments), assuming for
purposes of calculating such adjustment to such Conversion Price that such issuance or amendment took place at the time such calculation can first be
made.

5.1.3 Adjustment of Conversion Price Upon Issuance of Additional Shares of Common Stock. In the event the Corporation will at
any time or from time to time after the Original Issue Date issue Additional Shares of Common Stock (including Additional Shares of Common Stock
deemed to be issued pursuant to Section 5.1.2), without consideration or for a consideration per share less than the Conversion Price for such series of
Preferred Stock in effect immediately prior to such issue, then such Conversion Price will be reduced, concurrently with such issue, to the consideration
per share received by the Corporation for such issue of Additional Shares of Common Stock (including Additional Shares of Common Stock deemed to
be issued pursuant to Section 5.1.2); provided that if such issue was without consideration, then the Corporation shall be deemed to have received an
aggregate of $0.001 of consideration for all such Additional Shares of Common Stock issued or deemed to be issued (including Additional Shares of
Common Stock deemed to be issued pursuant to Section 5.1.2); provided, however, that no such adjustment shall be made with respect to any shares of
Preferred Stock held by a given holder upon a Financing if (i) the Corporation has given such holder the opportunity to participate in such Financing,
and (ii) such holder fails to purchase at least the lower of (x) such holder’s Pro Rata Amount of the Offered Securities or (y) $5,000,000 of the Offered
Securities. For the purposes of this Section 5.1.3: “Financing” will mean any transaction involving the issue or sale of Additional Shares of Common
Stock (including Additional Shares of Common Stock deemed to be issued pursuant to Section 5.1.2) after the Original Issue Date that would trigger an
adjustment to any Conversion Price pursuant to the terms of this Certificate, which adjustment has not been waived pursuant to Section 5.1.1(d)(ix);
“Pro Rata Amount” will mean the number of Additional Shares of Common Stock (including Additional Shares of Common Stock deemed to be issued
pursuant to Section 5.1.2) calculated by multiplying the aggregate number of Offered Securities by a fraction, the numerator of which is equal to the
number of shares of Preferred Stock owned by such holder (determined on an as-converted to Common Stock basis), and the denominator of which is
equal to the aggregate number of outstanding shares of Preferred Stock (determined on an as-converted to Common Stock basis), in each case as of
immediately prior to the initial closing of the Financing; and “Offered Securities” will mean the total Additional Shares of Common Stock (including
Additional Shares of Common Stock deemed to be issued pursuant to Section 5.1.2) available for purchase by all investors in the Financing.
5.1.4 Determination of Consideration. For purposes of this Section 5.1, the consideration received by the Corporation for the issue or deemed issue of any Additional Shares of Common Stock will be computed as follows:

(a) Cash and Property. Such consideration will:

(i) insofar as it consists of cash, be computed at the aggregate amount of cash received by the Corporation, excluding amounts paid or payable for accrued interest;

(ii) insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board; and

(iii) in the event Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (i) and (ii) above, as determined in good faith by the Board.

(b) Options and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Section 5.1.2, relating to Options and Convertible Securities, will be determined by dividing:

(i) the total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by

(ii) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities.

5.1.5 Multiple Closing Dates. In the event the Corporation will issue on more than one date Additional Shares of Common Stock (including Additional Shares of Common Stock deemed to be issued pursuant to Section 5.1.2) that are a part of one transaction or a series of related transactions and that would result in an adjustment to the Conversion Price of a series of Preferred Stock pursuant to the terms of Section 5.1.2 and such issuance dates occur within a period of no more than 120 days after the first such issuance to the final such issuance, then, upon the final such issuance, the Conversion Price of such series of Preferred Stock will be readjusted.
to give effect to all such issuances as if they occurred on the date of the first such issuance (and without giving effect to any additional adjustments as a result of any such subsequent issuances within such period that are a part of such transaction or series of related transactions).

5.2 Adjustment for Stock Splits and Combinations. If the Corporation will at any time or from time to time after the Original Issue Date effect a subdivision of the outstanding Common Stock, the Conversion Price for such series of Preferred Stock in effect immediately before that subdivision will be proportionately decreased so that the number of shares of Common Stock issuable on conversion of each share of such series will be increased in proportion to such increase in the aggregate number of shares of Common Stock outstanding. If the Corporation will at any time or from time to time after the Original Issue Date combine the outstanding shares of Common Stock, the Conversion Price for such series of Preferred Stock in effect immediately before the combination will be proportionately increased so that the number of shares of Common Stock issuable on conversion of each share of such series will be decreased in proportion to such decrease in the aggregate number of shares of Common Stock outstanding. Any adjustment under this Section 5.2 will become effective at the close of business on the date the subdivision or combination becomes effective.

5.3 Adjustment for Certain Dividends and Distributions. In the event the Corporation at any time or from time to time after the Original Issue Date will make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable on the Common Stock in additional shares of Common Stock, then and in each such event the Conversion Price for such series of Preferred Stock in effect immediately before such event will be decreased as of the time of such issuance or, in the event such a record date will have been fixed, as of the close of business on such record date, by multiplying such Conversion Price then in effect by a fraction:

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\frac{\text{the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date}}{\text{the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date plus the number of shares of Common Stock issuable in payment of such dividend or distribution}}
\]

Notwithstanding the foregoing, (i) if such record date will have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, such Conversion Price will be recomputed accordingly as of the close of business on such record date and thereafter such Conversion Price will be adjusted pursuant to this Section 5.3 as of the time of actual payment of such dividends or distributions; and (ii) no such adjustment will be made if the holders of such series of Preferred Stock simultaneously receive a dividend or other distribution of shares of Common Stock in a number equal to the number of shares of Common Stock as they would have received if all outstanding shares of such series of Preferred Stock had been converted into Common Stock on the date of such event.
5.4 Adjustments for Other Dividends and Distributions. In the event the Corporation at any time or from time to time after the Original Issue Date will make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation (other than a distribution of shares of Common Stock in respect of outstanding shares of Common Stock), then and in each such event the holders of such series of Preferred Stock will receive, simultaneously with the distribution to the holders of Common Stock, a dividend or other distribution of such securities in an amount equal to the amount of such securities as they would have received if all outstanding shares of such series of Preferred Stock had been converted into Common Stock on the date of such event.

5.5 Adjustment for Reclassification, Exchange and Substitution. If, at any time or from time to time after the Original Issue Date, the Common Stock issuable upon the conversion of such series of Preferred Stock is changed into the same or a different number of shares of any class or classes of stock of the Corporation, whether by recapitalization, reclassification or otherwise (other than by a stock split or combination, dividend, distribution, merger or consolidation covered by Sections 5.2, 5.3, 5.4 or 5.6 or by Section 2.3 regarding a Deemed Liquidation Event), then in any such event each holder of such series of Preferred Stock will have the right thereafter to convert such stock into the kind and amount of stock and other securities and property receivable upon such recapitalization, reclassification or other change by holders of the number of shares of Common Stock into which such shares of Preferred Stock could have been converted immediately prior to such event.

5.6 Adjustment for Merger or Consolidation. Subject to the provisions of Section 2.3, if there will occur any consolidation or merger involving the Corporation in which the Common Stock (but not a series of Preferred Stock) is converted into or exchanged for securities, cash or other property (other than a transaction covered by Sections 5.3, 5.4 or 5.5), then, following any such consolidation or merger, provision will be made that each share of such series of Preferred Stock will thereafter be convertible in lieu of the Common Stock into which it was convertible prior to such event into the kind and amount of securities, cash or other property which a holder of the number of shares of Common Stock of the Corporation issuable upon conversion of one share of such series of Preferred Stock immediately prior to such consolidation or merger would have been entitled to receive pursuant to such transaction; and, in such case, appropriate adjustment (as determined in good faith by the Board) will be made in the application of the provisions in Section 4 and this Section 5 with respect to the rights and interests thereafter of the holders of such series of Preferred Stock, to the end that the provisions set forth in Section 4 and this Section 5 will thereafter be applicable, as nearly as reasonably may be, in relation to any securities or other property thereafter deliverable upon the conversion of such series of Preferred Stock.

5.7 General Conversion Provisions.

5.7.1 Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Conversion Price of a series of Preferred Stock pursuant to this Section 5, the Corporation at its expense will, as promptly as reasonably practicable but in any event not later than 15 days thereafter, compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of such series of Preferred Stock a certificate setting forth such adjustment or readjustment (including the kind and amount of securities, cash or other property into which such series of Preferred Stock is convertible) and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation will, as promptly as reasonably practicable after the written request at any time of any holder of any series of Preferred Stock (but in any event not later than 10 days thereafter), furnish or cause to be furnished to such
holder a certificate setting forth (a) the Conversion Price of such series of Preferred Stock then in effect and (b) the number of shares of Common Stock and the amount, if any, of other securities, cash or property which then would be received upon the conversion of such series of Preferred Stock.

5.7.2 Reservation of Shares. The Corporation will at all times while any share of Preferred Stock will be outstanding, reserve and keep available out of its authorized but unissued capital stock, for the purpose of effecting the conversion of the Preferred Stock, such number of its duly authorized shares of Common Stock as will from time to time be sufficient to effect the conversion of all outstanding Preferred Stock; and if at any time the number of authorized but unissued shares of Common Stock will not be sufficient to effect the conversion of all then outstanding shares of the Preferred Stock, the Corporation will take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as will be sufficient for such purposes, including, without limitation, engaging in best efforts to obtain the requisite stockholder approval of any necessary amendment to this Certificate. Before taking any action that would cause an adjustment reducing the Conversion Price of a series of Preferred Stock below the then par value of the shares of Common Stock issuable upon conversion of such series of Preferred Stock, the Corporation will take any corporate action which may, in the opinion of its counsel, be necessary in order that the Corporation may validly and legally issue fully paid and nonassessable shares of Common Stock at such adjusted Conversion Price.

5.7.3 Fractional Shares. No fractional shares of Common Stock will be issued upon conversion of the Preferred Stock. In lieu of any fractional shares to which the holder would otherwise be entitled, the Corporation will pay cash equal to such fraction multiplied by the fair value of a share of Common Stock as determined in good faith by the Board. Whether or not fractional shares would be issuable upon such conversion will be determined on the basis of the total number of shares of Preferred Stock the holder is at the time converting into Common Stock and the aggregate number of shares of Common Stock issuable upon such conversion.

5.7.4 No Further Adjustment after Conversion. Upon any conversion of shares of Preferred Stock into Common Stock, no adjustment to the Conversion Price of the applicable series of Preferred Stock will be made with respect to the converted shares for any declared but unpaid dividends on such series of Preferred Stock or on the Common Stock delivered upon conversion.

6. No Reissuance of Redeemed or Otherwise Acquired Preferred Stock. Any shares of Preferred Stock that are redeemed or otherwise acquired by the Corporation or any of its subsidiaries will be automatically and immediately retired and will not be reissued, sold or transferred. Neither the Corporation nor any of its subsidiaries may exercise any voting or other rights, powers and preferences granted to the holders of Preferred Stock following the close of business on the third day preceding the Redemption Date for such shares.

7. Waiver. Except to the extent expressly provided herein, any of the rights, powers, preferences and other terms of the Preferred Stock that are set forth herein may be waived on behalf of all holders of Preferred Stock by the affirmative written consent or vote of the Requisite Holders.
8. **Notice of Record Date.** In the event:

   (a) the Corporation will set a record of the holders of its Common Stock (or other capital stock or securities at the time issuable upon conversion of the Preferred Stock) for the purpose of entitling or enabling them to receive any dividend or other distribution, or to receive any right to subscribe for or purchase any shares of capital stock of any class or any other securities, or to receive any other security; or

   (b) of any capital reorganization of the Corporation, any reclassification of the Common Stock of the Corporation, or any Deemed Liquidation Event; or

   (c) of the voluntary or involuntary dissolution, liquidation or winding-up of the Corporation,

then, and in each such case, the Corporation will send or cause to be sent to the holders of the Preferred Stock a notice specifying, as the case may be,

(i) the record date for such dividend, distribution or subscription right, and the amount and character of such dividend, distribution or subscription right,

or (ii) the effective date on which such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up is proposed to take place, and the time, if any is to be fixed, as of which the holders of record of Common Stock (or such other capital stock or securities at the time issuable upon the conversion of the Preferred Stock) will be entitled to exchange their shares of Common Stock (or such other capital stock or securities) for securities or other property deliverable upon such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up, and the amount per share and character of such exchange applicable to the Preferred Stock and the Common Stock. Such notice will be sent (A) at least 20 days prior to the earlier of the record date or effective date for the event specified in such notice or (B) such fewer number of days as may be approved the Requisite Holders.

9. **Notices.** Except as otherwise provided herein, any notice required or permitted by the provisions of this Article IV to be given to a holder of shares of Preferred Stock will be mailed, postage prepaid, to the post office address last shown on the records of the Corporation for such holder, given by the holder to the Corporation for the purpose of notice or given by electronic communication in compliance with the provisions of the General Corporation Law, and will be deemed sent upon such mailing or electronic transmission. If no such address appears or is given, notice will be deemed given at the place where the principal executive office of the Corporation is located.

**ARTICLE V: PREEMPTIVE RIGHTS.**

No stockholder of the Corporation will have a right to purchase shares of capital stock of the Corporation sold or issued by the Corporation except to the extent that such a right may from time to time be set forth in a written agreement between the Corporation and any stockholder.

**ARTICLE VI: BYLAW PROVISIONS.**

A. **AMENDMENT OF BYLAWS.** Subject to any additional vote required by this Certificate or the Bylaws, in furtherance and not in limitation of the powers conferred by statute, the Board is expressly authorized to make, repeal, alter, amend and rescind any or all of the Bylaws of the Corporation.
B. NUMBER OF DIRECTORS. Subject to any additional vote required by this Certificate, the number of directors of the Corporation will be determined in the manner set forth in the Bylaws of the Corporation. Each director shall be entitled to one vote on each matter presented to the Board of Directors; provided, however, that, so long as the holders of Preferred Stock are entitled to elect any Preferred Directors, the affirmative vote of at least one of the Preferred Directors shall be required for the authorization by the Board of Directors of any of the matters set forth in Section 5.3 of the Second Amended and Restated Investors’ Rights Agreement, dated on or about the effective date of this Amended and Restated Certificate of Incorporation by and among the Corporation and the other parties thereto, as such agreement may be amended from time to time.

C. BALLOT. Elections of directors need not be by written ballot unless the Bylaws of the Corporation will so provide.

D. MEETINGS AND BOOKS. Meetings of stockholders may be held within or without the State of Delaware, as the Bylaws of the Corporation may provide. The books of the Corporation may be kept outside the State of Delaware at such place or places as may be designated from time to time by the Board or in the Bylaws of the Corporation.

ARTICLE VII: DIRECTOR LIABILITY

A. LIMITATION. To the fullest extent permitted by law, a director of the Corporation will not be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director. If the General Corporation Law or any other law of the State of Delaware is amended after approval by the stockholders of this Article VII to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation will be eliminated or limited to the fullest extent permitted by the General Corporation Law as so amended. Any repeal or modification of the foregoing provisions of this Article VII by the stockholders of the Corporation will not adversely affect any right or protection of a director of the Corporation existing at the time of, or increase the liability of any director of the Corporation with respect to any acts or omissions of such director occurring prior to, such repeal or modification.

B. INDEMNIFICATION. To the fullest extent permitted by applicable law, the Corporation is authorized to provide indemnification of (and advancement of expenses to) directors, officers and agents of the Corporation (and any other persons to which General Corporation Law permits the Corporation to provide indemnification) through Bylaw provisions, agreements with such agents or other persons, vote of stockholders or disinterested directors or otherwise, in excess of the indemnification and advancement otherwise permitted by Section 145 of the General Corporation Law.

C. MODIFICATION. Any amendment, repeal or modification of the foregoing provisions of this Article VII will not adversely affect any right or protection of any director, officer or other agent of the Corporation existing at the time of such amendment, repeal or modification.
ARTICLE VIII: CORPORATE OPPORTUNITIES.

In the event that a director of the Corporation who is also a partner or employee of an entity that is a holder of Preferred Stock or any of its affiliates and that is in the business of investing and reinvesting in other entities or that invests in other entities as part of a strategic plan (each, a “Fund”) acquires knowledge of a potential transaction or matter in such person’s capacity as a partner or employee of the Fund and that may be a corporate opportunity for both the Corporation and such Fund, such director will to the fullest extent permitted by law have fully satisfied and fulfilled such director’s fiduciary duty to the Corporation and its stockholders with respect to such corporate opportunity, and the Corporation to the fullest extent permitted by law waives any claim that such business opportunity constituted a corporate opportunity that should have been presented to the Corporation or any of its affiliates, if such director acts in good faith in a manner consistent with the following policy: a corporate opportunity offered to any person who is a director of the Corporation, and who is also a partner or employee of a Fund will belong to such Fund, unless such opportunity was expressly offered to such person solely in his or her capacity as a director of the Corporation.

* * * * * * * * * * *

- 24 -
SECOND AMENDED AND RESTATED CERTIFICATE OF INCORPORATION

OF

SHATTUCK LABS, INC.
(a Delaware corporation)

Shattuck Labs, Inc., a corporation organized and existing under the laws of the State of Delaware (the “Corporation”), hereby certifies as follows:

1. The name of the Corporation is Shattuck Labs, Inc. The date of the filing of its original Certificate of Incorporation with the Secretary of State of the State of Delaware was May 9, 2016.

2. This Second Amended and Restated Certificate of Incorporation amends, restates and integrates provisions of the Amended and Restated Certificate of Incorporation that was filed with the Secretary of State of the State of Delaware on June 10, 2020 (the “Amended and Restated Certificate”) and was duly adopted in accordance with the provisions of Sections 228, 242 and 245 of the General Corporation Law of the State of Delaware (the “DGCL”).

3. The text of the Amended and Restated Certificate is hereby amended and restated in its entirety to provide as herein set forth in full.

ARTICLE I
NAME

The name of the Corporation is Shattuck Labs, Inc.

ARTICLE II
AGENT

The address of the Corporation’s registered office in the State of Delaware is 1675 S. State Street, Suite B, City of Dover, County of Kent, Delaware 19901. The name of its registered agent at such address is Capitol Services, Inc.

ARTICLE III
PURPOSE

The purpose of the Corporation is to engage in any lawful act or activity for which corporations may be organized under the DGCL.
ARTICLE IV
STOCK

Section 4.1 Authorized Stock. The total number of shares that the Corporation shall have authority to issue is [•], of which [•] shall be designated as common stock, par value $0.0001 per share (the “Common Stock”), and 10,000,000 shall be designated as preferred stock, par value $0.0001 per share (the “Preferred Stock”).

Section 4.2 Common Stock.

(a) Voting Rights. Each holder of Common Stock, as such, shall be entitled to one vote for each share of Common Stock held of record by such holder on all matters on which stockholders generally are entitled to vote; provided, however, that, except as otherwise required by law, holders of Common Stock, as such, shall not be entitled to vote on any amendment to this Certificate of Incorporation, including any certificate of designations relating to any series of Preferred Stock (each hereinafter referred to as a “Preferred Stock Designation”), that relates solely to the terms of one or more outstanding series of Preferred Stock if the holders of such affected series are entitled, either separately or together with the holders of one or more other such series, to vote thereon pursuant to this Certificate of Incorporation (including any Preferred Stock Designation).

(b) Dividends. Subject to the rights of the holders of any outstanding series of Preferred Stock, the holders of shares of Common Stock shall be entitled to receive any dividends to the extent permitted by law when, as and if declared by the board of directors of the Corporation (the “Board”).

(c) Liquidation. Upon the dissolution, liquidation or winding up of the Corporation, subject to the rights of the holders of any outstanding series of Preferred Stock, the holders of shares of Common Stock shall be entitled to receive the assets of the Corporation available for distribution to its stockholders ratably in proportion to the number of shares held by them.

Section 4.3 Preferred Stock. The Preferred Stock may be issued from time to time in one or more series. Subject to limitations prescribed by law and the provisions of this Article (including any Preferred Stock Designation), the Board is hereby authorized to provide by resolution and by causing the filing of a Preferred Stock Designation for the issuance of the shares of Preferred Stock in one or more series, and to establish from time to time the number of shares to be included in each such series, and to fix the designations, powers, preferences, and relative, participating, optional or other rights, if any, and the qualifications, limitations or restrictions, if any, of the shares of each such series.

Section 4.4 No Class Vote on Changes in Authorized Number of Shares of Stock. Subject to the rights of the holders of any outstanding series of Preferred Stock, the number of authorized shares of Common Stock or Preferred Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of at least a majority of the voting power of the stock outstanding and entitled to vote thereon irrespective of the provisions of Section 242(b)(2) of the DGCL.
ARTICLE V
BOARD OF DIRECTORS

Section 5.1 Number. The number of directors of the Corporation shall be fixed solely by resolution adopted from time to time by the Board by a majority of the directors then in office.

Section 5.2 Classification.

(a) Except as may be otherwise provided with respect to directors elected by the holders of any series of Preferred Stock provided for or fixed pursuant to the provisions of Article IV hereof (including any Preferred Stock Designation) (the “Preferred Stock Directors”), the Board shall be divided into three classes designated Class I, Class II and Class III. Class I directors shall initially serve until the first annual meeting of stockholders following the initial effectiveness of this Section; Class II directors shall initially serve until the second annual meeting of stockholders following the initial effectiveness of this Section; and Class III directors shall initially serve until the third annual meeting of stockholders following the initial effectiveness of this Section. Commencing with the first annual meeting of stockholders following the initial effectiveness of this Section, directors of each class the term of which shall then expire shall be elected to hold office for a three-year term and until the election and qualification of their respective successors in office. The Board is authorized to assign members of the Board already in office to Class I, Class II or Class III, with such assignment becoming effective as of the initial effectiveness of this Section.

(b) Subject to the rights of the holders of any outstanding series of Preferred Stock, and unless otherwise required by law, newly created directorships resulting from any increase in the authorized number of directors and any vacancies in the Board resulting from death, resignation, retirement, disqualification, removal from office or other cause shall be filled solely by the affirmative vote of a majority of the remaining directors then in office, even though less than a quorum of the Board, or by the sole remaining director. Any director so chosen shall hold office until the next election of the class for which such director shall have been chosen and until his or her successor shall have been duly elected and qualified. No decrease in the authorized number of directors shall shorten the term of any incumbent director.

(c) Any director, or the entire Board, may be removed from office at any time, but only for cause and only by the affirmative vote of at least 66\(\frac{2}{3}\)% of the voting power of the stock outstanding and entitled to vote thereon.

(d) During any period when the holders of any series of Preferred Stock have the right to elect additional directors as provided for or fixed pursuant to the provisions of Article IV hereof (including any Preferred Stock Designation), and upon commencement and for the duration of the period during which such right continues: (i) the then otherwise total authorized number of directors of the Corporation shall automatically be increased by such number of directors that the holders of any series of Preferred Stock have a right to elect, and the holders of such Preferred Stock shall be entitled to elect the additional directors so provided for or fixed pursuant to said provisions; and (ii) each Preferred Stock Director shall serve until such Preferred Stock Director’s successor shall have been duly elected and qualified, or until such director’s
right to hold such office terminates pursuant to said provisions, whichever occurs earlier, subject to his or her earlier death, disqualification, resignation or removal. Except as otherwise provided for or fixed pursuant to the provisions of Article IV hereof (including any Preferred Stock Designation), whenever the holders of any series of Preferred Stock having such right to elect additional directors are divested of such right pursuant to said provisions, the terms of office of all Preferred Stock Directors elected by the holders of such Preferred Stock, or elected to fill any vacancies resulting from the death, resignation, disqualification or removal of such additional directors, shall forthwith terminate (in which case each such Preferred Stock Director shall cease to be qualified as a director and shall cease to be a director) and the total authorized number of directors of the Corporation shall be automatically reduced accordingly.

Section 5.3 Powers. Except as otherwise required by the DGCL or as provided in this Certificate of Incorporation (including any Preferred Stock Designation), the business and affairs of the Corporation shall be managed by or under the direction of the Board.

Section 5.4 Election; Notice of Nominations and Business.

(a) Ballot Not Required. The directors of the Corporation need not be elected by written ballot unless the Bylaws of the Corporation (the “Bylaws”) so provide.

(b) Notice. Advance notice of nominations for the election of directors, and of business other than nominations, to be proposed by stockholders for consideration at a meeting of stockholders of the Corporation shall be given in the manner and to the extent provided in or contemplated by the Bylaws.

(c) Annual Meeting. The annual meeting of stockholders, for the election of directors to succeed those whose terms expire and for the transaction of such other business as may properly come before the meeting, shall be held at such place, if any, either within or without the State of Delaware, on such date, and at such time as the Board shall fix.

ARTICLE VI
STOCKHOLDER ACTION

Section 6.1 No Action Without Meeting. Except as otherwise provided for or fixed with respect to actions required or permitted to be taken solely by holders of Preferred Stock pursuant to the provisions of Article IV hereof (including any Preferred Stock Designation), no action that is required or permitted to be taken by the stockholders of the Corporation may be effected by consent of stockholders in lieu of a meeting of stockholders.

Section 6.2 Special Meetings. Except as otherwise required by law, and except as otherwise provided for or fixed pursuant to the provisions of Article IV hereof (including any Preferred Stock Designation), a special meeting of the stockholders of the Corporation may be called at any time only by the Board. Only such business shall be conducted at a special meeting of stockholders as shall have been brought before the meeting by or at the direction of the Board.
ARTICLE VII
EXISTENCE

The Corporation shall have perpetual existence.

ARTICLE VIII
AMENDMENT

Section 8.1 Amendment of Certificate of Incorporation. The Corporation reserves the right, at any time and from time to time, to amend, alter, change or repeal any provision contained in this Certificate of Incorporation (including any Preferred Stock Designation), and to add or insert other provisions authorized by the laws of the State of Delaware at the time in force, in the manner now or hereafter prescribed by the laws of the State of Delaware. All powers, preferences and rights of any nature conferred upon stockholders, directors or any other persons by and pursuant to this Certificate of Incorporation (including any Preferred Stock Designation) in its present form or as hereafter amended are granted subject to this reservation; provided, however, that, except as otherwise provided in this Certificate of Incorporation (including any provision of a Preferred Stock Designation that provides for a greater or lesser vote) and in addition to any other vote required by law, the affirmative vote of at least 66⅔% of the voting power of the stock outstanding and entitled to vote thereon, voting together as a single class, shall be required to amend or repeal, or adopt any provision inconsistent with, Section 5.2 of Article V, Article VI, Article VIII or Article IX.

Section 8.2 Amendment of Bylaws. In furtherance and not in limitation of the powers conferred by the laws of the State of Delaware, but subject to the terms of any series of Preferred Stock then outstanding, the Board is expressly authorized to adopt, amend or repeal the Bylaws. Except as otherwise provided in this Certificate of Incorporation (including the terms of any Preferred Stock Designation that require an additional vote) or the Bylaws, and in addition to any requirements of law, the affirmative vote of at least 66⅔% of the voting power of the stock outstanding and entitled to vote thereon, voting together as a single class, shall be required for the stockholders to adopt, amend or repeal any provision of the Bylaws.

ARTICLE IX
LIABILITY OF DIRECTORS

Section 9.1 No Personal Liability. To the fullest extent permitted by the DGCL as the same exists or as may hereafter be amended, no director of the Corporation shall be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director.

Section 9.2 Amendment or Repeal. Any amendment, alteration or repeal of this Article that adversely affects any right of a director shall be prospective only and shall not limit or eliminate any such right with respect to any proceeding involving any occurrence or alleged occurrence of any action or omission to act that took place prior to such amendment, alteration or repeal.
ARTICLE X
FORUM FOR ADJUDICATION OF DISPUTES

Section 10.1 Forum. Unless the Corporation, in writing, selects or consents to the selection of an alternative forum: (a) the sole and exclusive forum for any complaint asserting any internal corporate claims (as defined below), to the fullest extent permitted by law, and subject to applicable jurisdictional requirements, shall be the Court of Chancery of the State of Delaware (or, if the Court of Chancery does not have, or declines to accept, jurisdiction, another state court or a federal court located within the State of Delaware); and (b) the sole and exclusive forum for any complaint asserting a cause of action arising under the Securities Act of 1933, to the fullest extent permitted by law, shall be the federal district courts of the United States of America. Notwithstanding anything herein to the contrary, and for the avoidance of doubt: (y) this Article shall not apply to suits brought to enforce a duty or liability created by the Securities Exchange Act of 1934. For purposes of this Article, internal corporate claims means claims, including claims in the right of the Corporation that are based upon a violation of a duty by a current or former director, officer, employee or stockholder in such capacity, or as to which the DGCL confers jurisdiction upon the Court of Chancery. Any person or entity purchasing or otherwise acquiring or holding any interest in shares of stock of the Corporation shall be deemed to have notice of and consented to the provisions of this Article.

Section 10.2 Enforceability. If any provision of this Article shall be held to be invalid, illegal or unenforceable as applied to any person or entity or circumstance for any reason whatsoever, then, to the fullest extent permitted by law, the validity, legality and enforceability of such provision in any other circumstance and of the remaining provisions of this Article (including, without limitation, each portion of any sentence of this Article containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable), and the application of such provision to other persons or entities or circumstances shall not in any way be affected or impaired thereby.
IN WITNESS WHEREOF, this Second Amended and Restated Certificate of Incorporation has been executed by a duly authorized officer of this corporation on this ___ day of __________, 2020.

By: __________________________
Chief Executive Officer

[Signature Page – Second Amended and Restated Certificate of Incorporation]
BYLAWS OF SHATTUCK LABS, INC.

ARTICLE I

OFFICES

1.1 Registered Office. The initial registered office of Shattuck Labs, Inc. (the “Corporation”) in the State of Delaware shall be fixed in the Corporation’s certificate of incorporation, as the same may be amended from time to time (the “Certificate of Incorporation”), and may be changed from time to time in the discretion of the Board of Directors of the Corporation.

1.2 Other Offices. The Corporation may also have offices at such other places both within and without the State of Delaware as the Board of Directors may from time to time determine or the business of the Corporation may require.

ARTICLE II

MEETINGS OF STOCKHOLDERS

2.1 Annual Meeting. Meetings of stockholders may be held at such place, either within or without the State of Delaware, as shall be determined by the Board of Directors and stated in the notice of the meeting. The Board of Directors may, in its sole discretion, determine that the meeting shall not be held at any place, but may instead be held solely by means of remote communication as authorized by Section 2.13 of these Bylaws. Unless directors are elected by written consent in lieu of an annual meeting as permitted by Section 2.12 of these Bylaws, an annual meeting of the stockholders for the election of directors shall be held on a date and at a time as shall be designated by the Board of Directors and stated in the notice of the meeting. Any other proper business may be transacted at the annual meeting.

2.2 Special Meetings. Unless otherwise prescribed by statute or by the Certificate of Incorporation, special meeting of the stockholders of the Corporation may be called for any purpose or purposes by the (i) Chief Executive Officer, if any; (ii) President, in the absence of a Chief Executive Officer; or (iii) Secretary at the request in writing of (A) a majority of the members of the Board of Directors or (B) holders of at least twenty percent (20%) of the total voting power of all outstanding shares of stock of the Corporation then entitled to vote, and may not be called by the stockholders absent such a request. Any such request shall state the purpose or purposes of the proposed meeting.

If any person or persons other than the Board calls a special meeting, the request shall: (i) be in writing; (ii) specify the date and time of such meeting and the general nature of the business proposed to be transacted; and (iii) be delivered personally or sent by registered mail or by facsimile transmission to the Corporation’s Chairperson of the Board, Chief Executive Officer, President (in the absence of a Chief Executive Officer) or Secretary. The officer(s) receiving the request shall cause notice to be promptly given to the stockholders entitled to vote at such meeting, in accordance with the provisions of Section 2.3 and 4.2 of these Bylaws, that a meeting will be held at the time requested by the person or persons calling the meeting. No business may be transacted at such special meeting other than business specified in such notice to stockholders.
2.3 **Notice of Stockholders’ Meetings.** All notices of meetings of stockholders shall be sent or otherwise given in accordance with **Section 4.2** of these Bylaws not less than ten (10) nor more than sixty (60) days before the date of the meeting to each stockholder entitled to vote at such meeting. The notice shall specify the place, if any, date and hour of the meeting, the means of remote communication, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such meeting, and, in the case of a special meeting, the purpose or purposes for which the meeting is called.

2.4 **Voting List.** The officer who has charge of the stock ledger of the Corporation shall prepare and make, at least ten (10) days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting, arranged in alphabetical order, and showing the address of each stockholder and the number of shares registered in the name of each stockholder. The Corporation shall not be required to include electronic mail addresses or other electronic contact information on such list. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting for a period of at least ten (10) days prior to the meeting: (i) on a reasonably accessible electronic network, provided that the information required to gain access to such list is provided with the notice of the meeting; or (ii) during ordinary business hours, at the Corporation’s principal executive office. In the event that the Corporation determines to make the list available on an electronic network, the Corporation may take reasonable steps to ensure that such information is available only to stockholders of the Corporation. If the meeting is to be held at a place, then the list shall be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present. If the meeting is to be held solely by means of remote communication, then the list shall also be open to the examination of any stockholder during the whole time of the meeting on a reasonably accessible electronic network, and the information required to access such list shall be provided with the notice of the meeting. Such list shall presumptively determine the identity of the stockholders entitled to vote at the meeting and the number of shares held by each of them.

2.5 **Quorum.** The holders of a majority of the stock issued and outstanding and entitled to vote thereat, present in person or represented by proxy, shall constitute a quorum at all meetings of the stockholders for the transaction of business, except as otherwise provided by statute or by the Certificate of Incorporation. If, however, such quorum shall not be present or represented at any meeting of the stockholders, the Chairman of the meeting or the stockholders entitled to vote thereat, present in person or represented by proxy, shall have power to adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum shall be present or represented. At such adjourned meeting at which a quorum shall be present or represented, any business may be transacted which might have been transacted at the meeting as originally notified.

2.6 **Adjoined Meeting; Notice.** When a meeting is adjourned to another time or place, unless these Bylaws otherwise require, notice need not be given of the adjourned meeting if the time, place, if any, thereof and the means of remote communications, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such adjourned meeting are announced at the meeting at which the adjournment is taken. At the continuation of the adjourned
meeting, the Corporation may transact any business that might have been transacted at the original meeting. If the adjournment is for more than thirty (30) days, or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting.

2.7 Conduct of Business. The chairman of any meeting of stockholders shall determine the order of business and the procedure at the meeting, including such regulation of the manner of voting and the conduct of business.

2.8 Voting. The stockholders of record on the books of the Corporation at the close of business on the record date as determined by the Board of Directors and only such stockholders shall be entitled to vote at any meeting of stockholders or any adjournment thereof, subject to Section 217 (relating to voting rights of fiduciaries, pledgers and joint owners of stock) and Section 218 (relating to voting trusts and other voting agreements) of the Delaware General Corporation Law (the “DGCL”). Except as may be otherwise provided in the Certificate of Incorporation or these Bylaws, each stockholder shall be entitled to one vote for each share of capital stock held by such stockholder.

2.9 Record Date. In order that the Corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, or entitled to express consent to corporate action in writing without a meeting, or entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board may fix, in advance, a record date, which record date shall not precede the date on which the resolution fixing the record date is adopted and which shall not be more than sixty (60) nor less than ten (10) days before the date of such meeting, nor more than sixty (60) days prior to any other such action. If no record date is fixed by the Board of Directors, then: (i) the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or if notice is waived, at the close of business on the day next preceding the day on which the meeting is held; (ii) the record date for determining stockholders entitled to express consent to corporate action in writing without a meeting, when no prior action by the Board is necessary, shall be the day on which the first written consent is expressed and (iii) the record date for determining stockholders for any other purpose shall be at the close of business on the day on which the Board adopts the resolution relating thereto. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the Board of Directors may fix a new record date for the adjourned meeting.

2.10 Action at Meetings. When a quorum is present at any meeting, the vote of the holders of a majority of the shares of stock having voting power present in person or represented by proxy shall decide any question brought before such meeting, unless the question is one upon which by express provision of applicable law or of the Certificate of Incorporation, a different vote is required, in which case such express provision shall govern and control the decision of such question.

2.11 Proxies. Each stockholder entitled to vote at a meeting of stockholders or to express consent or dissent to corporate action in writing without a meeting may authorize another
person or persons to act for such stockholder by proxy authorized by an instrument in writing or by a transmission permitted by the DGCL filed in accordance with the procedure established for the meeting, but no such proxy shall be voted or acted upon after three (3) years from its date, unless the proxy provides for a longer period. The provisions of Section 212 of the DGCL shall govern the revocability of any proxy that states on its face that it is irrevocable.

2.12 **Action by Stockholders Without a Meeting.** Unless otherwise provided in the Certificate of Incorporation, any action required by the DGCL to be taken at any annual or special meeting of stockholders of the Corporation, or any action which may be taken at any annual or special meeting of such stockholders, may be taken without a meeting, without prior notice and without a vote, if a consent or consents in writing, setting forth the action so taken, shall be signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted and shall be delivered to the Corporation by delivery to its registered office in Delaware (by hand or by certified or registered mail, return receipt requested), to its principal place of business, or to an officer or agent of the Corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Prompt notice of the taking of corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not consented in writing and who, if the action had been taken at a meeting, would have been entitled to notice of the meeting if the record date for such meeting had been the date that written consents signed by a sufficient number of stockholders to take the action were delivered to the Corporation as provided in Section 228 of the DGCL. In the event that the action which is consented to is such as would have required the filing of a certificate under any provision of the DGCL if such action had been voted on by stockholders at a meeting thereof, the certificate filed under such provision shall state, in lieu of any statement required by such provision concerning any vote of stockholders, that written consent has been given in accordance with Section 228 of the DGCL.

A telegram, cablegram or other electronic transmission consenting to an action to be taken and transmitted by a stockholder or by a person authorized to act for a stockholder, shall be deemed to be written, signed and dated for the purposes of this Section 2.13, provided that any such telegram, cablegram or other electronic transmission sets forth or is delivered with information from which the Corporation can determine (i) that the telegram, cablegram or other electronic transmission was transmitted by the stockholder or by a person authorized to act for the stockholder and (ii) the date on which such stockholder or authorized person transmitted such telegram, cablegram or electronic transmission. The date on which such telegram, cablegram or electronic transmission is transmitted shall be deemed to be the date on which such consent was signed. No consent given by telegram, cablegram or other electronic transmission shall be deemed to have been delivered until (i) such consent is reproduced in paper form and until such paper form is delivered to the Corporation by delivery to its registered office in Delaware (by hand or by certified mail, return receipt requested), its principal place of business or an officer or agent of the Corporation having custody of the books in which proceedings of meetings of stockholders are recorded or (ii) such consent is delivered to the Corporation’s principal place of business or to an officer or agent of the Corporation having custody of the book in which proceedings of meetings of stockholders are recorded, if delivered to the extent and in the manner provided by resolution of the Board of Directors.
2.13 **Meeting by Remote Communication.** Unless otherwise restricted by the Certificate of Incorporation or these Bylaws, as authorized by Section 211 (a)(2) of the DGCL the Board may in its sole discretion permit stockholders to participate in a meeting of stockholders by means of remote communication and shall be deemed present in person and permitted to vote at such meeting, provided that (i) the Corporation shall implement reasonable measures to verify that each person deemed present and permitted to vote at such meeting by means of remote communication is a stockholder or proxyholder, (ii) the Corporation shall implement reasonable measures to provide such stockholders and proxyholders a reasonable opportunity to participate in such meeting and to vote on matters submitted to the stockholders, including an opportunity to read or hear the proceedings of such meeting substantially concurrently with such proceedings, and (iii) if such any stockholder or proxyholder votes or takes other action at such meeting by means of remote communication, a record of such vote or other action shall be maintained by the Corporation.

**ARTICLE III**

**DIRECTORS**

3.1 **Powers.** The business and affairs of the Corporation shall be managed by or under the direction of its Board of Directors, except as may be otherwise provided in the DGCL, the Certificate of Incorporation or these Bylaws.

3.2 **Number; Election; Tenure and Qualification.** The number of directors which shall constitute the whole board shall be fixed from time to time by resolution of the Board of Directors or by the stockholders at an annual meeting of the stockholders (unless the directors are elected by written consent in lieu of an annual meeting as provided in Section 2.12); provided that the number of directors shall be not less than one (1). With the exception of the first Board of Directors, which shall be elected by the incorporator, and except as provided in the Corporation’s Certificate of Incorporation or in Section 3.3, the directors shall be elected (i) at the annual meeting of the stockholders by a plurality vote of the shares represented in person or by proxy or (ii) by written consent of the Corporation’s stockholders pursuant to Section 2.12, and each director elected shall hold office until his successor is elected and qualified or until such director’s earlier resignation, removal or death. Directors need not be stockholders unless so required by the Certificate of Incorporation.

3.3 **Vacancies and Newly Created Directorships.** Unless otherwise provided in the Certificate of Incorporation, vacancies and newly-created directorships resulting from any increase in the authorized number of directors may be filled by a majority of the directors then in office, though less than a quorum, or by a sole remaining director. Each director so chosen shall serve until his successor is elected and qualified or until such director’s earlier resignation, removal or death. If there are no directors in office, then an election of directors may be held in the manner provided by statute.

If at any time, by reason of death or resignation or other cause, the Corporation should have no directors in office, then any officer or any stockholder or an executor, administrator, trustee or guardian of a stockholder, or other fiduciary entrusted with like responsibility for the person or estate of a stockholder, may call a special meeting of stockholders in accordance with the provisions of the Certificate of Incorporation or these Bylaws, or may apply to the Court of Chancery for a decree summarily ordering an election as provided in Section 211 of the DGCL.
If, at the time of filling any vacancy or any newly created directorship, the directors then in office shall constitute less than a majority of the whole board (as constituted immediately prior to any such increase), the Court of Chancery may, upon application of any stockholder or stockholders holding at least ten (10%) percent of the total number of shares at the time outstanding having the right to vote for such directors, summarily order an election to be held to fill any such vacancies or newly created directorships, or to replace the directors chosen by the directors then in office as aforesaid, which election shall be governed by the provisions of Section 211 of the DGCL as far as applicable.

3.4 Location of Meetings; Meetings By Telephone. The Board of Directors of the Corporation may hold meetings, both regular and special, either within or without the State of Delaware. Unless otherwise restricted by the Certificate of Incorporation or these Bylaws, members of the Board of Directors, or any committee designated by the Board of Directors, may participate in a meeting of the Board of Directors, or any committee, by means of conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, and such participation in a meeting shall constitute presence in person at the meeting.

3.5 Meeting of Newly Elected Board of Directors. The first meeting of each newly elected Board of Directors shall be held immediately following the annual meeting of stockholders and no notice of such meeting shall be necessary to the newly elected directors in order legally to constitute the meeting, provided a quorum shall be present. In the event such meeting is not held at such time, the meeting may be held at such time and place as shall be specified in a notice given as hereinafter provided for special meetings of the Board of Directors, or as shall be specified in a written waiver signed by all of the directors.

3.6 Regular Meetings. Regular meetings of the Board of Directors may be held without notice at such time and at such place as shall from time to time be determined by the Board of Directors; provided that any director who is absent when such a determination is made shall be given notice of such location.

3.7 Special Meetings. Special meetings of the Board of Directors may be called at any time by a person authorized to call a meeting under this Section 3.7. Special meetings may be called by the (i) Chief Executive Officer, if any, (ii) President, in the absence of a Chief Executive Officer, or (iii) Secretary, upon the written request of two directors unless the Board of Directors consists of only one director, in which case special meetings may be called by the Secretary upon the written request of the sole director. Notice may be waived in accordance with Section 229 of the DGCL, or any successor thereto. If the notice is (i) delivered personally by hand, by courier or by telephone, (ii) sent by facsimile or (iii) sent by electronic mail, it shall be delivered or sent at least twenty-four (24) hours before the time of the holding of the meeting. If the notice is sent by United States mail, it shall be deposited in the United States mail at least four (4) days before the time of the holding of the meeting. Any oral notice may be communicated to the director. The notice need not specify the place of the meeting (if the meeting is to be held at the Corporation’s principal executive office) nor the purpose of the meeting.
3.8 *Quorum and Action at Meetings*. At all meetings of the Board of Directors, a majority of the directors then in office shall constitute a quorum for the transaction of business, and the act of a majority of the directors present at any meeting at which there is a quorum shall be the act of the Board of Directors, except as may be otherwise specifically provided by statute or by the Certificate of Incorporation. If a quorum shall not be present at any meeting of the Board of Directors, the directors present thereat may adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum shall be present. A meeting at which a quorum is initially present may continue to transact business notwithstanding the withdrawal of directors, if any action taken is approved by at least a majority of the required quorum for that meeting.

3.9 *Action without a Meeting*. Unless otherwise restricted by the Certificate of Incorporation or these Bylaws, any action required or permitted to be taken at any meeting of the Board of Directors or of any committee thereof may be taken without a meeting, if all members of the Board of Directors or committee, as the case may be, consent thereto in writing or by electronic transmission and the writing or writings or electronic transmission or transmissions are filed with the minutes of proceedings of the Board of Directors or committee. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

3.10 *Committees*. The Board of Directors may, by resolution passed by a majority of the whole board, designate one or more committees, each committee to consist of one or more of the directors of the Corporation. The Board of Directors may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not such member or members constitute a quorum, may unanimously appoint another member of the Board to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent provided in the resolution of the Board of Directors, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the Corporation, but no such committee shall have the power or authority in reference to (i) approving, adopting or recommending to the stockholders any action or matter expressly required by the DGCL to be submitted to stockholders for approval or (ii) adopting, amending or repealing any Bylaw of the Corporation. Such committee or committees shall have such name or names as may be determined from time to time by resolution adopted by the Board of Directors.

3.11 *Committee Minutes*. Each committee shall keep regular minutes of its meetings and report the same to the Board of Directors when required to do so by the Board of Directors.

3.12 *Meetings and Action of Committees*. Meetings and actions of committees shall be governed by, and held and taken in accordance with, the provisions of: (i) *Section 3.4* (Location of Meetings; Meetings By Telephone); (ii) *Section 3.6* (Regular Meetings); (iii) *Section 3.7* (Special Meetings); (iv) *Section 3.8* (Quorum and Action at Meetings); (v) *Section 3.9* (Action Without a Meeting) and (vi) *Section 4.4* (Waiver of Notice); with such changes in the context of those Bylaws as are necessary to substitute the committee and its members for the Board and its members; *provided, however*, that (a) the time of regular meetings of committees may be determined either by resolution of the Board or by resolution of the committee, (b) special meetings
of committees may also be called by resolution of the Board and (c) notice of special meetings of committees shall also be given to all alternate members, who shall have the right to attend all meetings of the committee. The Board may adopt rules for the government of any committee not inconsistent with the provisions of these Bylaws.

3.13 **Director Compensation.** Unless otherwise restricted by the Certificate of Incorporation or these Bylaws, the Board of Directors shall have the authority to fix the compensation of directors. The directors may be paid their expenses, if any, of attendance at each meeting of the Board of Directors and may be paid a fixed sum for attendance at each meeting of the Board of Directors or a stated salary as director. No such payment shall preclude any director from serving the Corporation in any other capacity and receiving compensation therefor. Members of special or standing committees may be allowed like compensation for attending committee meetings.

3.14 **Resignation.** Any director or officer of the Corporation may resign at any time. Each such resignation shall be made in writing or by electronic transmission and shall take effect at the time specified therein, or, if no time is specified, at the time of its receipt by either the Board of Directors, the President or the Secretary. The acceptance of a resignation shall not be necessary to make it effective unless expressly so provided in the resignation.

3.15 **Removal.** Unless otherwise restricted by the Certificate of Incorporation, these Bylaws or the DGCL, any director or the entire Board of Directors may be removed, with or without cause, by the holders of a majority of shares then entitled to vote at an election of directors.

**ARTICLE IV**

**NOTICES**

4.1 **Notice to Directors.** Whenever, under the provisions of the DGCL or of the Certificate of Incorporation or of these Bylaws, notice is required to be given to any director such notice shall be (i) delivered personally by hand, by courier or by telephone; (ii) sent by United States first-class mail, postage prepaid; (iii) sent by facsimile; or (iv) sent by electronic mail, directed to each director at that director’s address, telephone number, facsimile number or electronic mail address, as the case may be, as shown on the Corporation’s records.

4.2 **Notice to Stockholders.** Without limiting the manner by which notice otherwise may be given effectively to stockholders pursuant to the DGCL, the Certificate of Incorporation or these Bylaws, any notice to stockholders given by the Corporation under any provision of the DGCL, the Certificate of Incorporation or these Bylaws shall be effective if given by a form of electronic transmission consented to by the stockholder to whom the notice is given. Any such consent shall be revocable by the stockholder by written notice to the Corporation. Any such consent shall be deemed revoked if (1) the Corporation is unable to deliver by electronic transmission two consecutive notices given by the Corporation in accordance with such consent and (2) such inability becomes known to the Secretary or an Assistant Secretary of the Corporation or to the transfer agent, or other person responsible for the giving of notice, provided, however, the inadvertent failure to treat such inability as a revocation shall not invalidate any meeting or other action. Notice given by electronic transmission shall be deemed given: (a) if by facsimile
telecommunication, when directed to a number at which the stockholder has consented to receive notice; (b) if by electronic mail, when directed to an electronic mail address at which the stockholder has consented to receive notice; (c) if by a posting on an electronic network together with separate notice to the stockholder of such specific posting, upon the later of (x) such posting and (y) the giving of such separate notice; and (d) if by any other form of electronic transmission, when directed to the stockholder. As used in these Bylaws, “electronic transmission” means any form of communication, not directly involving the physical transmission of paper, that creates a record that may be retained, retrieved and reviewed by a recipient thereof, and that may be directly reproduced in paper form by such a recipient through an automated process. Notice by a form of electronic transmission shall not apply to Sections 164, 296, 311, 312 or 324 of the DGCL.

4.3 Affidavit of Notice. An affidavit of the secretary or an assistant secretary or of the transfer agent or other agent of the Corporation that the notice has been given by a form of electronic transmission shall, in the absence of fraud, be prima facie evidence of the facts stated therein.

4.4 Waiver of Notice. Whenever any notice is required to be given under any provision of the DGCL or the Certificate of Incorporation or these Bylaws, a written waiver, signed by the person entitled to notice, or a waiver by electronic transmission by the person entitled to such notice, whether before or after the time stated therein, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the stockholders, directors or members of a committee of directors need by specified in any written waiver of notice or any waiver by electronic transmission unless so required by the Certificate of Incorporation or these Bylaws.

ARTICLE V

OFFICERS

5.1 Enumeration. The officers of the Corporation shall be chosen by the Board of Directors and shall include a President and a Secretary and such other officers with such other titles as the Board of Directors shall determine from time to time. Among the officers the Board of Directors may designate are a Chief Executive Officer, Chief Operating Officer, Chief Financial Officer and Treasurer. The Board of Directors also may choose one or more Vice Presidents, Assistant Secretaries and Assistant Treasurers. Any number of offices may be held by the same person, unless the Certificate of Incorporation or these Bylaws otherwise provide. The Board of Directors may elect from among its members a Chairman of the Board and a Vice Chairman of the Board.

5.2 Appointment of Officers. The Board of Directors shall appoint the officers of the Corporation, except such officers as may be appointed in accordance with the provisions of Section 5.3 of these Bylaws, subject to the rights, if any, of an officer under any contract of employment. Any vacancy occurring in any office of the Corporation shall be filled by the Board, or as provided in Section 5.3.
5.3 Appointment of Other Officers and Agents. The Board of Directors may appoint, or empower the Chief Executive Officer or, in the absence of a Chief Executive Officer, the President to appoint, such other officers and agents as the business of the Corporation may require. Each of such officers and agents shall hold office for such period, have such authority and perform such duties as are provided in these Bylaws or as the Board of Directors may from time to time determine.

5.4 Removal and Resignation of Officers.

(a) Subject to the rights, if any, of an officer under any contract of employment, any officer may be removed, either with or without cause, by an affirmative vote of the majority of the Board of Directors at any regular or special meeting of the Board of Directors or, except in the case of an officer chosen by the Board of Directors, by any officer upon whom such power of removal may be conferred by the Board of Directors.

(b) Any officer may resign at any time by giving written notice to the Corporation. Any resignation shall take effect at the date of the receipt of that notice or at any later time specified in that notice. Unless otherwise specified in the notice of resignation, the acceptance of the resignation shall not be necessary to make it effective. Any resignation is without prejudice to the rights, if any, of the Corporation under any contract to which the officer is a party.

5.5 Chairman of the Board and Vice Chairman of the Board. The Chairman of the Board, if any, shall preside at all meetings of the Board of Directors and of the stockholders at which the Chairman shall be present. The Chairman shall have and may exercise such powers as are, from time to time, assigned to the Chairman by the Board of Directors and as may be provided by law. In the absence of the Chairman of the Board, the Vice Chairman of the Board, if any, shall preside at all meetings of the Board of Directors and of the stockholders at which the Vice Chairman shall be present. The Vice Chairman shall have and may exercise such powers as are, from time to time, assigned to such person by the Board of Directors and as may be provided by law.

5.6 Chief Executive Officer. In the absence of a Chairman and/or Vice Chairman of the Board, the Chief Executive Officer shall preside as the Chairman of meetings of the stockholders and the Board of Directors. The Chief Executive Officer shall, subject to the control of the Board of Directors, have general and active management of the business of the Corporation and shall see that all orders and resolutions of the Board of Directors are carried into effect. All other officers, officials, employees and agents shall report directly or indirectly to the Chief Executive Officer. The Chief Executive Officer, President or any executive Vice President shall execute bonds, mortgages and other contracts on behalf of the Corporation, except where required or permitted by law to be otherwise signed and executed and except where the signing and execution thereof shall be expressly delegated by the Board of Directors to some other officer or agent of the Corporation.

5.7 President. In the absence or disability of the Chief Executive Officer, the President shall perform all the duties of the Chief Executive Officer. When acting as the Chief Executive Officer, the President shall have all the powers of, and be subject to all the restrictions upon, the
Chief Executive Officer. The President shall have such other powers and perform such other duties as from time to time may be prescribed by the Board of Directors, these Bylaws, the Chief Executive Officer or the Chairman of the Board.

5.8 **Vice Presidents.** In the absence of the President or in the event of the President’s inability or refusal to act, the Vice President, if any (or in the event there be more than one Vice President, the Vice Presidents in the order designated by the Board of Directors, or in the absence of any designation, then in the order of their election) shall perform the duties of the President, and when so acting shall have all the powers of and be subject to all the restrictions upon the President. Vice Presidents, by virtue of their appointment as such, shall not necessarily be deemed to be executive officers of the Corporation, such status as an executive officer only being conferred if and to the extent determined by the Board of Directors when such Vice President is placed in charge of a principal business unit, division or function (e.g., sales, administration or finance) or performs a policy-making function for the Corporation. Each executive Vice President shall at all times possess, and upon the authority of the President or the Chief Executive Officer any non-executive Vice President shall from time to time possess, power to sign all certificates, contracts and other instruments of the Corporation, except as otherwise limited by the Chairman of the Board, the President, Chief Executive Officer or the Vice Chairman of the Board. The Vice Presidents shall perform other duties commonly incident to their office and shall also perform such other duties and have such other powers as the Board of Directors or the President shall designate from time to time.

5.9 **Secretary.** The Secretary shall keep the minutes of all meetings of the Board of Directors, committees of the Board of Directors and the stockholders, in books provided for that purpose; shall attend to the giving and serving of all notices; may in the name of the Corporation affix the seal of the Corporation to all contracts and attest the affixation of the seal of the Corporation thereto; may sign with the other appointed officers all certificates for shares of capital stock of the Corporation; and shall have charge of the certificate books, transfer books and stock ledgers, and such other books and papers as the Board of Directors may direct, all of which shall at all reasonable times be open to inspection of any director upon application at the office of the Corporation during business hours. The Secretary shall perform all other duties given in these Bylaws and other duties commonly incident to such office and shall also perform such other duties and have such other powers as the Board of Directors shall designate from time to time. The Chief Executive Officer may direct any Assistant Secretary to assume and perform the duties of the Secretary in the absence or disability of the Secretary, and each Assistant Secretary shall perform other duties commonly incident to such office and shall also perform such other duties and have such other powers as the Board of Directors or the Chief Executive Officer, shall designate from time to time.

5.10 **Assistant Secretary.** Each Assistant Secretary shall have the usual powers and duties pertaining to such offices, together with such other powers and duties as designated in these Bylaws and as from time to time may be assigned to an Assistant Secretary by the Board of Directors, the Chairman of the Board, the President, the Vice Chairman of the Board, or the Secretary. The Assistant Secretaries shall exercise the powers of the Secretary during that officer’s absence or inability or refusal to act.
5.11 **Treasurer.** The Treasurer shall keep or cause to be kept the books of account of the Corporation in a thorough and proper manner and shall render statements of the financial affairs of the Corporation in such form and as often as required by the Board of Directors, the Chairman of the Board, the Vice Chairman of the Board, Chief Executive Officer, if one be designated, the President or the Chief Financial Officer. The Treasurer, subject to the order of the Board of Directors, shall have the custody of all funds and securities of the Corporation. The Treasurer shall perform other duties commonly incident to such office and shall also perform such other duties and have such other powers as the Board of Directors, the Chairman of the Board, the Vice Chairman of the Board, the Chief Executive Officer, if one be designated, or the President shall designate from time to time. In absence of a designated Chief Financial Officer, unless otherwise determined by the Board of Directors or Chief Executive Officer, the Treasurer shall serve as the Chief Financial Officer subject to control of the Chief Executive Officer. The Chief Financial Officer, if any be designated, may, but need not serve as the Treasurer.

5.12 **Assistant Treasurer.** The Assistant Treasurer, or if there be more than one, the Assistant Treasurers in the order determined by the Board of Directors (or if there be no such determination, then in the order of their election) shall, in the absence of the Treasurer or in the event of the Treasurer’s inability or refusal to act, perform the duties and exercise the powers of the Treasurer and shall perform such other duties and have such other powers as the Board of Directors may from time to time prescribe.

5.13 **Voting and Exercise of Rights of Shares of Other Corporations.** The Chairman of the Board, the Chief Executive Officer, the President or any other person authorized by the Board of Directors, the Chairman of the Board, the Chief Executive Officer or the President, is authorized to vote, represent, and exercise on behalf of the Corporation all rights incident to any and all shares of any other corporation or corporations standing in the name of the Corporation. The authority granted herein may be exercised either by such person directly or by any other person authorized to do so by proxy or power of attorney duly executed by such person having the authority.

**ARTICLE VI**

**CAPITAL STOCK**

6.1 **Certificates.** The shares of the Corporation shall be represented by certificates, provided that the Board may provide by resolution or resolutions that some or all of any or all classes or series of its stock shall be uncertificated shares. Any such resolution shall not apply to shares represented by a certificate until such certificate is surrendered to the Corporation. Every holder of stock represented by certificates shall be entitled to have a certificate signed by, or in the name of the Corporation by the chairperson or vice chairperson of the Board, or the president or vice president, and by the treasurer or an assistant treasurer, or the secretary or an assistant secretary of the Corporation representing the number of shares registered in certificate form. Any or all of the signatures on the certificate may be a facsimile. In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate has ceased to be an officer, transfer agent or registrar before such certificate is issued, it may be issued by the Corporation with the same effect as if such person were an officer, transfer agent or registrar at the date of issue.
6.2 **Special Designation on Certificates.** If the Corporation shall be authorized to issue more than one class of stock or more than one series of any class, the powers, designations, preferences and relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights shall be set forth in full or summarized on the face or back of the certificate which the Corporation shall issue to represent such class or series of stock; provided that, except as otherwise provided in Section 202 of the DGCL, in lieu of the foregoing requirements, there may be set forth on the face or back of the certificate which the Corporation shall issue to represent such class or series of stock, a statement that the Corporation will furnish without charge to each stockholder who so requests the powers, designations, preferences and relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights. Within a reasonable time after the issuance or transfer of uncertificated stock, the Corporation shall send to the registered owner thereof a written notice containing the information required to be set forth or stated on certificates pursuant to Sections 151, 156, 202(a) or 21 S(a) of the DGCL or a statement that the Corporation will furnish without charge, to each stockholder who so requests, the powers, designations, preferences and relative participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights.

6.3 **Lost Certificates.** Except as provided in this Section 6.3, no new certificates for shares shall be issued to replace a previously issued certificate unless the latter is surrendered to the Corporation and cancelled at the same time. The Corporation may issue a new certificate of stock or uncertificated shares in the place of any certificate theretofore issued by it, alleged to have been lost, stolen or destroyed, and the Corporation may require the owner of the lost, stolen or destroyed certificate, or such owner’s legal representative, to give the Corporation a bond sufficient to indemnify it against any claim that may be made against it on account of the alleged loss, theft or destruction of any such certificate or the issuance of such new certificate or uncertificated shares.

6.4 **Transfer of Stock.** Upon surrender to the Corporation or the transfer agent of the Corporation of a certificate for shares duly endorsed or accompanied by proper evidence of succession, assignation or authority to transfer, it shall be the duty of the Corporation to issue a new certificate to the person entitled thereto, cancel the old certificate and record the transaction in its books. Upon receipt of proper transfer instructions from the registered owner of uncertificated shares such uncertificated shares shall be canceled and issuance of new equivalent uncertificated shares or certificated shares shall be made to the person entitled thereto and the transaction shall be recorded upon the books of the Corporation.

6.5 **Registered Stockholders.** The Corporation shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends, and to vote as such owner, and to hold liable for calls and assessments a person registered on its books as the owner of shares, and shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of any other person, whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of Delaware.
ARTICLE VII

GENERAL PROVISIONS

7.1 **Dividends.** The Board, subject to any restrictions contained in the DGCL or the Certificate of Incorporation, may declare and pay dividends upon the shares of its capital stock. Dividends may be paid in cash, in property or in shares of capital stock, subject to the provisions of the Certificate of Incorporation. Before payment of any dividend, there may be set aside out of any funds of the Corporation available for dividends such sum or sums as the Board of Directors from time to time, in their absolute discretion, think proper as a reserve or reserves to meet contingencies, or for equalizing dividends, or for repairing or maintaining any property of the Corporation, or for such other purposes as the Board of Directors shall think conducive to the interest of the Corporation, and the Board of Directors may modify or abolish any such reserve in the manner in which it was created.

7.2 **Checks.** From time to time the Board shall determine by resolution which person or persons may sign or endorse all checks, drafts, other orders for payment of money, notes or other evidences of indebtedness that are issued in the name of or payable to the Corporation, and only the persons so authorized shall sign or endorse those instruments.

7.3 **Execution of Corporate Contracts and Instruments.** The Board of Directors, except as otherwise provided in these Bylaws, may authorize any officer or officers, or agent or agents, to enter into any contract or execute any instrument in the name of and on behalf of the Corporation; such authority may be general or confined to specific instances. Unless so authorized or ratified by the Board or within the agency power of an officer, no officer, agent or employee shall have any power or authority to bind the Corporation by any contract or engagement or to pledge its credit or to render it liable for any purpose or for any amount.

7.4 **Fiscal Year.** The fiscal year of the Corporation shall be fixed by resolution of the Board of Directors.

7.5 **Seal.** The Corporation may adopt a corporate seal, which shall be adopted and which may be altered by the Board. The Corporation may use the corporate seal by causing it or a facsimile thereof to be impressed or affixed or in any other manner reproduced.

7.6 **Loans.** The Board of Directors of the Corporation may, without stockholder approval, authorize loans to, or guaranty obligations of, or otherwise assist any officer or other employee of the Corporation or of its subsidiary, including any officer or employee who is a director of the Corporation or its subsidiary, whenever, in the judgment of the Board of Directors, such loan, guaranty or assistance may reasonably be expected to benefit the Corporation. The loan, guaranty or other assistance includes, without limitation, the adoption of employee benefit plans under which loans and guarantees may be made, and may be with or without interest, and may be unsecured, or secured in such manner as the Board of Directors shall approve, including, without limitation, a pledge of shares of stock of the Corporation.

7.7 **Stock Transfer Agreements.** The Corporation shall have power to enter into and perform any agreement with any number of stockholders of any one or more classes of stock of the Corporation to restrict the transfer of shares of stock of the Corporation of any one or more classes owned by such stockholders in any manner not prohibited by the DGCL.
7.8 **Construction; Definitions.** Unless the context requires otherwise, the general provisions, rules of construction, and definitions in the DGCL shall govern the construction of these Bylaws. Without limiting the generality of this provision, the singular number includes the plural, the plural number includes the singular, and the term “person” includes both a corporation and a natural person.

**ARTICLE VIII**

**INDEMNIFICATION**

8.1 **Scope.** The Corporation shall, to the fullest extent permitted by Section 145 of the DGCL, as that Section may be amended and supplemented from time to time, indemnify any director, officer, employee or agent of the Corporation, against expenses (including attorneys’ fees), judgments, fines, amounts paid in settlement and/or other matters referred to in or covered by that Section and reasonably incurred by the person in connection with such action, suit or proceeding, by reason of the fact that such person is or was a director, officer, employee or agent of the Corporation, or is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise.

8.2 **Advancing Expenses.** Expenses (including attorneys’ fees) incurred by a present or former director or officer of the Corporation in defending a civil, criminal, administrative or investigative action, suit or proceeding by reason of the fact that such person is or was a director, officer, employee or agent of the Corporation (or is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise) shall be paid by the Corporation in advance of the final disposition of such action, suit or proceeding upon receipt of an undertaking by or on behalf of such director or officer to repay such amount if it shall ultimately be determined that such person is not entitled to be indemnified by the Corporation as authorized by relevant provisions of the DGCL; provided, however, the Corporation shall not be required to advance such expenses to a director (i) who commences any action, suit or proceeding as a plaintiff unless such advance is specifically approved by a majority of the Board of Directors or (ii) who is a party to an action, suit or proceeding brought by the Corporation and approved by a majority of the Board of Directors which alleges willful misappropriation of corporate assets by such director, disclosure of confidential information in violation of such director’s fiduciary or contractual obligations to the Corporation, or any other willful and deliberate breach in bad faith of such director’s duty to the Corporation or its stockholders.

8.3 **Liability Offset.** The Corporation’s obligation to provide indemnification under this Article VIII shall be offset to the extent the indemnified party is indemnified by any other source including, but not limited to, any applicable insurance coverage under a policy maintained by the Corporation, the indemnified party or any other person.

8.4 **Continuing Obligation.** The provisions of this Article VIII shall be deemed to be a contract between the Corporation and each director of the Corporation who serves in such
capacity at any time while this bylaw is in effect, and any repeal or modification thereof shall not affect any rights or obligations then existing with respect to any state of facts then or theretofore existing or any action, suit or proceeding theretofore or thereafter brought based in whole or in part upon any such state of facts.

8.5 **Non-exclusivity of Rights.** The indemnification and advancement of expenses provided for in this Article VIII shall (i) not be deemed exclusive of any other rights to which those indemnified may be entitled under any bylaw, agreement or vote of stockholders or disinterested directors or otherwise, both as to action in their official capacities and as to action in another capacity while holding such office, (ii) continue as to a person who has ceased to be a director and (iii) inure to the benefit of the heirs, executors and administrators of such a person.

8.6 **Insurance.** The Corporation may purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the Corporation, or is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, including service with respect to employee benefit plans, against any liability asserted against such person and incurred by such person in any such capacity, or arising out of such person’s status as such, whether or not the Corporation would have the power to indemnify such person against such liability under applicable law.

8.7 **Other Persons.** In addition to the indemnification rights of directors, officers, employees or agents of the Corporation, the Board of Directors in its discretion shall have the power on behalf of the Corporation to indemnify any other person made a party to any action, suit or proceeding who the Corporation may indemnify under Section 145 of the DGCL.

8.8 **Definitions.** The phrases and terms set forth in this Article VIII shall be given the same meaning as the identical terms and phrases are given in Section 145 of the DGCL, as that Section may be amended and supplemented from time to time.

**ARTICLE IX**

**AMENDMENTS**

Except as otherwise provided in the Certificate of Incorporation, these Bylaws may be altered, amended or repealed, or new Bylaws may be adopted, by the holders of a majority of the outstanding voting shares or by the Board of Directors, when such power is conferred upon the Board of Directors by the Certificate of Incorporation, at any regular meeting of the stockholders or of the Board of Directors or at any special meeting of the stockholders or of the Board of Directors if notice of such alteration, amendment, repeal or adoption of new Bylaws be contained in the notice of such special meeting. If the power to adopt, amend or repeal Bylaws is conferred upon the Board of Directors by the Certificate of Incorporation, it shall not divest or limit the power of the stockholders to adopt, amend or repeal Bylaws.

* * * * *

16
CERTIFICATE OF SECRETARY
OF
SHATTUCK LABS, INC.

The undersigned certifies:

1. That the undersigned is the duly elected and acting Secretary of Shattuck Labs, Inc., a Delaware corporation (the “Corporation”); and

2. That the foregoing Bylaws constitute the Bylaws of the Corporation as duly adopted by the Board of Directors of the Corporation on May 9, 2016.

IN WITNESS WHEREOF, I have hereunto subscribed my name as of May 9, 2016.

/s/ Josiah Hornblower
Josiah Hornblower
Secretary
AMENDED AND RESTATED BYLAWS

OF

SHATTUCK LABS, INC.
(a Delaware corporation)

ARTICLE I
CORPORATE OFFICES

Section 1.1 Registered Office. The registered office of Shattuck Labs, Inc. (the “Corporation”) shall be fixed in the Certificate of Incorporation of the Corporation.

Section 1.2 Other Offices. The Corporation may also have an office or offices, and keep the books and records of the Corporation, except as otherwise required by law, at such other place or places, either within or without the State of Delaware, as the Corporation may from time to time determine or the business of the Corporation may require.

ARTICLE II
MEETINGS OF STOCKHOLDERS

Section 2.1 Annual Meeting. The annual meeting of stockholders, for the election of directors to succeed those whose terms expire and for the transaction of such other business as may properly come before the meeting, shall be held at such place, if any, either within or without the State of Delaware, on such date, and at such time as the Board of Directors shall fix. The Board of Directors may postpone, reschedule or cancel any annual meeting of stockholders previously scheduled by the Board of Directors.

Section 2.2 Special Meeting. Except as otherwise required by law, and except as otherwise provided for or fixed pursuant to the Certificate of Incorporation, including any certificate of designations relating to any series of Preferred Stock (each hereinafter referred to as a “Preferred Stock Designation”), a special meeting of the stockholders of the Corporation may be called at any time only by the Board of Directors. The Board of Directors may postpone, reschedule or cancel any special meeting of stockholders previously scheduled by the Board of Directors. Only such business shall be conducted at a special meeting of stockholders as shall have been brought before the meeting by or at the direction of the Board of Directors.

Section 2.3 Notice of Stockholders’ Meetings.

(a) Whenever stockholders are required or permitted to take any action at a meeting, notice of the place, if any, date, and time of the meeting of stockholders, the record date for determining the stockholders entitled to vote at the meeting (if such date is different from the record date for determining the stockholders entitled to notice of the meeting), the means of remote communications, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such meeting and, if the meeting is to be held solely by means of remote communications, the means for accessing the list of stockholders contemplated by Section 2.5 of these Bylaws, shall be given. The notice shall be given not less than 10 nor more
than 60 days before the date on which the meeting is to be held, to each stockholder entitled to vote at such meeting as of the record date for determining the stockholders entitled to notice of the meeting, except as otherwise provided by law, the Certificate of Incorporation (including any Preferred Stock Designation) or these Bylaws. In the case of a special meeting, the purpose or purposes for which the meeting is called also shall be set forth in the notice.

(b) Except as otherwise required by law, notice may be given in writing directed to a stockholder’s mailing address as it appears on the records of the Corporation and shall be given: (i) if mailed, when notice is deposited in the U.S. mail, postage prepaid; and (ii) if delivered by courier service, the earlier of when the notice is received or left at such stockholder’s address.

(c) So long as the Corporation is subject to the Securities and Exchange Commission’s proxy rules set forth in Regulation 14A under the Securities Exchange Act of 1934 (the “Exchange Act”), notice shall be given in the manner required by such rules. To the extent permitted by such rules, notice may be given by electronic transmission directed to the stockholder’s electronic mail address, and if so given, shall be given when directed to such stockholder’s electronic mail address unless the stockholder has notified the Corporation in writing or by electronic transmission of an objection to receiving notice by electronic mail or such notice is prohibited by Section 232(e) of the General Corporation Law of the State of Delaware (the “DGCL”). If notice is given by electronic mail, such notice shall comply with the applicable provisions of Sections 232(a) and 232(d) of the DGCL.

(d) Notice may be given by other forms of electronic transmission with the consent of a stockholder in the manner permitted by Section 232(b) of the DGCL, and shall be deemed given as provided therein.

(e) An affidavit that notice has been given, executed by the Secretary of the Corporation, Assistant Secretary or any transfer agent or other agent of the Corporation, shall be prima facie evidence of the facts stated in the notice in the absence of fraud. Notice shall be deemed to have been given to all stockholders who share an address if notice is given in accordance with the “householding” rules set forth in Rule 14a-3(e) under the Exchange Act and Section 233 of the DGCL.

(f) When a meeting is adjourned to another time or place, notice need not be given of the adjourned meeting if the place, if any, date and time thereof, and the means of remote communications, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such adjourned meeting are announced at the meeting at which the adjournment is taken; provided, however, that if the adjournment is for more than 30 days, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting. If after the adjournment a new record date for stockholders entitled to vote is fixed for the adjourned meeting, the Board of Directors shall fix a new record date for notice of such adjourned meeting in accordance with Section 7.6(a), and shall give notice of the adjourned meeting to each stockholder of record entitled to vote at such adjourned meeting as of the record date fixed for notice of such adjourned meeting.
Section 2.4 Organization.

(a) Unless otherwise determined by the Board of Directors, meetings of stockholders shall be presided over by the Chairman of the Board of Directors, or in his or her absence, by the Chief Executive Officer or, in his or her absence, by another person designated by the Board of Directors. The Secretary of the Corporation, or in his or her absence, an Assistant Secretary, or in the absence of the Secretary and all Assistant Secretaries, a person whom the chairman of the meeting shall appoint, shall act as secretary of the meeting and keep a record of the proceedings thereof.

(b) The date and time of the opening and the closing of the polls for each matter upon which the stockholders shall vote at a meeting of stockholders shall be announced at the meeting. The Board of Directors may adopt such rules and regulations for the conduct of any meeting of stockholders as it shall deem appropriate. Except to the extent inconsistent with such rules and regulations as adopted by the Board of Directors, the chairman of the meeting shall have the authority to adopt and enforce such rules and regulations for the conduct of any meeting of stockholders and the safety of those in attendance as, in the judgment of the chairman, are necessary, appropriate or convenient for the conduct of the meeting. Rules and regulations for the conduct of meetings of stockholders, whether adopted by the Board of Directors or by the chairman of the meeting, may include, without limitation, establishing: (i) an agenda or order of business for the meeting; (ii) rules and procedures for maintaining order at the meeting and the safety of those present; (iii) limitations on attendance at or participation in the meeting to stockholders entitled to vote at the meeting, their duly authorized and constituted proxies and such other persons as the chairman of the meeting shall permit; (iv) restrictions on entry to the meeting after the time fixed for the commencement thereof; (v) limitations on the time allotted for consideration of each agenda item and for questions and comments by participants; (vi) regulations for the opening and closing of the polls for balloting and matters which are to be voted on by ballot (if any); and (vii) procedures (if any) requiring attendees to provide the Corporation advance notice of their intent to attend the meeting. Subject to any rules and regulations adopted by the Board of Directors, the chairman of the meeting may convene and, for any or no reason, from time to time, adjourn and/or recess any meeting of stockholders pursuant to Section 2.7. The chairman of the meeting, in addition to making any other determinations that may be appropriate to the conduct of the meeting, shall have the power to declare that a nomination or other business was not properly brought before the meeting if the facts warrant (including if a determination is made, pursuant to Section 2.10(c)(i) of these Bylaws, that a nomination or other business was not made or proposed, as the case may be, in accordance with Section 2.10 of these Bylaws), and if such chairman should so declare, such nomination shall be disregarded or such other business shall not be transacted.

Section 2.5 List of Stockholders. The Corporation shall prepare, at least 10 days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting; provided, however, that if the record date for determining the stockholders entitled to vote is less than 10 days before the date of the meeting, the list shall reflect the stockholders entitled to vote as of the 10th day before the meeting date. Such list shall be arranged in alphabetical order and shall show the address of each stockholder and the number of shares registered in the name of each stockholder. Nothing in this Section 2.5 shall require the Corporation to include electronic mail addresses or other electronic contact information on such
list. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting at least 10 days prior to the meeting: (a) on a reasonably accessible electronic network, provided that the information required to gain access to such list is provided with the notice of meeting; or (b) during ordinary business hours at the principal place of business of the Corporation. In the event that the Corporation determines to make the list available on an electronic network, the Corporation may take reasonable steps to ensure that such information is available only to stockholders of the Corporation. If the meeting is to be held at a place, then a list of stockholders entitled to vote at the meeting shall be produced and kept at the time and place of the meeting during the whole time thereof and may be examined by any stockholder who is present. If the meeting is to be held solely by means of remote communication, then the list shall also be open to the examination of any stockholder during the whole time of the meeting on a reasonably accessible electronic network, and the information required to access such list shall be provided with the notice of the meeting. Except as otherwise required by law, the stock ledger shall be the only evidence as to who are the stockholders entitled to examine the list of stockholders required by this Section 2.5 or to vote in person or by proxy at any meeting of stockholders.

Section 2.6 Quorum. Except as otherwise required by law, the Certificate of Incorporation (including any Preferred Stock Designation) or these Bylaws, at any meeting of stockholders, a majority of the voting power of the stock outstanding and entitled to vote at the meeting, present in person or represented by proxy, shall constitute a quorum for the transaction of business; provided, however, that where a separate vote by a class or series or classes or series is required, a majority of the voting power of the stock of such class or series or classes or series outstanding and entitled to vote on that matter, present in person or represented by proxy, shall constitute a quorum entitled to take action with respect to such matter. If a quorum is not present or represented at any meeting of stockholders, then the chairman of the meeting, or a majority of the voting power of the stock present in person or represented by proxy at the meeting and entitled to vote thereon, shall have power to adjourn or recess the meeting from time to time in accordance with Section 2.7, until a quorum is present or represented. Subject to applicable law, if a quorum initially is present at any meeting of stockholders, the stockholders may continue to transact business until adjournment or recess, notwithstanding the withdrawal of enough stockholders to leave less than a quorum, but if a quorum is not present at least initially, no business other than adjournment or recess may be transacted.

Section 2.7 Adjourned or Recessed Meeting. Any annual or special meeting of stockholders, whether or not a quorum is present, may be adjourned or recessed for any or no reason from time to time by the chairman of the meeting, subject to any rules and regulations adopted by the Board of Directors pursuant to Section 2.4(b). Any such meeting may be adjourned for any or no reason (and may be recessed if a quorum is not present or represented) from time to time by a majority of the voting power of the stock present in person or represented by proxy at the meeting and entitled to vote thereon. At any such adjourned or recessed meeting at which a quorum is present, any business may be transacted that might have been transacted at the meeting as originally called.
Section 2.8 Voting.

(a) Except as otherwise required by law or the Certificate of Incorporation (including any Preferred Stock Designation), each holder of stock of the Corporation entitled to vote at any meeting of stockholders shall be entitled to one vote for each share of such stock held of record by such holder that has voting power upon the subject matter in question.

(b) Except as otherwise required by law, the Certificate of Incorporation (including any Preferred Stock Designation), these Bylaws or any law, rule or regulation applicable to the Corporation or its securities, at each meeting of stockholders at which a quorum is present, all corporate actions to be taken by vote of the stockholders shall be authorized by the affirmative vote of at least a majority of the voting power of the stock present in person or represented by proxy and entitled to vote on the subject matter, and where a separate vote by a class or series or classes or series is required, if a quorum of such class or series or classes or series is present, such act shall be authorized by the affirmative vote of at least a majority of the voting power of the stock of such class or series or classes or series present in person or represented by proxy and entitled to vote on the subject matter. Voting at meetings of stockholders need not be by written ballot.

Section 2.9 Proxies. Every stockholder entitled to vote for directors, or on any other matter, shall have the right to do so either in person or by one or more persons authorized to act for such stockholder by proxy, but no such proxy shall be voted or acted upon after three years from its date, unless the proxy provides for a longer period. A proxy shall be irrevocable if it states that it is irrevocable and if, and only as long as, it is coupled with an interest sufficient in law to support an irrevocable power. A proxy may be made irrevocable regardless of whether the interest with which it is coupled is an interest in the stock itself or an interest in the Corporation generally. A stockholder may revoke any proxy which is not irrevocable by attending the meeting and voting in person or by delivering to the Secretary of the Corporation a revocation of the proxy or an executed new proxy bearing a later date.

Section 2.10 Notice of Stockholder Business and Nominations.

(a) Annual Meeting.

(i) Nominations of persons for election to the Board of Directors and the proposal of business other than nominations to be considered by the stockholders may be made at an annual meeting of stockholders only: (A) pursuant to the Corporation’s notice of meeting (or any supplement thereto); (B) by or at the direction of the Board of Directors (or any authorized committee thereof); or (C) by any stockholder of the Corporation who is a stockholder of record at the time the notice provided for in this Section 2.10(a) is delivered to the Secretary of the Corporation, who is entitled to vote at the meeting and who complies with the notice procedures set forth in this Section 2.10(a). For the avoidance of doubt, the foregoing clause (C) shall be the exclusive means for a stockholder to make nominations or propose other business at an annual meeting of stockholders (other than a proposal included in the Corporation’s proxy statement pursuant to and in compliance with Rule 14a-8 under the Exchange Act).
(ii) For nominations or other business to be properly brought before an annual meeting by a stockholder pursuant to clause (C) of the foregoing paragraph, the stockholder must have given timely notice thereof in writing to the Secretary of the Corporation and, in the case of business other than nominations, such business must be a proper subject for stockholder action. To be timely, a stockholder’s notice must be delivered to the Secretary at the principal executive offices of the Corporation not later than the close of business (as defined in Section 2.10(c)(ii) below) on the 90th day nor earlier than the close of business on the 120th day prior to the first anniversary of the preceding year’s annual meeting; provided, however, that in the event that the date of the annual meeting is more than 30 days before or more than 60 days after such anniversary date, or if no annual meeting was held in the preceding year, notice by the stockholder to be timely must be so delivered not earlier than the close of business on the 120th day prior to such annual meeting and not later than the close of business on the later of the 90th day prior to such annual meeting or the 10th day following the date on which public announcement (as defined in Section 2.10(c)(ii) below) of the date of such meeting is first made by the Corporation. In no event shall an adjournment or recess of an annual meeting, or a postponement of an annual meeting for which notice of the meeting has already been given to stockholders or a public announcement of the meeting date has already been made, commence a new time period (or extend any time period) for the giving of a stockholder’s notice as described above. The number of nominees a stockholder may nominate for election at the annual meeting (or in the case of a stockholder giving the notice on behalf of a beneficial owner, the number of nominees a stockholder may nominate for election at the annual meeting on behalf of the beneficial owner) shall not exceed the number of directors to be elected at such annual meeting. For purposes of this Section 2.10, the 2020 annual meeting of stockholders shall be deemed to have been held on May 30, 2020. Such stockholder’s notice shall set forth:

(A) as to each person whom the stockholder proposes to nominate for election or re-election as a director: (1) all information relating to such person that is required to be disclosed in solicitations of proxies for election of directors in an election contest, or is otherwise required, in each case pursuant to and in accordance with Regulation 14A under the Exchange Act; and (2) such person’s written consent to serving as a director, if elected, for the full term for which such person is standing for election; provided, however, that, in addition to the information required in the stockholder’s notice pursuant to this Section 2.10(a)(ii)(A), such person shall also provide the Corporation such other information that the Corporation may reasonably request and that is necessary to permit the Corporation to determine the eligibility of such person to serve as a director of the Corporation, including information relevant to a determination whether such person can be considered an independent director;

(B) as to any other business that the stockholder proposes to bring before the meeting, a brief description of the business desired to be brought before the meeting, the text of the proposal or business (including the text of any resolutions proposed for consideration and in the event that such business includes a proposal to amend the Bylaws of the Corporation, the language of the proposed amendment), the reasons for conducting such business at the meeting and any substantial interest (within the meaning of Item 5 of Schedule 14A under the Exchange Act) in such business of such stockholder and the beneficial owner (within the meaning of Section 13(d) of the Exchange Act), if any, on whose behalf the proposal is made;
(C) as to the stockholder giving the notice and the beneficial owner, if any, on whose behalf the nomination is made or the other business is proposed:

1. the name and address of such stockholder, as they appear on the Corporation’s books, and the name and address of such beneficial owner;

2. the class or series and number of shares of stock of the Corporation which are owned of record by such stockholder and such beneficial owner as of the date of the notice, and a representation that the stockholder will notify the Corporation in writing within five business days after the record date for such meeting of the class or series and number of shares of stock of the Corporation owned of record by the stockholder and such beneficial owner as of the record date for the meeting; and

3. a representation that the stockholder (or a qualified representative of the stockholder) intends to appear at the meeting to make such nomination or propose such business;

(D) as to the stockholder giving the notice or, if the notice is given on behalf of a beneficial owner on whose behalf the nomination is made or the other business is proposed, as to such beneficial owner, and if such stockholder or beneficial owner is an entity, as to each director, executive, managing member or control person of such entity (any such individual or control person, a “control person”):

1. the class or series and number of shares of stock of the Corporation which are beneficially owned (as defined in Section 2.10(c)(ii) below) by such stockholder or beneficial owner and by any control person as of the date of the notice, and a representation that the stockholder will notify the Corporation in writing within five business days after the record date for such meeting of the class or series and number of shares of stock of the Corporation beneficially owned by such stockholder or beneficial owner and by any control person as of the record date for the meeting;

2. a description of any agreement, arrangement or understanding with respect to the nomination or other business between or among such stockholder, beneficial owner or control person and any other person, including, without limitation any agreements that would be required to be disclosed pursuant to Item 5 or Item 6 of Exchange Act Schedule 13D (regardless of whether the requirement to file a Schedule 13D is applicable) and a representation that the stockholder will notify the Corporation in writing within five business days after the record date for such meeting of any such agreement, arrangement or understanding in effect as of the record date for the meeting;

3. a description of any agreement, arrangement or understanding (including, without limitation, any derivative or short positions, profit interests, options, hedging transactions, and borrowed or loaned shares) that has been entered into as of the date of the stockholder’s notice by, or on behalf of, such stockholder, beneficial owner or control person, the effect or intent of which is to mitigate loss, manage risk or benefit from changes in the share price of any class or series of the Corporation’s stock, or maintain, increase or decrease the voting power of the stockholder, beneficial owner or control person with respect to securities

7
of the Corporation, and a representation that the stockholder will notify the Corporation in writing within five business days after the record date for such meeting of any such agreement, arrangement or understanding in effect as of the record date for the meeting; and

(4) a representation whether the stockholder or the beneficial owner, if any, will engage in a solicitation with respect to the nomination or other business and, if so, the name of each participant in such solicitation (as defined in Item 4 of Schedule 14A under the Exchange Act) and whether such person intends or is part of a group which intends to deliver a proxy statement and/or form of proxy to holders of shares representing at least 50% of the voting power of the stock entitled to vote generally in the election of directors in the case of a nomination, or holders of at least the percentage of the Corporation’s stock required to approve or adopt the business to be proposed in the case of other business.

(iii) Notwithstanding anything in Section 2.10(a)(ii) above or Section 2.10(b) below to the contrary, if the record date for determining the stockholders entitled to vote at any meeting of stockholders is different from the record date for determining the stockholders entitled to notice of the meeting, a stockholder’s notice required by this Section 2.10 shall set forth a representation that the stockholder will notify the Corporation in writing within five business days after the record date for determining the stockholders entitled to vote at the meeting, or by the opening of business on the date of the meeting (whichever is earlier), of the information required under clauses (ii)(C)(2) and (ii)(D)(1)-(3) of this Section 2.10(a), and such information when provided to the Corporation shall be current as of the record date for determining the stockholders entitled to vote at the meeting.

(iv) This Section 2.10(a) shall not apply to a proposal proposed to be made by a stockholder if the stockholder has notified the Corporation of his or her intention to present the proposal at an annual or special meeting only pursuant to and in compliance with Rule 14a-8 under the Exchange Act and such proposal has been included in a proxy statement that has been prepared by the Corporation to solicit proxies for such meeting.

(v) Notwithstanding anything in this Section 2.10(a) to the contrary, in the event that the number of directors to be elected to the Board of Directors at an annual meeting is increased and there is no public announcement by the Corporation naming all of the nominees for directors or specifying the size of the increased Board of Directors made by the Corporation at least 10 days prior to the last day a stockholder may deliver a notice in accordance with Section 2.10(a)(ii) above, a stockholder’s notice required by this Section 2.10(a) shall also be considered timely, but only with respect to nominees for any new positions created by such increase, if it shall be delivered to the Secretary of the Corporation at the principal executive offices of the Corporation not later than the close of business on the 10th day following the day on which such public announcement is first made by the Corporation.

(b) Special Meeting. Nominations of persons for election to the Board of Directors may be made at a special meeting of stockholders at which directors are to be elected pursuant to the Corporation’s notice of meeting: (i) by or at the direction of the Board of Directors (or any authorized committee thereof); or (ii) provided that one or more directors are to be elected at such meeting, by any stockholder of the Corporation who is a stockholder of record at the time the notice provided for in this Section 2.10(b) is delivered to the Secretary of the
Corporation, who is entitled to vote at the meeting and who delivers notice thereof in writing setting forth the information required by Section 2.10(a) above. In the event the Corporation calls a special meeting of stockholders for the purpose of electing one or more directors to the Board of Directors, any stockholder entitled to vote in such election of directors may nominate a person or persons (as the case may be) for election to such position(s) as specified in the Corporation’s notice of meeting, if the notice required by this Section 2.10(b) shall be delivered to the Secretary at the principal executive offices of the Corporation not earlier than the close of business on the 120th day prior to such special meeting and not later than the close of business on the later of the 90th day prior to such special meeting or the 10th day following the date on which public announcement of the date of the special meeting and of the nominees proposed by the Board of Directors to be elected at such meeting is first made by the Corporation. The number of nominees a stockholder may nominate for election at the special meeting (or in the case of a stockholder giving the notice on behalf of a beneficial owner, the number of nominees a stockholder may nominate for election at the annual meeting on behalf of such beneficial owner) shall not exceed the number of directors to be elected at such special meeting. In no event shall an adjournment, recess or postponement of a special meeting commence a new time period (or extend any time period) for the giving of a stockholder’s notice as described above.

(c) General.

(i) Except as otherwise required by law, only such persons who are nominated in accordance with the procedures set forth in this Section 2.10 shall be eligible to be elected at any meeting of stockholders of the Corporation to serve as directors and only such other business shall be conducted at a meeting of stockholders as shall have been brought before the meeting in accordance with the procedures set forth in this Section 2.10. Except as otherwise required by law, each of the Chairman of the Board of Directors or the chairman of the meeting shall have the power to determine whether a nomination or any other business proposed to be brought before the meeting was made or proposed, as the case may be, in accordance with the procedures set forth in this Section 2.10 (including whether a stockholder or beneficial owner solicited (or is part of a group which solicited) or did not so solicit, as the case may be, proxies in compliance with such stockholder’s representation as required by clause (a)(ii)(D)(4) of this Section 2.10). If any proposed nomination or other business is not in compliance with this Section 2.10, then except as otherwise required by law, the chairman of the meeting shall have the power to declare that such nomination shall be disregarded or that such other business shall not be transacted. Notwithstanding the foregoing provisions of this Section 2.10, unless otherwise required by law, or otherwise determined by the Chairman of the Board of Directors or the chairman of the meeting, if the stockholder does not provide the information required under clauses (a)(ii)(C)(2) and (a)(ii)(D)(1)-(3) of this Section 2.10 to the Corporation within the time frames specified herein, any such nomination shall be disregarded and any such other business shall not be transacted, notwithstanding that proxies in respect of such vote may have been received by the Corporation. Notwithstanding the foregoing provisions of this Section 2.10, unless otherwise required by law, or otherwise determined by the Chairman of the Board of Directors or the chairman of the meeting, if the stockholder (or a qualified representative of the stockholder) does not appear at the annual or special meeting of stockholders of the Corporation to present a nomination or other business (whether pursuant to the requirements of these Bylaws or in accordance with Rule 14a-8 under the Exchange Act), such nomination shall be disregarded.
and such other business shall not be transacted, notwithstanding that proxies in respect of such vote may have been received by the Corporation. To be considered a qualified representative of a stockholder pursuant to the preceding sentence, a person must be a duly authorized officer, manager or partner of such stockholder or authorized by a writing executed by such stockholder (or a reliable reproduction of the writing) delivered to the Corporation prior to the making of such nomination or proposal at such meeting (and in any event not fewer than five days before the meeting) stating that such person is authorized to act for such stockholder as proxy at the meeting of stockholders.

(ii) For purposes of this Section 2.10, the “close of business” shall mean 6:00 p.m. local time at the principal executive offices of the Corporation on any calendar day, whether or not the day is a business day, and a “public announcement” shall mean disclosure in a press release reported by the Dow Jones News Service, Associated Press or a comparable national news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Sections 13, 14 or 15(d) of the Exchange Act. For purposes of clause (a)(ii)(D)(1) of this Section 2.10, shares shall be treated as “beneficially owned” by a person if the person beneficially owns such shares, directly or indirectly, for purposes of Section 13(d) of the Exchange Act and Regulations 13D and 13G thereunder or has or shares pursuant to any agreement, arrangement or understanding (whether or not in writing): (A) the right to acquire such shares (whether such right is exercisable immediately or only after the passage of time or the fulfillment of a condition or both); (B) the right to vote such shares, alone or in concert with others; and/or (C) investment power with respect to such shares, including the power to dispose of, or to direct the disposition of, such shares.

(iii) Nothing in this Section 2.10 shall be deemed to affect any rights of the holders of any series of Preferred Stock to elect directors pursuant to any applicable provisions of the Certificate of Incorporation (including any Preferred Stock Designation).

Section 2.11 No Action by Written Consent.

Except as otherwise provided for or fixed pursuant to the Certificate of Incorporation (including any Preferred Stock Designation), no action that is required or permitted to be taken by the stockholders of the Corporation may be effected by consent of stockholders in lieu of a meeting of stockholders.

Section 2.12 Inspectors of Election. Before any meeting of stockholders, the Corporation may, and shall if required by law, appoint one or more inspectors of election to act at the meeting and make a written report thereof. Inspectors may be employees of the Corporation. The Corporation may designate one or more persons as alternate inspectors to replace any inspector who fails to act. If no inspector or alternate is able to act at a meeting of stockholders, the chairman of the meeting may, and shall if required by law, appoint one or more inspectors to act at the meeting. Each inspector, before entering upon the discharge of his or her duties, shall take and sign an oath faithfully to execute the duties of inspector with strict impartiality and according to the best of his or her ability. Inspectors need not be stockholders. No director or nominee for the office of director at an election shall be appointed as an inspector at such election.
Such inspectors shall:

(a) determine the number of shares outstanding and the voting power of each, the number of shares represented at the meeting, the existence of a quorum, and the validity of proxies and ballots;

(b) determine and retain for a reasonable period a record of the disposition of any challenges made to any determination by the inspectors;

(c) count and tabulate all votes and ballots; and

(d) certify their determination of the number of shares represented at the meeting, and their count of all votes and ballots.

Section 2.13 Meetings by Remote Communications. The Board of Directors may, in its sole discretion, determine that a meeting of stockholders shall not be held at any place, but may instead be held solely by means of remote communication in accordance with Section 211(a)(2) of the DGCL. If authorized by the Board of Directors in its sole discretion, and subject to such guidelines and procedures as the Board of Directors may adopt, stockholders and proxyholders not physically present at a meeting of stockholders may, by means of remote communication: (a) participate in a meeting of stockholders; and (b) be deemed present in person and vote at a meeting of stockholders whether such meeting is to be held at a designated place or solely by means of remote communication, provided that: (i) the Corporation shall implement reasonable measures to verify that each person deemed present and permitted to vote at the meeting by means of remote communication is a stockholder or proxyholder; (ii) the Corporation shall implement reasonable measures to provide such stockholders and proxyholders a reasonable opportunity to participate in the meeting and to vote on matters submitted to the stockholders, including an opportunity to read or hear the proceedings of the meeting substantially concurrently with such proceedings; and (iii) if any stockholder or proxyholder votes or takes other action at the meeting by means of remote communication, a record of such vote or other action shall be maintained by the Corporation.

Section 2.14 Delivery to the Corporation. Whenever this Article II requires one or more persons (including a record or beneficial owner of stock) to deliver a document or information to the Corporation or any officer, employee or agent thereof (including any notice, request, questionnaire, revocation, representation or other document or agreement), the Corporation shall not be required to accept delivery of such document or information unless the document or information is in writing exclusively (and not in an electronic transmission) and delivered exclusively by hand (including, without limitation, overnight courier service) or by certified or registered mail, return receipt requested.

ARTICLE III
DIRECTORS

Section 3.1 Powers. Except as otherwise required by the DGCL or as provided in the Certificate of Incorporation (including any Preferred Stock Designation), the business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors. In addition to the powers and authorities these Bylaws expressly confer upon it, the Board of Directors may exercise all such powers of the Corporation and do all such lawful acts and things as are not by law, the Certificate of Incorporation (including any Preferred Stock Designation) or these Bylaws required to be exercised or done by the stockholders.
Section 3.2 Number, Term of Office and Election. The number of directors of the Corporation shall be fixed solely by resolution adopted from time to time by a majority of the directors then in office. The directors shall hold office in the manner provided in the Certificate of Incorporation. At any meeting of stockholders at which directors are to be elected, directors shall be elected by a plurality of the votes cast. Directors need not be stockholders unless so required by the Certificate of Incorporation (including any Preferred Stock Designation) or these Bylaws, wherein other qualifications for directors may be prescribed.

Section 3.3 Vacancies and Newly Created Directorships. Subject to the rights of the holders of any outstanding series of Preferred Stock, and unless otherwise required by law newly created directorships resulting from any increase in the authorized number of directors and any vacancies in the Board of Directors resulting from death, resignation, retirement, disqualification, removal from office or other cause shall be filled solely by the affirmative vote of a majority of the remaining directors then in office, even though less than a quorum, or by the sole remaining director, and any director so chosen shall hold office until the next election of the class for which such director shall have been chosen and until his or her successor shall have been duly elected and qualified. No decrease in the authorized number of directors shall shorten the term of any incumbent director.

Section 3.4 Resignations and Removal.

(a) Any director may resign at any time upon notice given in writing or by electronic transmission to the Board of Directors, the Chairman of the Board of Directors or the Secretary of the Corporation. Such resignation shall take effect upon delivery, unless the resignation specifies a later effective date or time or an effective date or time determined upon the happening of an event or events. Unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

(b) Except for such additional directors, if any, as are elected by the holders of any series of Preferred Stock as provided for or fixed pursuant to the Certificate of Incorporation (including any Preferred Stock Designation), any director, or the entire Board of Directors, may be removed from office at any time, but only for cause and only by the affirmative vote of at least 66 2/3% of the voting power of the stock outstanding and entitled to vote thereon.

Section 3.5 Regular Meetings. Regular meetings of the Board of Directors shall be held at such place or places, within or without the State of Delaware, on such date or dates and at such time or times, as shall have been established by the Board of Directors and publicized among all directors. A notice of each regular meeting shall not be required.
Section 3.6 Special Meetings. Special meetings of the Board of Directors for any purpose or purposes may be called at any time by the Chairman
of the Board of Directors, the Chief Executive Officer or a majority of the directors then in office. The person or persons authorized to call special
meetings of the Board of Directors may fix the place, within or without the State of Delaware, date and time of such meetings. Notice of each such
meeting shall be given to each director, if by mail, addressed to such director at his or her residence or usual place of business, at least five days before
the day on which such meeting is to be held, or shall be sent to such director by electronic transmission, or be delivered personally or by telephone, in
each case at least 24 hours prior to the time set for such meeting. A notice of special meeting need not state the purpose of such meeting, and, unless
indicated in the notice thereof, any and all business may be transacted at a special meeting.

Section 3.7 Participation in Meetings by Conference Telephone. Members of the Board of Directors, or of any committee thereof, may participate
in a meeting of such Board of Directors or committee by means of conference telephone or other communications equipment by means of which all
persons participating in the meeting can hear each other, and such participation shall constitute presence in person at such meeting.

Section 3.8 Quorum and Voting. Except as otherwise required by law, the Certificate of Incorporation or these Bylaws, a majority of the total
number of directors then authorized shall constitute a quorum for the transaction of business at any meeting of the Board of Directors, and the vote of a
majority of the directors present at a duly held meeting at which a quorum is present shall be the act of the Board of Directors. The chairman of the
meeting or a majority of the directors present may adjourn the meeting to another time and place whether or not a quorum is present. At any adjourned
meeting at which a quorum is present, any business may be transacted which might have been transacted at the meeting as originally called.

Section 3.9 Board of Directors Action by Written Consent Without a Meeting. Unless otherwise restricted by the Certificate of Incorporation or
these Bylaws, any action required or permitted to be taken at any meeting of the Board of Directors, or any committee thereof, may be taken without a
meeting, provided that all members of the Board of Directors or committee, as the case may be, consent in writing or by electronic transmission to such
action. After an action is taken, the consent or consents relating thereto shall be filed with the minutes or proceedings of the Board of Directors or
committee in the same paper or electronic form as the minutes are maintained. Any person (whether or not then a director) may provide, whether
through instruction to an agent or otherwise, that a consent to action shall be effective at a future time (including a time determined upon the happening
of an event), no later than 60 days after such instruction is given or such provision is made and such consent shall be deemed to have been given at such
effective time so long as such person is then a director and did not revoke the consent prior to such time. Any such consent shall be revocable prior to its
becoming effective.

Section 3.10 Chairman of the Board. The Chairman of the Board shall preside at meetings of stockholders (unless otherwise determined by the
Board of Directors) and at meetings of directors and shall perform such other duties as the Board of Directors may from time to time determine. If the
Chairman of the Board is not present at a meeting of the Board of Directors, another director chosen by the Board of Directors shall preside.

Section 3.11 Rules and Regulations. The Board of Directors may adopt such rules and regulations not inconsistent with the provisions of law, the
Certificate of Incorporation or these Bylaws for the conduct of its meetings and management of the affairs of the Corporation as the Board of Directors
shall deem proper.
Section 3.12 Fees and Compensation of Directors. Unless otherwise restricted by the Certificate of Incorporation, directors may receive such compensation, if any, for their services on the Board of Directors and its committees, and such reimbursement of expenses, as may be fixed or determined by resolution of the Board of Directors.

Section 3.13 Emergency Bylaws. In the event of any emergency, disaster or catastrophe, as referred to in Section 110 of the DGCL, or other similar emergency condition, as a result of which a quorum of the Board of Directors or a standing committee of the Board of Directors cannot readily be convened for action, then the director or directors in attendance at the meeting shall constitute a quorum. Such director or directors in attendance may further take action to appoint one or more of themselves or other directors to membership on any standing or temporary committees of the Board of Directors as they shall deem necessary and appropriate.

ARTICLE IV
COMMITTEES

Section 4.1 Committees of the Board of Directors. The Board of Directors may designate one or more committees, each such committee to consist of one or more of the directors of the Corporation. The Board of Directors may designate one or more directors as alternate members of any committee to replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members present at any meeting and not disqualified from voting, whether or not he, she or they constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent permitted by law and provided in the resolution of the Board of Directors establishing such committee, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the Corporation, and may authorize the seal of the Corporation to be affixed to all papers which may require it; but no such committee shall have the power or authority in reference to the following matters: (a) approving or adopting, or recommending to the stockholders, any action or matter (other than the election or removal of directors) expressly required by the DGCL to be submitted to stockholders for approval; or (b) adopting, amending or repealing any bylaw of the Corporation. All committees of the Board of Directors shall keep minutes of their meetings and shall report their proceedings to the Board of Directors when requested or required by the Board of Directors.

Section 4.2 Meetings and Action of Committees. Unless the Board of Directors provides otherwise by resolution, any committee of the Board of Directors may adopt, alter and repeal such rules and regulations not inconsistent with the provisions of law, the Certificate of Incorporation or these Bylaws for the conduct of its meetings as such committee may deem proper. A majority of the directors then serving on a committee shall constitute a quorum for the transaction of business by the committee except as otherwise required by law, the Certificate of Incorporation or these Bylaws, and except as otherwise provided in a resolution of the Board of Directors; provided, however, that in no case shall a quorum be less than one-third of the directors then serving on the committee. Unless the Certificate of Incorporation, these Bylaws or a resolution of the Board of Directors requires a greater number, the vote of a majority of the members of a committee present at a meeting at which a quorum is present shall be the act of the committee.
ARTICLE V
OFFICERS

Section 5.1 Officers. The officers of the Corporation shall consist of a Chief Executive Officer, a Chief Financial Officer, a Secretary, a Treasurer, a Controller and such other officers as the Board of Directors may from time to time determine, each of whom shall be elected by the Board of Directors, each to have such authority, functions or duties as set forth in these Bylaws or as determined by the Board of Directors. Each officer shall be elected by the Board of Directors and shall hold office for such term as may be prescribed by the Board of Directors and until such person’s successor shall have been duly elected and qualified, or until such person’s earlier death, disqualification, resignation or removal. Any number of offices may be held by the same person; provided, however, that no officer shall execute, acknowledge or verify any instrument in more than one capacity if such instrument is required by law, the Certificate of Incorporation or these Bylaws to be executed, acknowledged or verified by two or more officers. The Board of Directors may require any officer, agent or employee to give security for the faithful performance of his or her duties.

Section 5.2 Compensation. The salaries of the officers of the Corporation and the manner and time of the payment of such salaries shall be fixed and determined by the Board of Directors or by a duly authorized officer and may be altered by the Board of Directors from time to time as it deems appropriate, subject to the rights, if any, of such officers under any contract of employment.

Section 5.3 Removal, Resignation and Vacancies. Any officer of the Corporation may be removed, with or without cause, by the Board of Directors or by a duly authorized officer, without prejudice to the rights, if any, of such officer under any contract to which it is a party. Any officer may resign at any time upon notice given in writing or by electronic transmission to the Corporation, without prejudice to the rights, if any, of the Corporation under any contract to which such officer is a party. If any vacancy occurs in any office of the Corporation, the Board of Directors may elect a successor to fill such vacancy for the remainder of the unexpired term and until a successor shall have been duly elected and qualified.

Section 5.4 Chief Executive Officer. The Chief Executive Officer shall have general supervision and direction of the business and affairs of the Corporation, shall be responsible for corporate policy and strategy, and shall report directly to the Board of Directors. Unless otherwise provided in these Bylaws or determined by the Board of Directors, all other officers of the Corporation shall report directly to the Chief Executive Officer or as otherwise determined by the Chief Executive Officer. The Chief Executive Officer shall, if present and in the absence of the Chairman of the Board of Directors, preside at meetings of the stockholders.

Section 5.5 Chief Financial Officer. The Chief Financial Officer shall exercise all the powers and perform the duties of the office of the chief financial officer and in general have overall supervision of the financial operations of the Corporation. The Chief Financial Officer shall, when requested, counsel with and advise the other officers of the Corporation and shall perform such other duties as the Board of Directors or the Chief Executive Officer may from time to time determine.
Section 5.6 **Treasurer.** The Treasurer shall supervise and be responsible for all the funds and securities of the Corporation, the deposit of all moneys and other valuables to the credit of the Corporation in depositories of the Corporation, borrowings and compliance with the provisions of all indentures, agreements and instruments governing such borrowings to which the Corporation is a party, the disbursement of funds of the Corporation and the investment of its funds, and in general shall perform all of the duties incident to the office of the Treasurer. The Treasurer shall, when requested, counsel with and advise the other officers of the Corporation and shall perform such other duties as the Board of Directors, the Chief Executive Officer or the Chief Financial Officer may from time to time determine.

Section 5.7 **Controller.** The Controller shall have responsibility for the Corporation’s accounting policies and practices. The Controller shall, when requested, counsel with and advise the other officers of the Corporation and shall perform such other duties as the Board of Directors, the Chief Executive Officer or the Chief Financial Officer may from time to time determine.

Section 5.8 **Secretary.** The powers and duties of the Secretary are: (i) to act as Secretary at all meetings of the Board of Directors, of the committees of the Board of Directors and of the stockholders and to record the proceedings of such meetings in a book or books to be kept for that purpose; (ii) to see that all notices required to be given by the Corporation are duly given and served; (iii) to act as custodian of the seal of the Corporation and affix the seal or cause it to be affixed to all certificates of stock of the Corporation and to all documents, the execution of which on behalf of the Corporation under its seal is duly authorized in accordance with the provisions of these Bylaws; (iv) to have charge of the books, records and papers of the Corporation and see that the reports, statements and other documents required by law to be kept and filed are properly kept and filed; and (v) to perform all of the duties incident to the office of Secretary. The Secretary shall, when requested, counsel with and advise the other officers of the Corporation and shall perform such other duties as the Board of Directors or the Chief Executive Officer may from time to time determine.

Section 5.9 **Additional Matters.** The Chief Executive Officer and the Chief Financial Officer of the Corporation shall have the authority to designate employees of the Corporation to have the title of Vice President, Assistant Vice President, Assistant Treasurer or Assistant Secretary. Any employee so designated shall have the powers and duties determined by the officer making such designation. The persons upon whom such titles are conferred shall not be deemed officers of the Corporation unless elected by the Board of Directors.

Section 5.10 **Checks; Drafts; Evidences of Indebtedness.** From time to time, the Board of Directors shall determine the method, and designate (or authorize officers of the Corporation to designate) the person or persons who shall have authority, to sign or endorse all checks, drafts, other orders for payment of money and notes, bonds, debentures or other evidences of indebtedness that are issued in the name of or payable by the Corporation, and only the persons so authorized shall sign or endorse such instruments.
Section 5.11 Corporate Contracts and Instruments: How Executed. Except as otherwise provided in these Bylaws, the Board of Directors may determine the method, and designate (or authorize officers of the Corporation to designate) the person or persons who shall have authority to enter into any contract or execute any instrument in the name of and on behalf of the Corporation. Such authority may be general or confined to specific instances. Unless so authorized, or within the power incident to a person's office or other position with the Corporation, no person shall have any power or authority to bind the Corporation by any contract or engagement or to pledge its credit or to render it liable for any purpose or for any amount.

Section 5.12 Signature Authority. Unless otherwise determined by the Board of Directors or otherwise provided by law or these Bylaws, contracts, evidences of indebtedness and other instruments or documents of the Corporation may be executed, signed or endorsed: (i) by the Chief Executive Officer or the Chairman of the Board (if such individual is an officer of the Corporation); or (ii) by the Chief Financial Officer, Treasurer, Secretary or Controller, in each case only with regard to such instruments or documents that pertain to or relate to such person's duties or business functions.

Section 5.13 Action with Respect to Securities of Other Corporations or Entities. The Chief Executive Officer or any other officer of the Corporation authorized by the Board of Directors or the Chief Executive Officer is authorized to vote, represent, and exercise on behalf of the Corporation all rights incident to any and all shares or other equity interests of any other corporation or entity or corporations or entities, standing in the name of the Corporation. The authority herein granted may be exercised either by such person directly or by any other person authorized to do so by proxy or power of attorney duly executed by the person having such authority.

Section 5.14 Delegation. The Board of Directors may from time to time delegate the powers or duties of any officer to any other officers or agents, notwithstanding the foregoing provisions of this Article V.

ARTICLE VI
INDEMNIFICATION AND ADVANCEMENT OF EXPENSES

Section 6.1 Right to Indemnification. Each person who was or is a party or is threatened to be made a party to, or was or is otherwise involved in, any action, suit, arbitration, alternative dispute resolution mechanism, investigation, inquiry, judicial, administrative or legislative hearing, or any other threatened, pending or completed proceeding, whether brought by or in the right of the Corporation or otherwise, including any and all appeals, whether of a civil, criminal, administrative, investigative or other nature (hereinafter a "proceeding"), by reason of the fact that he or she is or was a director or an officer (which means, for purposes of this Article VI, any individual designated by the Board of Directors as an officer for purposes of Section 16 of the Exchange Act) of the Corporation or while a director or officer of the Corporation is or was serving at the request of the Corporation as a director, officer, employee, agent or trustee of another corporation or of a partnership, joint venture, trust or other enterprise, including service with respect to an employee benefit plan (hereinafter an "indemnitee"), or by reason of anything done or not done by him or her in any such capacity, shall be indemnified and held harmless by the Corporation to the fullest extent authorized by the DGCL, as the same exists or may hereafter be amended, against all expense, liability and loss (including attorneys' fees, judgments, fines, ERISA excise taxes, penalties and amounts paid in settlement by or on behalf of the indemnitee) actually and reasonably incurred by such
Section 6.2 Right to Advancement of Expenses.

(a) In addition to the right to indemnification conferred in Section 6.1, an indemnitee shall, to the fullest extent permitted by law, also have the right to be paid by the Corporation the expenses (including attorneys’ fees) incurred in defending any proceeding in advance of its final disposition (hereinafter an “advancement of expenses”); provided, however, that an advancement of expenses shall be made only upon delivery to the Corporation of an undertaking (hereinafter an “undertaking”), by or on behalf of such indemnitee, to repay all amounts so advanced if it shall ultimately be determined by final judicial decision of a court of competent jurisdiction from which there is no further right to appeal (hereinafter a “final adjudication”) that such indemnitee is not entitled to be indemnified for such expenses under this Article VI or otherwise.

(b) Notwithstanding the foregoing Section 6.2(a), the Corporation shall not make or continue to make advancements of expenses to an indemnitee if a determination is reasonably made that the facts known at the time such determination is made demonstrate clearly and convincingly that the indemnitee acted in bad faith or in a manner that the indemnitee did not reasonably believe to be in or not opposed to the best interests of the Corporation, or, with respect to any criminal proceeding, that the indemnitee had reasonable cause to believe his or her conduct was unlawful. Such determination shall be made: (i) by the Board of Directors by a majority vote of directors who are not parties to such proceeding, whether or not such majority constitutes a quorum; (ii) by a committee of such directors designated by a majority vote of such directors, whether or not such majority constitutes a quorum; or (iii) if there are no such directors, or if such directors so direct, by independent legal counsel in a written opinion to the Board of Directors, a copy of which shall be delivered to the indemnitee.

Section 6.3 Right of Indemnitee to Bring Suit. If a request for indemnification under Section 6.1 is not paid in full by the Corporation within 60 days, or if a request for an advancement of expenses under Section 6.2 is not paid in full by the Corporation within 20 days, after a written request has been received by the Secretary of the Corporation, the indemnitee may at any time thereafter bring suit against the Corporation in a court of competent jurisdiction in the State of Delaware seeking an adjudication of entitlement to such indemnification or advancement of expenses. If successful in whole or in part in any such suit, or in a suit brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the indemnitee shall be entitled to be paid also the expense of prosecuting or defending such suit to the fullest extent permitted by law. In any suit brought by the indemnitee to enforce a right to indemnification hereunder (but not in a suit brought by the indemnitee to
enforce a right to an advancement of expenses) it shall be a defense that the indemnitee has not met any applicable standard of conduct for indemnification set forth in the DGCL. Further, in any suit brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the Corporation shall be entitled to recover such expenses upon a final adjudication that the indemnitee has not met any applicable standard of conduct for indemnification set forth in the DGCL. Neither the failure of the Corporation (including its directors who are not parties to such action, a committee of such directors, independent legal counsel or its stockholders) to have made a determination prior to the commencement of such suit that indemnification of the indemnitee is proper in the circumstances because the indemnitee has met the applicable standard of conduct set forth in the DGCL, nor an actual determination by the Corporation (including its directors who are not parties to such action, a committee of such directors, independent legal counsel or its stockholders) that the indemnitee has not met such applicable standard of conduct, shall create a presumption that the indemnitee has not met the applicable standard of conduct or, in the case of such a suit brought by the indemnitee, be a defense to such suit. In any suit brought by the indemnitee to enforce a right to indemnification or to an advancement of expenses hereunder, or brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the burden of proving that the indemnitee is not entitled to be indemnified, or to such advancement of expenses, under applicable law, this Article VI or otherwise shall be on the Corporation.

Section 6.4 **Non-Exclusivity of Rights.** The rights to indemnification and to the advancement of expenses conferred in this Article VI shall not be exclusive of any other right which any person may have or hereafter acquire under any law, agreement, vote of stockholders or disinterested directors, provisions of a certificate of incorporation or bylaws, or otherwise.

Section 6.5 **Insurance.** The Corporation may maintain insurance, at its expense, to protect itself and any director, officer, employee or agent of the Corporation or another corporation, partnership, joint venture, trust or other enterprise against any expense, liability or loss, whether or not the Corporation would have the power to indemnify such person against such expense, liability or loss under the DGCL.

Section 6.6 **Indemnification of Employees and Agents of the Corporation.** The Corporation may, to the extent and in the manner permitted by law, and to the extent authorized from time to time, grant rights to indemnification and to the advancement of expenses to any employee or agent of the Corporation.

Section 6.7 **Nature of Rights.** The rights conferred upon indemnitees in this Article VI shall be contract rights and such rights shall continue as to an indemnitee who has ceased to be a director or officer and shall inure to the benefit of the indemnitee’s heirs, executors and administrators. Any amendment, alteration or repeal of this Article VI that adversely affects any right of an indemnitee or its successors shall be prospective only and shall not limit or eliminate any such right with respect to any proceeding involving any occurrence or alleged occurrence of any action or omission to act that took place prior to such amendment, alteration or repeal.
Section 6.8 Settlement of Claims. Notwithstanding anything in this Article VI to the contrary, the Corporation shall not be liable to indemnify any indemnitee under this Article VI for any amounts paid in settlement of any proceeding effected without the Corporation’s written consent, which consent shall not be unreasonably withheld.

Section 6.9 Subrogation. In the event of payment under this Article VI, the Corporation shall be subrogated to the extent of such payment to all of the rights of recovery of the indemnitee (excluding insurance obtained on the indemnitee’s own behalf), and the indemnitee shall execute all papers required and shall do everything that may be necessary to secure such rights, including the execution of such documents necessary to enable the Corporation effectively to bring suit to enforce such rights.

Section 6.10 Severability. If any provision or provisions of this Article VI shall be held to be invalid, illegal or unenforceable as applied to any person or entity or circumstance for any reason whatsoever, then, to the fullest extent permitted by law: (a) the validity, legality and enforceability of such provision in any other circumstance and of the remaining provisions of this Article VI (including, without limitation, all portions of any paragraph of this Article VI containing any such provision held to be invalid, illegal or unenforceable, that are not by themselves invalid, illegal or unenforceable) and the application of such provision to other persons or entities or circumstances shall not in any way be affected or impaired thereby; and (b) to the fullest extent possible, the provisions of this Article VI (including, without limitation, all portions of any paragraph of this Article VI containing any such provision held to be invalid, illegal or unenforceable, that are not themselves invalid, illegal or unenforceable) shall be construed so as to give effect to the intent of the parties that the Corporation provide protection to the indemnitee to the fullest extent set forth in this Article VI.

ARTICLE VII
CAPITAL STOCK

Section 7.1 Certificates of Stock. The shares of the Corporation shall be represented by certificates; provided, however, that the Board of Directors may provide by resolution or resolutions that some or all of any or all classes or series of stock shall be uncertificated shares. Any such resolution shall not apply to shares represented by a certificate until such certificate is surrendered to the Corporation. Every holder of stock represented by certificates shall be entitled to have a certificate signed by or in the name of the Corporation by any two authorized officers of the Corporation, including, without limitation, the Chief Executive Officer, the Chief Financial Officer, the Treasurer, the Controller, the Secretary, or an Assistant Treasurer or Assistant Secretary, of the Corporation certifying the number of shares owned by such holder in the Corporation. Any or all such signatures may be facsimiles. In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate has ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the Corporation with the same effect as if such person were such officer, transfer agent or registrar at the date of issue.

Section 7.2 Special Designation on Certificates. If the Corporation is authorized to issue more than one class of stock or more than one series of any class, then the powers, the designations, the preferences, and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights shall be set forth in full or summarized on the face or back of the
certificate that the Corporation shall issue to represent such class or series of stock; provided, however, that, except as otherwise provided in Section 202 of the DGCL, in lieu of the foregoing requirements there may be set forth on the face or back of the certificate that the Corporation shall issue to represent such class or series of stock a statement that the Corporation will furnish without charge to each stockholder who so requests the powers, the designations, the preferences, and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights. Within a reasonable time after the issuance or transfer of uncertificated stock, the registered owner thereof shall be given a notice, in writing or by electronic transmission, containing the information required to be set forth or stated on certificates pursuant to this Section 7.2 or Sections 151, 156, 202(a) or 218(a) of the DGCL or with respect to this Section 7.2 and Section 151 of the DGCL a statement that the Corporation will furnish without charge to each stockholder who so requests the powers, the designations, the preferences, and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights. Except as otherwise expressly provided by law, the rights and obligations of the holders of uncertificated stock and the rights and obligations of the holders of certificates representing stock of the same class and series shall be identical.

Section 7.3 Transfers of Stock. Transfers of shares of stock of the Corporation shall be made only on the books of the Corporation upon authorization by the registered holder thereof or by such holder’s attorney thereunto authorized by a power of attorney duly executed and filed with the Secretary of the Corporation or a transfer agent for such stock, and if such shares are represented by a certificate, upon surrender of the certificate or certificates for such shares properly endorsed or accompanied by a duly executed stock transfer power and the payment of any taxes thereon; provided, however, that the Corporation shall be entitled to recognize and enforce any lawful restriction on transfer. Transfers may also be made in any manner authorized by the Corporation (or its authorized transfer agent) and permitted by Section 224 of the DGCL.

Section 7.4 Lost Certificates. The Corporation may issue a new share certificate or uncertificated shares in the place of any certificate theretofore issued by it, alleged to have been lost, stolen or destroyed, and the Corporation may require the owner of the lost, stolen or destroyed certificate or the owner’s legal representative to give the Corporation a bond (or other adequate security) sufficient to indemnify it against any claim that may be made against it (including any expense or liability) on account of the alleged loss, theft or destruction of any such certificate or the issuance of such new certificate or uncertificated shares. The Board of Directors may adopt such other provisions and restrictions with reference to lost certificates, not inconsistent with applicable law, as it shall in its discretion deem appropriate.

Section 7.5 Registered Stockholders. The Corporation shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends, and to vote as such owner, and shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of any other person, whether or not it shall have express or other notice thereof, except as otherwise required by law.
Section 7.6 **Record Date for Determining Stockholders.**

(a) In order that the Corporation may determine the stockholders entitled to notice of any meeting of stockholders or any adjourned meeting, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which record date shall, unless otherwise required by law, not be more than 60 nor less than 10 days before the date of such meeting. If the Board of Directors so fixes a date, such date shall also be the record date for determining the stockholders entitled to vote at such meeting unless the Board of Directors determines, at the time it fixes such record date, that a later date on or before the date of the meeting shall be the date for making such determination. If no record date is fixed by the Board of Directors, the record date for determining stockholders entitled to notice of and to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjourned meeting; provided, however, that the Board of Directors may fix a new record date for the determination of stockholders entitled to vote at the adjourned meeting, and in such case shall also fix as the record date for stockholders entitled to notice of such adjourned meeting the same or an earlier date as that fixed for determination of stockholders entitled to vote in accordance herewith at the adjourned meeting.

(b) In order that the Corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which record date shall not be more than 60 days prior to such action. If no such record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto.

Section 7.7 **Regulations.** To the extent permitted by applicable law, the Board of Directors may make such additional rules and regulations as it may deem expedient concerning the issue, transfer and registration of shares of stock of the Corporation.

Section 7.8 **Waiver of Notice.** Whenever notice is required to be given under any provision of the DGCL or the Certificate of Incorporation or these Bylaws, a written waiver, signed by the person entitled to notice, or a waiver by electronic transmission by the person entitled to notice, whether before or after the time stated therein, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the stockholders, the Board of Directors or a committee of the Board of Directors need be specified in any written waiver of notice or any waiver by electronic transmission unless so required by the Certificate of Incorporation or these Bylaws.
ARTICLE VIII
GENERAL MATTERS

Section 8.1 Fiscal Year. The fiscal year of the Corporation shall begin on the first day of January of each year and end on the last day of December of the same year, or shall extend for such other 12 consecutive months as the Board of Directors may designate.

Section 8.2 Corporate Seal. The Board of Directors may provide a suitable seal, containing the name of the Corporation, which seal shall be in the charge of the Secretary of the Corporation. If and when so directed by the Board of Directors or a committee thereof, duplicates of the seal may be kept and used by the Treasurer or by an Assistant Secretary or Assistant Treasurer.

Section 8.3 Reliance Upon Books, Reports and Records. Each director and each member of any committee designated by the Board of Directors shall, in the performance of his or her duties, be fully protected in relying in good faith upon the books of account or other records of the Corporation and upon such information, opinions, reports or statements presented to the Corporation by any of its officers or employees, or committees of the Board of Directors so designated, or by any other person as to matters which such director or committee member reasonably believes are within such other person's professional or expert competence and who has been selected with reasonable care by or on behalf of the Corporation.

Section 8.4 Subject to Law and Certificate of Incorporation. All powers, duties and responsibilities provided for in these Bylaws, whether or not explicitly so qualified, are qualified by the Certificate of Incorporation (including any Preferred Stock Designation) and applicable law.

Section 8.5 Electronic Signatures, etc. Except as otherwise required by the Certificate of Incorporation (including as otherwise required by any Preferred Stock Designation) or these Bylaws (including, without limitation, as otherwise required by Section 2.14), any document, including, without limitation, any consent, agreement, certificate or instrument, required by the DGCL, the Certificate of Incorporation (including any Preferred Stock Designation) or these Bylaws to be executed by any officer, director, stockholder, employee or agent of the Corporation may be executed using a facsimile or other form of electronic signature to the fullest extent permitted by applicable law. All other contracts, agreements, certificates or instruments to be executed on behalf of the Corporation may be executed using a facsimile or other form of electronic signature to the fullest extent permitted by applicable law. The terms “electronic mail,” “electronic mail address,” “electronic signature” and “electronic transmission” as used herein shall have the meanings ascribed thereto in the DGCL.
ARTICLE IX
AMENDMENTS

Section 9.1 Amendments. In furtherance and not in limitation of the powers conferred by the laws of the State of Delaware, the Board of Directors is expressly authorized to adopt, amend or repeal these Bylaws. Except as otherwise provided in the Certificate of Incorporation (including the terms of any Preferred Stock Designation that provides for a greater or lesser vote) or these Bylaws, and in addition to any other vote required by law, the affirmative vote of at least 66\(\frac{2}{3}\)% of the voting power of the stock outstanding and entitled to vote thereon, voting together as a single class, shall be required for the stockholders to adopt, amend or repeal, or adopt any provision inconsistent with, any provision of these Bylaws.

The foregoing Amended and Restated Bylaws were adopted by the Board of Directors on [•], 2020 and approved by the stockholders on [•], 2020 subject to and effective upon the effectiveness of the Corporation's Registration Statement on Form S-1 for its initial public offering.
SHATTUCK LABS, INC.

SECOND AMENDED AND RESTATED INVESTORS’ RIGHTS AGREEMENT

This Second Amended and Restated Investors’ Rights Agreement (this “Agreement”) is made and entered into as of June 12, 2020 by and among Shattuck Labs, Inc., a Delaware corporation (the “Company”), and each of the investors listed on Schedule A hereto, each of which is referred to in this Agreement as an “Investor,” each of the stockholders listed on Schedule B hereto, each of whom is referred to herein as a “Key Holder,” and any other Person that becomes a party to this Agreement in accordance with Section 7.14 hereof.

RECITALS

WHEREAS, the Company, certain Investors and certain Key Holders (such Investors and Key Holders collectively, the “Existing Holders”) have previously entered into that certain Amended and Restated Investors’ Rights Agreement dated as of January 31, 2020 (the “Prior Agreement”);

WHEREAS, the Existing Holders and the Company desire to induce certain Investors to purchase shares of the Company’s Series B-1 Preferred Stock, par value $0.0001 per share (the “Series B-1 Preferred Stock”) pursuant to that certain Series B-1 Preferred Stock Purchase Agreement, dated as of June 8, 2020 (the “Purchase Agreement”), by amending and restating the Prior Agreement to provide the Investors and Key Holders with the rights and privileges as set forth herein; and

WHEREAS, the parties executing this Agreement hold a sufficient number of shares of capital stock of the Company to amend and restate the Prior Agreement.

NOW, THEREFORE, in consideration of the foregoing recitals and the mutual promises hereinafter set forth, the parties hereto hereby agree as follows:

1. DEFINITIONS. For purposes of this Agreement:

“ Affiliate” means, with respect to any specified Person, such Person’s principal or any other Person who or which, directly or indirectly, controls, is controlled by, or is under common control with such Person or such Person’s principal, including, without limitation, any general partner, managing member or partner, officer or director of such Person or such Person’s principal or any venture capital fund, other investment fund or registered investment company now or hereafter existing that is controlled by one or more general partners, managing members or investment adviser of, or shares the same management company or investment adviser with, such Person or such Person’s principal. For purposes of this definition, the terms “controlling,” “controlled by,” or “under common control with” will mean the possession, directly or indirectly, of (a) the power to direct or cause the direction of the management and policies of a Person, whether through the ownership of voting securities, by contract, or otherwise, or (b) the power to elect or appoint at least fifty percent (50%) of the directors, managers, general partners, or persons exercising similar authority with respect to such Person.
“Automatic Shelf Registration Statement” will have the meaning given to that term in SEC Rule 405.

“Board” means the board of directors of the Company.

“Budget” will have the meaning given to that term in Section 2.1.1.

“business day” means a weekday on which banks are open for general banking business in Austin, Texas.

“Certificate” means the Company’s Amended and Restated Certificate of Incorporation (as may be amended from time to time).

“CFIUS” means the Committee on Foreign Investment in the United States.

“Common Stock” means shares of the Company’s common stock, par value $0.0001 per share.

“Damages” means any loss, damage, or liability (joint or several) to which a party hereto may become subject under the Securities Act, the Exchange Act, or other federal or state law, insofar as such loss, damage, or liability (or any action in respect thereof) arises out of or is based upon (a) any untrue statement or alleged untrue statement of a material fact contained in any registration statement of the Company, including any preliminary prospectus or final prospectus contained therein or any amendments or supplements thereto, and any free-writing prospectus and any issuer information (as defined in Rule 433 of the Securities Act) filed or required to be filed pursuant to Rule 433(d) under the Securities Act or any other document incident to such registration prepared by or on behalf of the Company or used or referred to by the Company; (b) an omission or alleged omission to state therein a material fact required to be stated therein, or necessary to make the statements therein not misleading; or (c) any violation or alleged violation by the indemnifying party (or any of its agents or Affiliates) of the Securities Act, the Exchange Act, any state securities law, or any rule or regulation promulgated under the Securities Act, the Exchange Act, or any state securities law.

“Demand Notice” means notice sent by the Company to the Holders that are Major Investors specifying that a demand registration has been requested as provided in Section 3.1.1.

“Derivative Securities” means any securities or rights convertible into, or exercisable or exchangeable for (in each case, directly or indirectly), Common Stock, including options and warrants.

“Deemed Liquidation Event” has the meaning set forth for such term in the certificate of incorporation of the Company most recently filed with the Delaware Secretary of State that contains such a definition, whether or not the holders of outstanding shares of Preferred Stock elect otherwise by written notice sent to the Company as provided in such definition.

“EcoRI” means EcoRI Capital Fund, L.P., EcoRI Capital Fund Qualified, L.P. and EcoRI Venture Opportunity Fund, L.P.

“Excluded Registration” means (a) a registration relating to the sale of securities to employees of the Company or a subsidiary pursuant to an equity incentive, stock option, stock purchase, or similar plan; (b) a registration relating to an SEC Rule 145 transaction; (c) a registration on any form that does not include substantially the same information as would be required to be included in a registration statement covering the sale of the Registrable Securities; or (d) a registration in which the only Common Stock being registered is Common Stock issuable upon conversion of debt securities that are also being registered.

“Form S-1” means such form under the Securities Act as in effect on the date hereof or any successor registration form under the Securities Act subsequently adopted by the SEC.

“Form S-3” means such form under the Securities Act as in effect on the date hereof or any registration form under the Securities Act subsequently adopted by the SEC that permits incorporation of substantial information by reference to other documents filed by the Company with the SEC.

“Free Writing Prospectus” means a free-writing prospectus, as defined in Rule 405 under the Securities Act.

“GAAP” means generally accepted accounting principles in the United States.

“Hatteras” means Hatteras Venture Partners VI, LP and Hatteras NC Fund, LP.

“Holder” means any holder of Registrable Securities who is a party to this Agreement.

“Immediate Family Member” means a child, stepchild, grandchild, parent, stepparent, grandparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, or sister-in-law, including adoptive relationships, of a natural person referred to herein.

“Initiating Holders” means, collectively, Holders who properly initiate a registration request under this Agreement.

“Investor Notice” will have the meaning set forth in Section 4.2.

“IPO” means the Company’s first underwritten public offering of its Common Stock under the Securities Act.


“Key Employee” means any executive-level employee (including, division director and vice president-level positions) as well as any employee who, either alone or in concert with others, develops, invents, programs, or designs any Company Intellectual Property (as defined in the Purchase Agreement).
“**Key Holder Registrable Securities**” means (a) the shares of Common Stock held by the Key Holders, and (b) any Common Stock issued as (or issuable upon the conversion or exercise of any warrant, right, or other security that is issued as) a dividend or other distribution with respect to, or in exchange for or in replacement of such shares; **provided** that for purposes of Section 3.1, “**Key Holder Registrable Securities**” shall only include shares of Common Stock held by a Key Holder who is, or whose Affiliate is, then providing services to the Company as an employee, consultant, advisor or director.

“**Major Investor**” means any Investor that, individually or together with such Investor’s Affiliates, holds at least 16,006 shares of Registrable Securities (as adjusted for any stock split, stock dividend, combination, or other recapitalization or reclassification effected after the date hereof).

“**New Securities**” means, collectively, equity securities of the Company, whether or not currently authorized, Derivative Securities and any rights, options, or warrants to purchase such equity securities, or securities of any type whatsoever that are, or may become, convertible or exchangeable into or exercisable for (in each case, directly or indirectly) such equity securities; **provided however**, that “New Securities” will exclude Exempted Securities (as defined in the Certificate) other than the securities set forth in clause (x) of the definition of Exempted Securities.

“**Offer Notice**” will have the meaning set forth in Section 4.1.

“**Person**” means any individual, corporation, partnership, trust, limited liability company, association or other entity.

“**PFM**” means PFM Healthcare Master Fund, L.P.

“**Preferred Directors**” means the Series A Directors and the Series B-1 Directors.

“**Preferred Stock**” means, collectively, shares of the Company’s Series A Preferred Stock, Series B Preferred Stock and Series B-1 Preferred Stock.

“**Pro Rata Amount**” means, for each Major Investor, that portion of the New Securities identified in an Offer Notice which equals the proportion that the Common Stock issued and held, or issuable (directly or indirectly) upon conversion and/or exercise, as applicable, of the Preferred Stock and any other Derivative Securities then held, by such Major Investor bears to the total Common Stock of the Company then outstanding (assuming full conversion and/or exercise, as applicable, of all Preferred Stock and other Derivative Securities).

“**Redmile**” means Redmile Biopharma Investments II, L.P.

“**Registrable Securities**” means (a) the Common Stock issuable or issued upon conversion of shares of the Preferred Stock held by the Investors; (b) the Key Holder Registrable Securities; and (c) any Common Stock issued as (or issuable upon the conversion or exercise of any warrant, right, or other security that is issued as) a dividend or other distribution with respect to, or in
exchange for or in replacement of, the shares referenced in clauses (a) through (c) above; excluding in all cases, however, any Registrable Securities sold by a Person in a transaction in which the applicable rights under this Agreement are not assigned pursuant to Section 7.1, and excluding for purposes of Section 3 any shares for which registration rights have terminated pursuant to Section 6.2 of this Agreement. Notwithstanding the foregoing, the Company will in no event be obligated to register any Preferred Stock of the Company, and Holders of Registrable Securities will not be required to convert their Preferred Stock into Common Stock in order to exercise the registration rights granted hereunder, until immediately before the closing of the offering to which the registration relates.

“Registrable Securities then outstanding” means the number of shares determined by adding the number of shares of outstanding Common Stock that are Registrable Securities and the number of shares of Common Stock issuable (directly or indirectly) pursuant to then exercisable and/or convertible securities that are Registrable Securities.

“Restricted Securities” means the securities of the Company required to bear the legend set forth in Section 3.12.2 hereof.

“SEC” means the Securities and Exchange Commission.

“SEC Rule 144” means Rule 144 promulgated by the SEC under the Securities Act.

“SEC Rule 145” means Rule 145 promulgated by the SEC under the Securities Act.

“SEC Rule 405” means Rule 405 promulgated by the SEC under the Securities Act.

“Securities Act” means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

“Selling Expenses” means all underwriting discounts, selling commissions, and stock transfer taxes applicable to the sale of Registrable Securities, and fees and disbursements of counsel for any Holder, except for the fees and disbursements of the Selling Holder Counsel borne and paid by the Company as provided in Section 3.6.

“Selling Holder Counsel” means one counsel for the selling Holders.

“Series A Director” means any director of the Company that the holders of record of the Series A Preferred Stock are entitled to elect, exclusively and as a separate class, pursuant to the Certificate.

“Series A Preferred Stock” means shares of the Company’s Series A Preferred Stock, par value $0.0001 per share.

“Series B-1 Director” means any director of the Company that the holders of record of the Series B-1 Preferred Stock are entitled to elect, exclusively and as a separate class, pursuant to the Certificate.

“Series B Preferred Stock” means shares of the Company’s Series B Preferred Stock, par value $0.0001 per share.
“Standoff Period” means the period commencing on the date of the final prospectus relating to an underwritten public offering of the Company’s Common Stock under the Securities Act and ending on the date specified by the Company and the managing underwriter (such period not to exceed one hundred eighty (180) days in the event of the Company’s initial public offering or ninety (90) days in the event of any subsequent offering).

“Stock Sale” means a sale by the Company’s stockholders, in one transaction or series of related transactions, of equity securities that represent, immediately prior to such transaction or transactions, a majority by voting power of the equity securities of the Company pursuant to an agreement approved by the Board and entered into by the Company.

“Takeda” means Millennium Pharmaceuticals, Inc.

2. INFORMATION RIGHTS.

2.1 Delivery of Financial Statements.

2.1.1 Information to be Delivered. The Company will deliver the following to each Major Investor, provided that the Board has not reasonably determined that such Major Investor is a competitor of the Company (provided that none of Redmile, Janus, PFM, EcoR1, and their respective Affiliates shall be considered a competitor of the Company and provided, further, that Takeda shall be entitled to the information in Section 2.1.1(a), (b), (c), (d), and (e) in any event):

(a) As soon as practicable, but in any event before the earlier of ninety (90) days after the end of each fiscal year of the Company and fifteen (15) days of being made available to the Company, (i) a balance sheet as of the end of such year, (ii) statements of income and of cash flows for such year, and (iii) a statement of stockholders’ equity as of the end of such year, all such financial statements audited and certified by independent public accountants of nationally recognized standing selected by the Company.

(b) As soon as practicable, but in any event within forty-five (45) days after the end of each of the first three (3) quarters of each fiscal year of the Company, unaudited statements of income and of cash flows for such fiscal quarter, and an unaudited balance sheet, and a statement of stockholders’ equity as of the end of such fiscal quarter, all prepared in accordance with GAAP (except that such financial statements may (i) be subject to normal year-end and audit adjustments and (ii) not contain all notes thereto that may be required in accordance with GAAP).

(c) As soon as practicable, but in any event within thirty (30) days before the end of each fiscal year, a budget for the next fiscal year, approved by the Board and prepared on a monthly basis, including balance sheets, income statements, and statements of cash flow for such months (the “Budget”) and, promptly after prepared, any other budgets or revised budgets prepared by the Company.

(d) Promptly following the end of each quarter of the fiscal year, an updated capitalization table of the Company if requested by any Major Investor.
(e) Such other information relating to the financial condition, business, prospects or corporate affairs of the Company as any Major Investor may from time to time reasonably request; provided, however, that the Company will not be obligated under this Section 2.1.1(e) to provide information (i) that the Company reasonably determines in good faith (x) to be a trade secret or confidential information or (y) should be kept confidential for strategic business reasons; or (ii) the disclosure of which would adversely affect the attorney-client privilege between the Company and its counsel.

2.1.2 Consolidation. If, for any period, the Company has any subsidiary whose accounts are consolidated with those of the Company, then in respect of such period the financial statements delivered pursuant to Section 2.1.1 will be the consolidated and consolidating financial statements of the Company and all such consolidated subsidiaries.

2.1.3 Suspension or Termination. Notwithstanding anything else in this Section 2.1 to the contrary but subject to Section 6.1, the Company may cease providing the information set forth in this Section 2.1 during the period starting with the date sixty (60) days before the Company’s good-faith estimate of the date of filing of a registration statement if it reasonably concludes it must do so to comply with the SEC rules applicable to such registration statement and related offering; provided that the Company’s covenants under this Section 2.1 will be reinstated at such time as the Company is no longer actively employing its reasonable efforts to cause such registration statement to become effective.

2.2 Inspection. The Company will permit each Major Investor (provided that the Board has not reasonably determined that such Major Investor is a competitor of the Company; provided that none of Redmile, Janus, PFM, EcoR1 and their respective Affiliates shall be considered a competitor of the Company; provided, further, that Takeda shall also be permitted even if the Board has determined that Takeda is a competitor), at such Major Investor’s expense, to visit and inspect the Company’s properties; examine its books of account and records; and discuss the Company's affairs, finances, and accounts with its officers, during normal business hours of the Company as may be reasonably requested by the Major Investor; provided, however, that the Company will not be obligated pursuant to this Subsection 2.2 to provide access to any information that it reasonably and in good faith considers (a) to be a trade secret or confidential information or (b) should be kept confidential for strategic business reasons or the disclosure of which would adversely affect the attorney-client privilege between the Company and its counsel.

2.3 Confidentiality. Each Investor agrees that such Investor will keep confidential and will not disclose, divulge, or use for any purpose (other than to monitor its investment in the Company) any confidential information obtained from the Company pursuant to the terms of this Agreement unless such confidential information (a) is known or becomes known to the public in general (other than as a result of a breach of this Section 2.3 by such Investor), (b) is or has been independently developed or conceived by the Investor without access to, reference to, or reliance upon the Company’s confidential information as demonstrated by competent and contemporaneous written records, or (c) is or has been made known or disclosed to the Investor by a third party rightfully in possession of such confidential information and without a breach of any obligation of confidentiality such third party may have to the Company; provided, however, that an Investor may disclose confidential information to the following persons so long as such persons are subject to written obligations of confidentiality no less restrictive than this Section 2: (i) to its attorneys, accountants, consultants, and other professionals to the extent necessary to
obtain their services in connection with monitoring its investment in the Company; (ii) to any prospective purchaser of any Registrable Securities from such Investor, if such prospective purchaser agrees to be bound by the provisions of this Section 2.3; (iii) to any existing or prospective Affiliate, partner, member, stockholder, or wholly owned subsidiary of such Investor to the extent such disclosure is necessary for the ordinary course of business; or (iv) as may otherwise be required by law if the Investor promptly notifies the Company of such disclosure and takes reasonable steps to minimize the extent of any such required disclosure.

3. REGISTRATION RIGHTS.

3.1 Demand Registration.

3.1.1 Form S-1 Demand. If at any time after the earlier of (a) five (5) years after the date of this Agreement or (b) one hundred eighty (180) days after the effective date of the registration statement for the IPO, the Company receives a request from either (x) Holders who are Major Investors and hold at least a majority of the Registrable Securities then outstanding and held by Major Investors or (y) Holders who are Major Investors and hold at least seventy percent (70%) of the Registrable Securities then outstanding that are Registrable Securities under clauses (a) and (c) (solely to the extent derived from Registrable Securities under clause (a)) of the definition thereof, that the Company file a Form S-1 registration statement with respect to any Registrable Securities then outstanding (and the Registrable Securities subject to such request have an anticipated aggregate offering price, net of Selling Expenses, of at least $25,000,000), then the Company will (i) within ten (10) business days after the date such request is given, give a Demand Notice to all Holders that are Major Investors other than the Initiating Holders; and (ii) use commercially reasonable efforts to as soon as practicable, and in any event within ninety (90) days after the date such request is given by the Initiating Holders, file a Form S-1 registration statement under the Securities Act covering all Registrable Securities that the Initiating Holders requested to be registered and any additional Registrable Securities requested to be included in such registration by any other Holders that are Major Investors, as specified by notice given by each such Holder to the Company within twenty (20) days after the date the Demand Notice is given, and in each case, subject to the limitations of Section 3.1.3 and Section 3.3.

3.1.2 Form S-3 Demand. If at any time when it is eligible to use a Form S-3 registration statement, the Company receives a request either (x) Holders who are Major Investors and hold at least a majority of the Registrable Securities then outstanding and held by Major Investors or (y) Holders who are Major Investors and hold at least seventy percent (70%) of the Registrable Securities then outstanding that are Registrable Securities under clauses (a) and (c) (solely to the extent derived from Registrable Securities under clause (a)) of the definition thereof, that the Company file a Form S-3 registration statement with respect to outstanding Registrable Securities of such Holders having an anticipated aggregate offering price, net of Selling Expenses, of at least $5,000,000, then the Company will (a) within ten (10) days after the date such request is given, give a Demand Notice to all Holders that are Major Investors other than the Initiating Holders; and (b) use commercially reasonable efforts to as soon as practicable, and in any event within forty-five (45) days after the date such request is given by the Initiating Holders, file a Form S-3 registration statement under the Securities Act covering all Registrable Securities requested to be included in such registration by any other Holders that are Major Investors, as specified by notice given by each such Holder to the Company within twenty (20) days of the date the Demand Notice is given, and in each case, subject to the limitations of Section 3.1.3 and Section 3.3.
3.1.3 Delay. Notwithstanding the foregoing obligations, if the Company furnishes to Holders requesting a registration pursuant to this Section 3.1 a certificate signed by the Company's chief executive officer stating that in the good faith judgment of the Board it would be materially detrimental to the Company and its stockholders for such registration statement to either become effective or remain effective for as long as such registration statement otherwise would be required to remain effective, because such action would (a) materially interfere with a significant acquisition, corporate reorganization, or other similar transaction involving the Company; (b) require premature disclosure of material information that the Company has a bona fide business purpose for preserving as confidential; or (c) render the Company unable to comply with requirements under the Securities Act or Exchange Act, then the Company will have the right to defer taking action with respect to such filing, and any time periods with respect to filing or effectiveness thereof will be tolled correspondingly, for a period of not more than ninety (90) days after the request of the Initiating Holders is given; provided, however, that (i) the Company may not invoke this right more than once in any twelve (12) month period and (ii) the Company will not register any securities for its own account or that of any other stockholder during such ninety (90) day period other than an Excluded Registration.

3.1.4 Limitations. The Company will not be obligated to effect, or to take any action to effect, any registration pursuant to Section 3.1.1: (a) during the period that is sixty (60) days before the Company’s good faith estimate of the date of filing of, and ending on a date that is one hundred eighty (180) days after the effective date of, a Company-initiated registration, provided, that the Company is actively employing in good faith commercially reasonable efforts to cause such registration statement to become effective; (b) after the Company has effected two (2) registrations pursuant to Section 3.1.1; or (c) if the Initiating Holders propose to dispose of shares of Registrable Securities that may be immediately registered on Form S-3 pursuant to a request made pursuant to Section 3.1.2. The Company will not be obligated to effect, or to take any action to effect, any registration pursuant to Section 3.1.2: (i) during the period that is thirty (30) days before the Company’s good faith estimate of the date of filing of, and ending on a date that is ninety (90) days after the effective date of, a Company-initiated registration, provided, that the Company is actively employing in good faith commercially reasonable efforts to cause such registration statement to become effective; or (ii) if the Company has effected two (2) registrations pursuant to Section 3.1.2 within the twelve (12) month period immediately preceding the date of such request. A registration will not be counted as “effected” for purposes of this Section 3.1.4 until such time as the applicable registration statement has been declared effective by the SEC, unless the Initiating Holders withdraw their request for such registration, elect not to pay the registration expenses therefor, and forfeit their right to one registration on Form S-1 or S-3, as applicable, pursuant to Section 3.6, in which case such withdrawn registration statement will be counted as “effected” for purposes of this Section 3.1.4.

3.2 Company Registration. If the Company proposes to register (including, for this purpose, a registration effected by the Company for stockholders other than the Holders that are Major Investors) any of its Common Stock under the Securities Act in connection with the public offering of such securities solely for cash (other than in an Excluded Registration), the Company will, at such time, promptly give each Holder that is a Major Investor notice of such
registration. Upon the request of each Holder that is a Major Investor given within twenty (20) days after such notice is given by the Company, the Company will, subject to the provisions of Section 3.3, cause to be registered all of the Registrable Securities that each such Holder has requested to be included in such registration. The Company will have the right to terminate or withdraw any registration initiated by it under this Section 3.2 before the effective date of such registration, whether or not any Holder has elected to include Registrable Securities in such registration. The expenses (other than Selling Expenses) of such withdrawn registration will be borne by the Company in accordance with Section 3.6.

3.3 Underwriting Requirements.

3.3.1 Inclusion. If, pursuant to Section 3.1, the Initiating Holders intend to distribute the Registrable Securities covered by their request by means of an underwriting, they will so advise the Company as a part of their request made pursuant to Section 3.1, and the Company will include such information in the Demand Notice. The underwriter(s) will be selected by the Company, subject only to the reasonable approval of the holders of at least a majority of Registrable Securities held by the Initiating Holders. In such event, the right of any Holder to include such Holder’s Registrable Securities in such registration will be conditioned upon such Holder’s participation in such underwriting. All Holders proposing to distribute their securities through such underwriting will (together with the Company as provided in Section 3.4(e)) enter into an underwriting agreement in customary form with the underwriter(s) selected for such underwriting. Notwithstanding any other provision of this Section 3.3, if the managing underwriter(s) advise(s) the Initiating Holders in writing that marketing factors require a limitation on the number of shares to be underwritten, then the Initiating Holders will so advise all Holders of Registrable Securities that otherwise would be underwritten pursuant hereto, and the number of Registrable Securities that may be included in the underwriting will be allocated among such Holders of Registrable Securities, including the Initiating Holders, in proportion (as nearly as practicable) to the number of Registrable Securities owned or held by each Holder or in such other proportion as will mutually be agreed to by all such selling Holders. Notwithstanding the foregoing, in no event will (a) the number of Registrable Securities included in the offering be reduced unless all other securities (other than securities to be sold by the Company) are first entirely excluded from the offering, (b) the number of Registrable Securities included in the offering be reduced below thirty percent (30%) of the total number of securities included in such offering, unless such offering is the IPO, in which case the selling Holders may be excluded further if the underwriters make the determination described above and no other stockholder’s securities are included in such offering or (c) notwithstanding clause (b) above, any Registrable Securities which are not Key Holder Registrable Securities be excluded from such underwriting unless all Key Holder Registrable Securities are first excluded from such offering. For purposes of the provision in this Section 3.3.2 concerning apportionment, for any selling Holder that is a partnership, limited liability company, or corporation, the partners, members, retired partners, retired members, stockholders, and Affiliates of such Holder, or the estates and Immediate Family Members of any such Persons, will be deemed to be a single “selling Holder,” and any pro rata reduction with respect to such “selling Holder” will be based upon the aggregate number of Registrable Securities owned or held by all Persons included in such “selling Holder,” as defined in this sentence. To facilitate the allocation of shares in accordance with the above provisions, the Company or the underwriters may round the number of shares allocated to any Holder to the nearest one hundred (100) shares.
3.3.2 Underwriter Cutback. In connection with any offering involving an underwriting of shares of the Company’s capital stock pursuant to Section 3.2, the Company will not be required to include any of the Holders’ Registrable Securities in such underwriting unless the Holders accept the terms of the underwriting as agreed upon between the Company and its underwriters. If the total number of securities, including Registrable Securities, requested by stockholders to be included in such offering exceeds the number of securities to be sold (other than by the Company) that the underwriters in their reasonable discretion determine is compatible with the success of the offering, then the Company will be required to include in the offering only that number of such securities, including Registrable Securities, which the underwriters and the Company in their sole discretion determine will not jeopardize the success of the offering. If the underwriters determine that less than all of the Registrable Securities requested to be registered can be included in such offering, then the Registrable Securities that are included in such offering will be allocated among the selling Holders in proportion (as nearly as practicable to) the number of Registrable Securities owned or held by each selling Holder or in such other proportions as will mutually be agreed to by all such selling Holders. To facilitate the allocation of shares in accordance with the above provisions, the Company or the underwriters may round the number of shares allocated to any Holder to the nearest one hundred (100) shares. Notwithstanding the foregoing, in no event will (a) the number of Registrable Securities included in the offering be reduced unless all other securities (other than securities to be sold by the Company) are first entirely excluded from the offering, (b) the number of Registrable Securities included in the offering be reduced below thirty percent (30%) of the total number of securities included in such offering, unless such offering is the IPO, in which case the selling Holders may be excluded further if the underwriters make the determination described above and no other stockholder’s securities are included in such offering or (c) notwithstanding clause (b) above, any Registrable Securities which are not Key Holder Registrable Securities be excluded from such underwriting unless all Key Holder Registrable Securities are first excluded from such offering. For purposes of the provision in this Section 3.3.2 concerning apportionment, for any selling Holder that is a partnership, limited liability company, or corporation, the partners, members, retired partners, retired members, stockholders, and Affiliates of such Holder, or the estates and Immediate Family Members of any such partners, retired partners, members, and retired members and any trusts for the benefit of any of the foregoing Persons, will be deemed to be a single “selling Holder,” and any pro rata reduction with respect to such “selling Holder” will be based upon the aggregate number of Registrable Securities owned or held by all Persons included in such “selling Holder,” as defined in this sentence.

3.3.3 Registration Not Effected. For purposes of Section 3.1, a registration will not be counted as “effected” if, as a result of an exercise of the underwriter’s cutback provisions in Section 3.3.1, fewer than fifty percent (50%) of the total number of Registrable Securities that Holders have requested to be included in such registration statement are actually included.

3.4 Obligations of the Company. Whenever required under this Section 3 to effect the registration of any Registrable Securities, the Company will, as expeditiously as reasonably possible:
(a) prepare and file with the SEC a registration statement with respect to such Registrable Securities and use its commercially reasonable efforts to cause such registration statement to become effective as promptly as practicable, and, upon the request of the Holders of at least a majority of the Registrable Securities registered thereunder, keep such registration statement effective for a period of up to one hundred twenty (120) days or, if earlier, until the distribution contemplated in the registration statement has been completed; provided, however, that (i) such one hundred twenty (120) day period will be extended for a period of time equal to the period the Holder refrains, at the request of an underwriter of Common Stock (or other securities) of the Company, from selling any securities included in such registration, and (ii) in the case of any registration of Registrable Securities on Form S-3 that are intended to be offered on a continuous or delayed basis, subject to compliance with applicable SEC rules, such one hundred twenty (120) day period will be extended for up to sixty (60) days, if necessary, to keep the registration statement effective until all such Registrable Securities are sold;

(b) prepare and file with the SEC such amendments and supplements to such registration statement, the prospectus and, if required, any Free Writing Prospectus used in connection with such registration statement as may be necessary to comply with the Securities Act in order to enable the disposition of all securities covered by such registration statement;

(c) furnish to the selling Holders such numbers of copies of a prospectus, including a preliminary prospectus and any Free Writing Prospectus, as required by the Securities Act, and such other documents as the Holders may reasonably request in order to facilitate their disposition of their Registrable Securities;

(d) use its commercially reasonable efforts to register and qualify the securities covered by such registration statement under such other securities or blue-sky laws of such jurisdictions as will be reasonably requested by the selling Holders; provided that the Company will not be required to qualify to do business or to file a general consent to service of process in any such states or jurisdictions, unless the Company is already subject to service in such jurisdiction and except as may be required by the Securities Act;

(e) in the event of any underwritten public offering, enter into and perform its obligations under an underwriting agreement, in usual and customary form, with the underwriter(s) of such offering;

(f) use its reasonable efforts to cause all such Registrable Securities covered by such registration statement to be listed on a national securities exchange or trading system and each securities exchange and trading system (if any) on which similar securities issued by the Company are then listed;

(g) provide a transfer agent and registrar for all Registrable Securities registered pursuant to this Agreement and provide a CUSIP number for all such Registrable Securities, in each case not later than the effective date of such registration;

(h) promptly make available for inspection by the selling Holders, any managing underwriter(s) participating in any disposition pursuant to such registration statement, and any attorney or accountant or other agent retained by any such underwriter or selected by the selling Holders, all financial and other records, pertinent corporate documents, and properties of
the Company, and cause the Company’s officers, directors, employees, and independent accountants to supply all information reasonably requested by any such seller, underwriter, attorney, accountant, or agent, in each case, as necessary or advisable to verify the accuracy of the information in such registration statement and to conduct appropriate due diligence in connection therewith;

(i) notify each selling Holder, promptly after the Company receives notice thereof, of the time when such registration statement has been declared effective or a supplement to any prospectus or Free Writing Prospectus forming a part of such registration statement has been filed;

(j) after such registration statement becomes effective, notify each selling Holder of any request by the SEC that the Company amend or supplement such registration statement or prospectus or Free Writing Prospectus;

(k) use its commercially reasonable efforts to obtain for the underwriters one or more “cold comfort” letters, dated the effective date of the related registration statement (and, if such registration includes an underwritten public offering, dated the date of the closing under the underwriting agreement), signed by the Company’s independent public accountants in customary form and covering such matters of the type customarily covered by “cold comfort” letters;

(l) use its commercially reasonable efforts to obtain for the underwriters on the date such securities are delivered to the underwriters for sale pursuant to such registration a legal opinion of the Company’s outside counsel with respect to the registration statement, each amendment and supplement thereto, the prospectus included therein (including the preliminary prospectus) and such other documents relating thereto in customary form and covering such matters of the type customarily covered by legal opinions of such nature;

(m) to the extent the Company is a well-known seasoned issuer (as defined in SEC Rule 405) at the time any request for registration is submitted to the Company in accordance with Section 3.1, if so requested, file an Automatic Shelf Registration Statement to effect such registration; and

(n) if at any time when the Company is required to re-evaluate its well-known seasoned issuer status for purposes of an outstanding Automatic Shelf Registration Statement used to effect a request for registration in accordance with Section 3.1.2 the Company determines that it is not a well-known seasoned issuer and (i) the registration statement is required to be kept effective in accordance with this Agreement and (ii) the registration rights of the applicable Holders have not terminated, use commercially reasonable efforts to promptly amend the registration statement on a form the Company is then eligible to use or file a new registration statement on such form, and keep such registration statement effective in accordance with the requirements otherwise applicable under this Agreement.

3.5 Furnish Information. It will be a condition precedent to the obligations of the Company to take any action pursuant to this Section 3 with respect to the Registrable Securities of any selling Holder that such Holder will furnish to the Company such information regarding itself, the Registrable Securities held by it, and the intended method of disposition of such securities as is reasonably required to effect the registration of such Holder’s Registrable Securities.
3.6 Expenses of Registration. All expenses (other than Selling Expenses) incurred in connection with registrations, filings, or qualifications pursuant to Section 3, including all registration, filing, and qualification fees; printers’ and accounting fees; fees and disbursements of counsel for the Company; and the reasonable fees and disbursements of one Selling Holder Counsel, not to exceed $30,000, will be borne and paid by the Company; provided, however, that (a) the Company will not be required to pay for any expenses of any registration proceeding begun pursuant to Section 3.1 if the registration request is subsequently withdrawn at the request of the Holders of at least a majority of the Registrable Securities to be registered (in which case all selling Holders will bear such expenses pro rata based upon the number of Registrable Securities that were to be included in the withdrawn registration), unless the Holders that are Major Investors who hold at least a majority of the Registrable Securities held by Major Investors agree to forfeit their right to one registration pursuant to Section 3.1.1 or Section 3.1.2, as the case may be, and (b) if, at the time of such withdrawal, the Holders will have learned of a material adverse change in the condition, business, or prospects of the Company not known to the Holders at the time of their request and have withdrawn the request with reasonable promptness after learning of such information, then the Holders will not be required to pay any of such expenses and will not forfeit their right to one registration pursuant to Section 3.1.1 or Section 3.1.2. All Selling Expenses relating to Registrable Securities registered pursuant to this Section 3 will be borne and paid by the Holders pro rata on the basis of the number of Registrable Securities registered on their behalf.

3.7 Delay of Registration. No Holder will have any right to obtain or seek an injunction restraining or otherwise delaying any registration pursuant to this Agreement as the result of any controversy that might arise with respect to the interpretation or implementation of this Section 3.

3.8 Indemnification. If any Registrable Securities are included in a registration statement under this Section 3:

3.8.1 Company Indemnification. To the extent permitted by law, the Company will indemnify and hold harmless each selling Holder, and the partners, members, officers, directors, and stockholders of each such Holder; legal counsel, accountants, and investment advisers for each such Holder; any underwriter (as defined in the Securities Act) for each such Holder; and each Person, if any, who controls such Holder or underwriter within the meaning of the Securities Act or the Exchange Act, against any Damages, and the Company will pay to each such Holder, underwriter, controlling Person, or other aforementioned Person any legal or other expenses reasonably incurred thereby in connection with investigating or defending any claim or proceeding from which Damages may result, as such expenses are incurred; provided, however, that the indemnity agreement contained in this Section 3.8.1 will not apply to amounts paid in settlement of any such claim or proceeding if such settlement is effected without the consent of the Company, which consent will not be unreasonably withheld, conditioned, or delayed nor will the Company be liable for any Damages to the extent that they arise out of or are based upon actions or omissions made in reliance upon and in conformity with written information furnished by or on behalf of any such Holder, underwriter, controlling Person, or other aforementioned Person expressly for use in connection with such registration.
3.8.2 Selling Holder Indemnification. To the extent permitted by law, each selling Holder, severally and not jointly, will indemnify and hold harmless the Company, and each of its directors, each of its officers who has signed the registration statement, each Person (if any), who controls the Company within the meaning of the Securities Act, legal counsel and accountants for the Company, any underwriter (as defined in the Securities Act), any other Holder selling securities in such registration statement, and any controlling Person of any such underwriter or other Holder, against any Damages, in each case only to the extent that such Damages arise out of or are based upon actions or omissions made in reliance upon and in conformity with written information furnished by or on behalf of such selling Holder expressly for use in connection with such registration; and each such selling Holder will pay to the Company and each other aforementioned Person any legal or other expenses reasonably incurred thereby in connection with investigating or defending any claim or proceeding from which Damages may result, as such expenses are incurred; provided, however, that (a) the indemnity agreement contained in this Section 3.8.2 will not apply to amounts paid in settlement of any such claim or proceeding if such settlement is effected without the consent of the Holder, which consent will not be unreasonably withheld, conditioned or delayed, and (b) that in no event will the aggregate amounts payable by any Holder by way of indemnity or contribution under Sections 3.8.2 and 3.8.4 exceed the proceeds from the offering received by such Holder (net of any Selling Expenses paid by such Holder), except in the case of fraud or willful misconduct by such Holder.

3.8.3 Procedures. Promptly after receipt by an indemnified party under this Section 3.8 of notice of the commencement of any action (including any governmental action) for which a party may be entitled to indemnification hereunder, such indemnified party will, if a claim in respect thereof is to be made against any indemnifying party under this Section 3.8, give the indemnifying party notice of the commencement thereof. The indemnifying party will have the right to participate in such action and, to the extent the indemnifying party so desires, participate jointly with any other indemnifying party to which notice has been given, and to assume the defense thereof with counsel mutually satisfactory to the parties; provided, however, that an indemnified party (together with all other indemnified parties that may be represented without conflict by one counsel) will have the right to retain one separate counsel, with the fees and expenses to be paid by the indemnifying party, if representation of such indemnified party by the counsel retained by the indemnifying party would be inappropriate due to actual or potential differing interests between such indemnified party and any other party represented by such counsel in such action. The failure to give notice to the indemnifying party within a reasonable time of the commencement of any such action will relieve such indemnifying party of any liability to the indemnified party under this Section 3.8, solely to the extent that such failure prejudices the indemnifying party’s ability to defend such action.

3.8.4 Contribution. To provide for just and equitable contribution to joint liability under the Securities Act in any case in which either (a) any party otherwise entitled to indemnification hereunder makes a claim for indemnification pursuant to this Section 3.8 but it is judicially determined (by the entry of a final judgment or decree by a court of competent jurisdiction and the expiration of time to appeal or the denial of the last right of appeal) that such indemnification may not be enforced in such case, notwithstanding the fact that this Section 3.8 provides for indemnification in such case, or (b) contribution under the Securities Act may be required on the part of any party hereto for which indemnification is provided under this Section 3.8, then, and in each such case, such parties will contribute to the aggregate losses, claims,
damages, liabilities, or expenses to which they may be subject (after contribution from others) in such proportion as is appropriate to reflect the relative fault of each of the indemnifying party and the indemnified party in connection with the statements, omissions, or other actions that resulted in such loss, claim, damage, liability, or expense, as well as to reflect any other relevant equitable considerations. The relative fault of the indemnifying party and of the indemnified party will be determined by reference to, among other things, whether the untrue or allegedly untrue statement of a material fact, or the omission or alleged omission of a material fact, relates to information supplied by the indemnifying party or by the indemnified party and the parties’ relative intent, knowledge, access to information, and opportunity to correct or prevent such statement or omission; provided, however, that:

(i) in any such case, (A) no Holder will be required to contribute any amount in excess of the public offering price of all such Registrable Securities offered and sold by such Holder pursuant to such registration statement, and (B) no Person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) will be entitled to contribution from any Person who was not guilty of such fraudulent misrepresentation; and

(ii) in no event will a Holder’s liability pursuant to this Section 3.8.4, when combined with the amounts paid or payable by such Holder pursuant to Section 3.8.2, exceed the proceeds from the offering received by such Holder (net of any Selling Expenses paid by such Holder), except in the case of fraud or willful misconduct by such Holder.

3.8.5 Underwriting Agreement Controls. Notwithstanding the foregoing, to the extent that the provisions on indemnification and contribution contained in the underwriting agreement entered into in connection with the underwritten public offering are in conflict with the foregoing provisions, the provisions in the underwriting agreement will control.

3.8.6 Survival. Unless otherwise superseded by an underwriting agreement entered into in connection with the underwritten public offering, the obligations of the Company and Holders under this Section 3.8 will survive the completion of any offering of Registrable Securities in a registration under this Section 3, and otherwise will survive the termination of this Agreement.

3.9 Reports under the Exchange Act. With a view to making available to the Holders the benefits of SEC Rule 144 and any other rule or regulation of the SEC that may at any time permit a Holder to sell securities of the Company to the public without registration or pursuant to a registration on Form S-3, the Company will:

(a) use commercially reasonable efforts to make and keep available adequate current public information, as those terms are understood and defined in SEC Rule 144, at all times after the effective date of the registration statement filed by the Company for the IPO;

(b) use commercially reasonable efforts to file with the SEC in a timely manner all reports and other documents required of the Company under the Securities Act and the Exchange Act (at any time after the Company has become subject to such reporting requirements); and
(c) furnish to any Holder, so long as the Holder owns any Registrable Securities, forthwith upon request (i) to the extent accurate, a written statement by the Company that it has complied with the reporting requirements of SEC Rule 144 (at any time after ninety (90) days after the effective date of the registration statement filed by the Company for the IPO), the Securities Act, and the Exchange Act (at any time after the Company has become subject to such reporting requirements), or that it qualifies as a registrant whose securities may be resold pursuant to Form S-3 (at any time after the Company so qualifies); and (ii) such other information as may be reasonably requested in availing any Holder of any rule or regulation of the SEC that permits the selling of any such securities without registration (at any time after the Company has become subject to the reporting requirements under the Exchange Act) or pursuant to Form S-3 (at any time after the Company so qualifies to use such form).

3.10 Limitations on Subsequent Registration Rights. From and after the date of this Agreement, the Company will not, without the prior written consent of the Holders that are Major Investors who hold at least sixty five percent (65%) of the Registrable Securities then outstanding, enter into any agreement with any holder or prospective holder of any securities of the Company that would allow such holder or prospective holder to include such securities in any registration if such agreement (a) would allow such holder or prospective holder to include a portion of its securities in any “piggyback” registration if such inclusion could reduce the number of Registrable Securities that selling Holders could be entitled to include in such registration under Sections 3.2 and 3.3.2 hereof or (b) would allow such holder or prospective holder to initiate a demand for registration of any of its securities at a time earlier than the Holders of Registrable Securities can demand registration under Section 3.1 hereof.

3.11 “Market Stand-off” Agreement. Each Holder hereby agrees that, during the Standoff Period, such Holder will not, without the prior written consent of the Company or the managing underwriter,

(a) lend, offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right, or warrant to purchase or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock, or any securities convertible into or exercisable or exchangeable (directly or indirectly) for Common Stock, held immediately before the effective date of the registration statement for such offering; or

(b) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of such securities, whether any such transaction described in clause (a) above is to be settled by delivery of Common Stock or other securities, in cash, or otherwise.

The foregoing provisions of this Section 3.11 will not apply to the sale of any shares to an underwriter pursuant to an underwriting agreement, and will be applicable to the Holders only if all officers, directors, and stockholders individually owning more than five percent (5%) of the Company’s outstanding Common Stock (after giving effect to conversion into Common Stock of all outstanding Preferred Stock) are similarly bound. For purposes of this Section 3.11, the term “Company” will include any wholly-owned subsidiary of the Company into which the Company merges or consolidates. In order to enforce the foregoing covenant, the Company will have the right to place restrictive legends on the certificates representing the shares subject to this Section
3.11 and to impose stop transfer instructions with respect to such shares until the end of such period. The underwriters in connection with such registration are intended third-party beneficiaries of this Section 3.11 and will have the right, power, and authority to enforce the provisions hereof as though they were a party hereto. Each Holder further agrees to execute such agreements as may be reasonably requested by the underwriters in connection with such registration that are consistent with this Section 3.11 or that are necessary to give further effect thereto. The foregoing provisions of this Section 3.11 shall not apply to transactions or announcements relating to securities acquired (A) in the IPO or (B) in open market transactions from and after the IPO. Any discretionary waiver or termination of the restrictions of any or all of such agreements by the Company or the underwriters will apply pro rata to all Company stockholders that are subject to such agreements, based on the number of shares subject to such agreements.

3.12 Restrictions on Transfer.

3.12.1 Agreement Binding. The Preferred Stock and the Registrable Securities will not be sold, pledged, or otherwise transferred, and the Company will not recognize and will issue stop-transfer instructions to its transfer agent with respect to any such sale, pledge, or transfer, except upon the conditions specified in this Agreement, which conditions are intended to ensure compliance with the provisions of the Securities Act. A transferring Holder will cause any proposed purchaser, pledgee, or transferee of the Preferred Stock and the Registrable Securities held by such Holder to agree to take and hold such securities subject to the provisions and upon the conditions specified in this Agreement. Notwithstanding the foregoing, the Company shall not require any transferee of shares pursuant to an effective registration statement or, following the IPO, SEC Rule 144 to be bound by the terms of this Agreement.

3.12.2 Legends. Each certificate or instrument representing (a) the Preferred Stock, (b) the Registrable Securities, and (c) any other securities issued in respect of the securities referenced in clauses (a) and (b), upon any stock split, stock dividend, recapitalization, merger, consolidation, or similar event, will (unless otherwise permitted by the provisions of Section 3.12.3) be stamped or otherwise imprinted with a legend substantially in the following form:

THE SHARES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO, OR IN CONNECTION WITH, THE SALE OR DISTRIBUTION THEREOF. NO TRANSFER MAY BE EFFECTED WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL IN A FORM REASONABLY SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE SECURITIES ACT OF 1933, AS AMENDED.

THE SHARES REPRESENTED BY THIS CERTIFICATE MAY BE TRANSFERRED ONLY IN ACCORDANCE WITH THE TERMS OF AN AGREEMENT BETWEEN THE COMPANY AND THE STOCKHOLDER, A COPY OF WHICH IS ON FILE WITH THE SECRETARY OF THE COMPANY.
The Holders consent to the Company making a notation in its records and giving instructions to any transfer agent of the Restricted Securities in order to implement the restrictions on transfer set forth in this Section 3.12.

3.12.3 Procedure. The holder of each certificate representing Restricted Securities, by acceptance thereof, agrees to comply in all respects with the provisions of this Section 3. Before any proposed sale, pledge, or transfer of any Restricted Securities, unless there is in effect a registration statement under the Securities Act covering the proposed transaction or, following the IPO, the transfer is made pursuant to SEC Rule 144, the Holder thereof will give notice to the Company of such Holder’s intention to effect such sale, pledge, or transfer. Each such notice will describe the manner and circumstances of the proposed sale, pledge, or transfer in sufficient detail and, if reasonably requested by the Company, will be accompanied at such Holder’s expense by either (a) a written opinion of legal counsel who will, and whose legal opinion will, be reasonably satisfactory to the Company, addressed to the Company, to the effect that the proposed transaction may be effected without registration under the Securities Act; (b) a “no action” letter from the SEC to the effect that the proposed sale, pledge, or transfer of such Restricted Securities without registration will not result in a recommendation by the staff of the SEC that action be taken with respect thereto; or (c) any other evidence reasonably satisfactory to counsel to the Company to the effect that the proposed sale, pledge, or transfer of the Restricted Securities may be effected without registration under the Securities Act, whereupon the Holder of such Restricted Securities will be entitled to sell, pledge, or transfer such Restricted Securities in accordance with the terms of the notice given by the Holder to the Company. The Company will not require such a legal opinion or “no action” letter (i) in any transaction in compliance with SEC Rule 144 or (ii) in any transaction in which such Holder transfers Restricted Securities to an Affiliate of such Holder; provided that other than in connection with a transaction in compliance with SEC Rule 144 following the IPO, each transferee agrees in writing to be subject to the terms of this Section 3.12. Each certificate or instrument evidencing the Restricted Securities transferred as above provided will bear, except if such transfer is made pursuant to SEC Rule 144 or pursuant to an effective registration statement, the appropriate restrictive legend set forth in Section 3.12.2, except that such certificate will not bear such restrictive legend if, in the opinion of counsel for such Holder and the Company, such legend is not required in order to establish compliance with any provisions of the Securities Act. Until the IPO, no Holder will transfer any Restricted Securities to any person or entity that is determined to be a competitor of the Company, in the good faith judgment of the Board.

4. RIGHTS TO FUTURE STOCK ISSUANCES. Subject to the terms and conditions of this Section 4 and applicable securities laws, if the Company proposes to sell any New Securities, the Company will offer to sell a portion of New Securities to each Major Investor as described in this Section 4. A Major Investor will be entitled to apportion the right of first refusal hereby granted to it among itself and its Affiliates in such proportions as it deems appropriate. The right of first refusal in this Section 4 will not be applicable with respect to any Major Investor, if at the time of such subsequent securities issuance, the Major Investor is not an “accredited investor,” as that term is then defined in Rule 501(a) under the Securities Act.

4.1 Company Notice. The Company will give notice (the “Offer Notice”) to each Major Investor, stating (a) its bona fide intention to sell such New Securities, (b) the number of such New Securities to be sold and (c) the price and terms, if any, upon which it proposes to sell such New Securities.
4.2 Investor Right. By written notice (the "Investor Notice") to the Company within twenty (20) days after the Offer Notice is given, each Major Investor may elect to purchase or otherwise acquire, at the price and on the terms specified in the Offer Notice, up to such Major Investor’s Pro Rata Amount. A Major Investor’s election may be conditioned on the consummation of the transaction described in the Offer Notice. The closing of any sale pursuant to this Section 4.2 will occur on the earlier of one hundred and twenty (120) days after the date that the Offer Notice is given and the date of initial sale of New Securities pursuant to Section 4.3.

4.3 Sale of Securities. If all New Securities referred to in the Offer Notice are not elected to be purchased or acquired as provided in Section 4.2, the Company may, during the ninety (90) day period following the expiration of the periods provided in Section 4.2, offer and sell the remaining unsubscribed portion of such New Securities to any Person or Persons at a price not less than, and upon terms no more favorable to the offeree than, those specified in the Offer Notice. If the Company does not enter into an agreement for the sale of the New Securities within such period, or if such agreement is not consummated within thirty (30) days of the execution thereof, the right provided hereunder will be deemed to be revived and such New Securities will not be offered unless first reoffered to the Major Investors in accordance with this Section 4.

4.4 Alternate Procedure. Notwithstanding any provision hereof to the contrary, in lieu of complying with the provisions of Sections 4.1 and 4.2, the Company may elect to give notice to the Major Investors within thirty (30) days after the issuance of New Securities. Such notice will describe the type, price, and terms of the New Securities, and the identities of the Persons to whom the New Securities were sold. Each Major Investor will have twenty (20) days after the date the Company’s notice is given to elect, by giving notice to the Company, to purchase up to the number of New Securities that such Major Investor would otherwise have the right to purchase pursuant to Section 4.2 above had the Company complied with the provisions of Sections 4.1 and 4.2 in connection with the issuance of such New Securities under the terms and conditions set forth in the Company’s notice pursuant to this Section 4.4. The closing of such sale will occur within sixty (60) days of the date notice is given to the Major Investors.

5. ADDITIONAL COVENANTS.

5.1 Insurance. The Company shall use its commercially reasonable efforts to maintain the Directors and Officers liability insurance policies and term “key-person” insurance policies on Josiah Hornblower, Taylor Schreiber and Arundathy Nirmalini Pandite that are in place immediately prior to the Closing (as defined in the Purchase Agreement), or substantially similar policies, each in an amount and on terms and conditions that are commercially reasonable and satisfactory to the Board, until such time as the Board determines that such insurance should be discontinued. Notwithstanding any other provision of this Section 5.1, (i) each Directors and Officers liability insurance policy shall be written by an insurer with a rating of “A” or better from A.M. Best and each such policy shall include a separate “side A” coverage or a bankruptcy protective provision and (ii) the Company shall not cease to maintain a Directors and Officers liability insurance policy in an amount of at least $5,000,000, in each case unless approved by the Board. Each key-person policy will name the Company as loss payee, and will not be cancelable by the Company without prior approval by the Board.
5.2 **Employee Agreements.** The Company will cause (i) each person now or hereafter employed by it or by any subsidiary (or engaged by the Company or any subsidiary as a consultant/independent contractor) with access to confidential information and/or trade secrets to enter into a nondisclosure and proprietary rights assignment agreement; and (ii) each Key Employee to enter into a one (1) year nonsolicitation agreement, substantially in the form approved by the Board.

5.3 **Matters Requiring Preferred Director Approval.** So long as the holders of Preferred Stock are entitled to elect a Preferred Director, the Company hereby covenants and agrees with each of the Investors that it shall not, without approval of the Board, which approval must include the affirmative vote of at least one of the Preferred Directors (to the extent then in office):

(a) make, or permit any subsidiary to make, any loan or advance to, or own any stock or other securities of, any subsidiary or other corporation, partnership, or other entity unless it is wholly owned by the Company;

(b) make, or permit any subsidiary to make, any loan or advance to any Person, including, without limitation, any employee or director of the Company or any subsidiary, except advances and similar expenditures in the ordinary course of business or under the terms of an employee stock or option plan approved by the Board;

(c) guarantee, directly or indirectly, or permit any subsidiary to guarantee, directly or indirectly, any indebtedness except for trade accounts of the Company or any subsidiary arising in the ordinary course of business;

(d) make any investment inconsistent with any investment policy approved by the Board;

(e) incur any aggregate indebtedness in excess of $5,000,000 that is not already included in a budget approved by the Board, other than trade credit incurred in the ordinary course of business;

(f) otherwise enter into or be a party to any transaction with any director, officer, or employee of the Company or any “associate” (as defined in Rule 12b-2 promulgated under the Exchange Act) of any such Person, except for transactions made in the ordinary course of business and pursuant to reasonable requirements of the Company’s business and upon fair and reasonable terms that are approved by a majority of the Board; or

(g) cease to operate in the biotechnology or pharmaceutical industry, or operate in any industry other than the biotechnology or pharmaceutical industry.

5.4 **Board Matters.** Unless otherwise determined by the vote of a majority of the directors then in office, the Board will meet at least quarterly in accordance with an agreed-upon schedule. The Company will reimburse the nonemployee directors for all reasonable out-of-pocket travel expenses incurred (consistent with the Company’s travel policy) in connection with attending meetings of the Board.
5.5 **Successor Indemnification.** If the Company or any of its successors or assignees consolidates with or merges into any other Person and is not the continuing or surviving corporation or entity of such consolidation or merger, then to the extent necessary, proper provision will be made so that the successors and assignees of the Company assume the obligations of the Company with respect to indemnification of members of the Board as in effect immediately before such transaction, whether such obligations are contained in the Company’s Bylaws, the Certificate of Incorporation, or elsewhere, as the case may be.

5.6 **Right to Conduct Activities.** The Company hereby agrees and acknowledges that Takeda, Redmile, Janus, PFM, EcoR1 and Hatteras (together with their respective Affiliates, the “VC Funds”) reviews the business plans and related proprietary information of many enterprises, some of which may compete directly or indirectly with the Company’s business (as currently conducted or as currently propose to be conducted). The Company hereby agrees that, to the extent permitted under applicable law, the VC Funds will not be liable to the Company for any claim arising out of, or based upon, (i) the investment by the VC Funds in any entity competitive with the Company, or (ii) actions taken by any partner, officer, employee or other representative of the VC Funds to assist any such competitive company, whether or not such action was taken as a member of the board of directors of such competitive company or otherwise, and whether or not such action has a detrimental effect on the Company; provided, however, that the foregoing will not relieve (x) any of the Investors from liability associated with the unauthorized disclosure of the Company’s confidential information obtained pursuant to this Agreement, (y) any director or officer of the Company from any liability associated with his or her fiduciary duties to the Company or (z) Takeda from its obligations under that certain Collaboration Agreement (and the exhibits thereto) by and between the Company and Takeda, dated August 8, 2017 (as amended from time to time, the “Collaboration Agreement”). Notwithstanding the foregoing, this Section 5.6 is subject to the terms and conditions of the Collaboration Agreement. In the event of any conflict between this Section 5.6 and the Collaboration Agreement, the terms of the Collaboration Agreement will prevail.

5.7 **Consolidation.** Without the express written consent of Takeda, the Company will not take any action that would cause Takeda to (a) own more than fifteen percent (15%) of the outstanding shares of the Company on an as-converted basis, (b) be deemed to hold a controlling interest in the Company for GAAP or International Financial Reporting Standards (“IFRS”) purposes, or (c) otherwise be required by GAAP or IFRS to include the Company on its consolidated financial statement based on its relative ownership interest in the Company and/or other factors.

5.8 **CFIUS.** To the extent that CFIUS requests or requires a filing with respect to the transactions contemplated by the Purchase Agreement or that certain Series B Preferred Stock Purchase Agreement, dated as of January 31, 2020, the Investors and the Company shall use reasonable best efforts to submit the proposed transactions to CFIUS and obtain CFIUS clearance or a statement from CFIUS that no further review is necessary with respect to such transactions. Notwithstanding the foregoing sentence, the Investors shall have no obligation to take or accept any action, condition, or restriction as a condition of CFIUS clearance that would have a material adverse impact on the Company or the Investors’ right to exercise control over the Company.

22
6. TERMINATION.

6.1 Generally. The covenants set forth in Section 2.1, Section 4 and Section 5 will terminate and be of no further force or effect upon the earliest to occur of: (a) immediately before the consummation of the IPO; (b) when the Company first becomes subject to the periodic reporting requirements of Section 12(g) or 15(d) of the Exchange Act; or (c) upon a Deemed Liquidation Event or a Stock Sale.

6.2 Registration Rights. The right of any Holder to request registration or inclusion of Registrable Securities in any registration pursuant to Section 3.1 or Section 3.2 will terminate upon the earliest to occur of: (a) following the IPO, when all of such Holder’s Registrable Securities could be sold without any restriction on volume or manner of sale in any three-month period under SEC Rule 144 or any successor; (b) upon a Deemed Liquidation Event or a Stock Sale; and (c) the fifth (5th) anniversary of the IPO.

7. GENERAL PROVISIONS.

7.1 Successors and Assigns. The rights under this Agreement may be assigned (but only with all related obligations) by a Holder to a transferee of Registrable Securities that (a) is an Affiliate, partner, member, limited partner, retired or former partner, retired or former member, or stockholder of a Holder or such Holder’s Affiliate; (b) is a Holder’s Immediate Family Member or trust for the benefit of an individual Holder or one or more of such Holder’s Immediate Family Members; (c) after such transfer, holds at least two percent (2%) of the shares of Registrable Securities (or if the transferring Holder owns less than two percent (2%) of the Registrable Securities, then all Registrable Securities held by the transferring Holder); or (d) is a venture capital fund that is controlled by or under common control with one or more general partners or managing partners or managing members of, or shares the same management company with, the Holder; provided, however, that (i) the Company is, within a reasonable time after such transfer, furnished with written notice of the name and address of such transferee and the Registrable Securities with respect to which such rights are being transferred; and (ii) such transferee agrees in a written instrument delivered to the Company to be bound by and subject to the terms and conditions of this Agreement, including the provisions of Section 3.11. For the purposes of determining the number of shares of Registrable Securities held by a transferee, the holdings of a transferee (A) that is an Affiliate, limited partner, retired or former partner, member, retired or former member, or stockholder of a Holder or such Holder’s Affiliate; (B) who is a Holder’s Immediate Family Member; or (C) that is a trust for the benefit of an individual Holder or such Holder’s Immediate Family Member will be aggregated together and with those of the transferring Holder. The terms and conditions of this Agreement inure to the benefit of and are binding upon the respective successors and permitted assignees of the parties. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and permitted assigns any rights, remedies, obligations or liabilities under or by reason of this Agreement, except as expressly provided herein.

7.2 Governing Law. This Agreement will be governed by, and construed in accordance with, the laws of the State of Delaware, regardless of the laws that might otherwise govern under applicable principles of conflicts of laws.
7.3 **Counterparts.** This Agreement may be executed in counterparts, which may be transmitted by electronic means (including .pdf by email) each of which will be deemed to be an original and all of which together will be deemed to be one and the same instrument.

7.4 **Titles and Subtitles.** The titles and subtitles used in this Agreement are for convenience only and are not to be considered in construing or interpreting this Agreement.

7.5 **Notices.**

(a) All notices, requests, and other communications given, made or delivered pursuant to this Agreement will be in writing and will be deemed effectively given, made or delivered upon the earlier of actual receipt or: (i) personal delivery to the party to be notified; (ii) when sent, if sent by electronic mail during the recipient’s normal business hours, and if not sent during normal business hours, then on the recipient’s next business day; (iii) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid; or (iv) one (1) business day after the business day of deposit with a nationally recognized overnight courier, freight prepaid, specifying next-day delivery, with written verification of receipt. All communications will be sent to the respective parties at their addresses as set forth on Schedule A or Schedule B hereto, or to the principal office of the Company and to the attention of the Chief Executive Officer, in the case of the Company, or to such address or email address as subsequently modified by written notice given in accordance with this Section 7.5. If notice is given to the Company, it will be sent to 1018 W. 11th Street, Austin, Texas 78703, marked “Attention: Chief Executive Officer”; and copies (which will not constitute notice) will also be sent to (a) PO Box 301509 Austin, Texas 78703, legal@shattucklabs.com, marked “Attention: General Counsel” and (b) Gibson, Dunn & Crutcher LLP, 555 Mission Street, San Francisco, CA 94105-0921, RMurr@gibsondunn.com, Attn: Ryan Murr. If no email address is listed on Schedule A or Schedule B for a party (or above in the case of the Company), notices and communications given or made by email will not be deemed effectively given to such party.

(b) Each Investor and Key Holder consents to the delivery of any stockholder notice pursuant to the Delaware General Corporation Law (the “DGCL”), as amended or superseded from time to time, by electronic transmission pursuant to Section 232 of the DGCL (or any successor thereto) at the electronic mail address set forth below such Investor’s or Key Holder’s name on the Schedules hereto, as updated from time to time by notice to the Company, or as on the books of the Company. Each Investor and Key Holder agrees to promptly notify the Company of any change in such stockholder’s electronic mail address, and that failure to do so shall not affect the foregoing.

7.6 **Amendments and Waivers.** This Agreement may only be amended or terminated and the observance of any term hereof may be waived (either generally or in a particular instance, and either retroactively or prospectively) only by a written instrument executed by the Company and the holders of at least sixty five percent (65%) of the Registrable Securities then outstanding; provided that (i) the Company may in its sole discretion waive compliance with Section 3.12 (and the Company’s failure to object promptly in writing after notification of a proposed assignment allegedly in violation of Section 3.12 will be deemed to be a waiver); (ii) any provision hereof may be waived by any waiving party on such party’s own behalf, without the consent of any other party; (iii) the Company may, without the consent or approval of any other party hereto, cause additional persons to become party to this Agreement as Investors pursuant to
Section 7.14 hereto and amend Schedule A hereto accordingly and (iv) any section referencing a particular party shall require such party’s consent for any amendment to such party’s rights in such section. Further, this Agreement may not be amended, and no provision hereof may be waived, in each case, in any way which would adversely affect the rights of the Key Holders hereunder in a manner disproportionate to any adverse effect such amendment or waiver would have on the rights of the Investors hereunder, without also the written consent of the holders of a majority of the Registrable Securities held by the Key Holders; provided, however, that the grant to third parties of piggyback registration rights under Section 3.2 hereof will not be deemed to be an adverse change to the piggyback registration rights of the Key Holders under this Agreement and will not require the consent of the Key Holders. Any amendment, termination, or waiver effected in accordance with this Section 7.6 will be binding on each party hereto and all of such party’s successors and permitted assigns, regardless of whether or not any such party, successor or assignee entered into or approved such amendment, termination, or waiver. No waivers of or exceptions to any term, condition, or provision of this Agreement, in any one or more instances, will be deemed to be or construed as a further or continuing waiver of any such term, condition, or provision.

7.7 **Severability.** In case any one or more of the provisions contained in this Agreement is for any reason held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality, or unenforceability will not affect any other provision of this Agreement, and such invalid, illegal, or unenforceable provision will be reformed and construed so that it will be valid, legal, and enforceable to the maximum extent permitted by law.

7.8 **Aggregation of Stock.** All shares of Registrable Securities held or acquired by Affiliates will be aggregated together for the purpose of determining the availability of any rights under this Agreement and such affiliated persons may apportion such rights as among themselves in any manner they deem appropriate.

7.9 **Entire Agreement.** Upon the effectiveness of this Agreement, the Prior Agreement shall be deemed amended and restated to read in its entirety as set forth in this Agreement. This Agreement (including any Schedules and Exhibits hereto), the Certificate and the other Transaction Agreements (as defined in the Purchase Agreement) constitutes the full and entire understanding and agreement among the parties with respect to the subject matter hereof, and any other written or oral agreement relating to the subject matter hereof existing between the parties is expressly canceled and replaced with this Agreement.

7.10 **Third Parties.** Nothing in this Agreement, express or implied, is intended to confer upon any person, other than the parties hereto and their successors and assigns, any rights or remedies under or by reason of this Agreement.

7.11 **Delays or Omissions.** No delay or omission to exercise any right, power, or remedy accruing to any party under this Agreement, upon any breach or default of any other party under this Agreement, will impair any such right, power, or remedy of such nonbreaching or nondefaulting party, nor will it be construed to be a waiver of or acquiescence to any such breach or default, or to any similar breach or default thereafter occurring, nor will any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. All remedies, whether under this Agreement or by law or otherwise afforded to any party, will be cumulative and not alternative.
7.12 Dispute Resolution. The parties (a) hereby irrevocably and unconditionally submit to the jurisdiction of the federal or state courts located in the Southern District of New York for the purpose of any suit, action or other proceeding arising out of or based upon this Agreement, (b) agree not to commence any suit, action or other proceeding arising out of or based upon this Agreement except in the federal or state courts located in the Southern District of New York, and (c) hereby waive, and agree not to assert, by way of motion, as a defense, or otherwise, in any such suit, action or proceeding, any claim that a party is not subject to the jurisdiction of the above-named courts, that its property is exempt or immune from attachment or execution based upon judgment or order of such court(s), that any suit, action or proceeding arising out of or based upon this Agreement commenced in the federal or state courts located in the Southern District of New York is brought in an inconvenient forum, that the venue of such suit, action or proceeding is improper or that this Agreement or the subject matter hereof may not be enforced in or by such court. Should any party commence a suit, action or other proceeding arising out of or based upon this Agreement in a forum other than the federal or state courts located in the Southern District of New York, or should any party otherwise seek to transfer or dismiss such suit, action or proceeding from such court(s), that party will indemnify and reimburse the other party for all legal costs and expenses incurred in enforcing this provision.

7.13 Attorneys’ Fees. If any action at law or in equity is necessary to enforce or interpret the terms of this Agreement, the non-prevailing party will pay all costs and expenses incurred by the prevailing party, including, without limitation, all reasonable attorneys’ fees.

7.14 Additional Investors. Notwithstanding anything to the contrary contained herein, if the Company issues additional shares of the Company’s Series B-1 Preferred Stock after the date hereof, any purchaser of such shares of Series B-1 Preferred Stock may become a party to this Agreement by executing and delivering an additional counterpart signature page to this Agreement, and thereafter will be deemed an “Investor” for all purposes hereunder. No action or consent by the Investors will be required for such joinder to this Agreement by such additional Investor, so long as such additional Investor has agreed in writing to be bound by all of the obligations as an “Investor” hereunder.
IN WITNESS WHEREOF, the parties hereto have executed this Second Amended and Restated Investors’ Rights Agreement as of the date first written above.

COMPANY:

SHATTUCK LABS, INC.

By: /s/ Taylor Schreiber
Name: Taylor Schreiber
Title: Chief Executive Officer and President

(Signature Page to Shattuck Labs, Inc.
Second Amended and Restated Investors’ Rights Agreement)
IN WITNESS WHEREOF, the parties hereto have executed this Second Amended and Restated Investors’ Rights Agreement as of the date first written above.

INVESTORS:

Redmile Biopharma Investments II, L.P.
By: Redmile Biopharma Investments II (GP), LLC,
    its general partner

By: /s/ Joshua Garcia
Name: Joshua Garcia
Title: CFO and Authorized Signatory

(Signature Page to Shattuck Labs, Inc.
Second Amended and Restated Investors’ Rights Agreement)
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INVESTORS:

Fidelity Advisor Series VII: Fidelity Advisor
Biotechnology Fund

By: /s/ Chris Maher
Name: Chris Maher
Title: Authorized Signatory

Fidelity Select Portfolios: Health Care Portfolio

By: /s/ Chris Maher
Name: Chris Maher
Title: Authorized Signatory

Fidelity Advisor Series VII: Fidelity Advisor
Health Care Fund

By: /s/ Chris Maher
Name: Chris Maher
Title: Authorized Signatory

(Signature Page to Shattuck Labs, Inc.
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**INVESTORS:**

**Janus Henderson Global Life Sciences Fund**

By: Janus Capital Management LLC, its investment advisor

By: /s/ Andrew Acker
Name: Andrew Acker
Title: Authorized Signatory

**Janus Henderson Capital Funds plc on behalf of its series Janus Henderson Global Life Sciences Fund**

By: Janus Capital Management LLC, its investment advisor

By: /s/ Andrew Acker
Name: Andrew Acker
Title: Authorized Signatory

**Janus Henderson Horizon Fund – Biotechnology Fund**

By: Janus Capital Management LLC, its investment advisor

By: /s/ Andrew Acker
Name: Andrew Acker
Title: Authorized Signatory

**Janus Henderson Biotech Innovation Master Fund Limited**

By: Janus Capital Management LLC, its investment advisor

By: /s/ Andrew Acker
Name: Andrew Acker
Title: Authorized Signatory

(Signature Page to Shattuck Labs, Inc. Second Amended and Restated Investors’ Rights Agreement)
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INVESTORS:

EcoR1 Capital Fund, L.P.

By: EcoR1 Capital, LLC, its General Partner

By: /s/ Oleg Nodelman
Name: Oleg Nodelman
Title: Manager

EcoR1 Capital Fund Qualified, L.P.

By: EcoR1 Capital, LLC, its General Partner

By: /s/ Oleg Nodelman
Name: Oleg Nodelman
Title: Manager

EcoR1 Venture Opportunity Fund, L.P.

By: Biotech Opportunity GP, LLC, its General Partner

By: /s/ Oleg Nodelman
Name: Oleg Nodelman
Title: Manager

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INVESTORS:

Hatteras Venture Partners VI, LP
By: Hatteras Venture Advisors VI, LLC,
   its general partner
By: /s/ Douglas Reed
Name: Douglas Reed
Title: Manager

Hatteras NC Fund, LP
By: Hatteras Venture Advisors IV, LLC,
   its general partner
By: /s/ Douglas Reed
Name: Douglas Reed
Title: Manager

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INVESTORS:

PFM Healthcare Master Fund, L.P.

By: Partner Fund Management, L.P.,
   its investment adviser

By: /s/ Yuan DuBord
Name: Yuan DuBord
Title: Chief Financial Officer

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INVESTORS:

Emerson Collective Investments, LLC

By: /s/ Steve McDermid
Name: Steve McDermid
Title: Authorized Signatory

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INVESTORS:

Avidity Master Fund LP
By: Avidity Capital Partners Fund (GP) LP
By: Avidity Capital Partners (GP) LLC, its general partner

By: /s/ Michael Gregory
Name: Michael Gregory
Title: Managing Member

Avidity Capital Fund II LP
By: Avidity Capital Partners Fund (GP) LP
By: Avidity Capital Partners (GP) LLC, its general partner

By: /s/ Michael Gregory
Name: Michael Gregory
Title: Managing Member

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INVESTORS:

Piper Sandler & Co.

By: /s/ Timothy L. Carter
Name: Timothy L. Carter
Title: Chief Financial Officer

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**INVESTORS:**

**IF AN INDIVIDUAL:**

(Please print or type full name of Investor)

By: ______________________________
(Signature)

**IF AN ENTITY:**

Name: Clover Field Enterprises, LLC
(Please print or type full name of Investor)

By: /s/ Stephen Hemsley
(Duly authorized signature)

Name: Stephen Hemsley
(Please print or type full name of signatory)

Title: President
(Please print or type full title)

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INVESTORS:

IF AN INDIVIDUAL:

(Please print or type full name of Key Holder)

By: ____________________________
(Signature)

IF AN ENTITY:

Name: OBP Holdings LLC
(Please print or type full name of Key Holder)

By: /s/ Tom Daniel
(Duly authorized signature)

Name: Tom Daniel
(Please print or type full name of signatory)

Title: Manager
(Please print or type full title)

(Signature Page to Shattuck Labs, Inc.
Second Amended and Restated Investors’ Rights Agreement)
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INVESTORS:

IF AN INDIVIDUAL:

Anna Hargrove and Reg Hargrove

(Please print or type full name of Key Holder)

By: /s/ Anna Hargrove

(Signature)

By: /s/ Reg Hargrove

(Signature)

IF AN ENTITY:

Name:

(Please print or type full name of Key Holder)

By: ____________________________

(Duly authorized signature)

Name: ____________________________

(Please print or type full name of signatory)

Title: ____________________________

(Please print or type full title)

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Second Amended and Restated Investors’ Rights Agreement)
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INVESTORS:

IF AN INDIVIDUAL:

Elizabeth S. Loewenbaum

(Please print or type full name of Key Holder)

By: /s/ Elizabeth S. Loewenbaum

(Signature)

IF AN ENTITY:

Name:

(Please print or type full name of Key Holder)

By: 

(Duly authorized signature)

Name: 

(Please print or type full name of signatory)

Title: 

(Please print or type full title)

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INVESTORS:

IF AN INDIVIDUAL:

Paul Shiverick  
(Please print or type full name of Key Holder)

By: /s/ Paul Shiverick  
(Signature)

IF AN ENTITY:

Name:  
(Please print or type full name of Key Holder)

By:  
(Duly authorized signature)

Name:  
(Please print or type full name of signatory)

Title:  
(Please print or type full title)

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INVESTORS:

IF AN INDIVIDUAL:

Mark Fabry
(Please print or type full name of Key Holder)

By: /s/ Mark Fabry
(Signature)

IF AN ENTITY:

Name:
(Please print or type full name of Key Holder)

By:
(Duly authorized signature)

Name: ____________________________
(Please print or type full name of signatory)

Title: ____________________________
(Please print or type full title)

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<th><strong>IF AN INDIVIDUAL:</strong></th>
<th><strong>IF AN ENTITY:</strong></th>
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</thead>
<tbody>
<tr>
<td><strong>(Please print or type full name of Key Holder)</strong></td>
<td><strong>Name:</strong> Clark BP, LLC <strong>(Please print or type full name of Key Holder)</strong></td>
</tr>
<tr>
<td><strong>By:</strong> [(Signature)]</td>
<td><strong>By:</strong> /s/ Stephen M. Duff <strong>(Duly authorized signature)</strong></td>
</tr>
<tr>
<td><strong>(Signature)</strong></td>
<td><strong>Name:</strong> Stephen M. Duff <strong>(Please print or type full name of signatory)</strong></td>
</tr>
<tr>
<td><strong>Title:</strong> Co-Manager <strong>(Please print or type full title)</strong></td>
<td><strong>(Signature Page to Shattuck Labs, Inc. Second Amended and Restated Investors’ Rights Agreement)</strong></td>
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INVESTORS:

IF AN INDIVIDUAL:

(Please print or type full name of Key Holder)

By: ____________________________
   (Signature)

IF AN ENTITY:

Name: ECMC Group, Inc.
   (Please print or type full name of Key Holder)

By: /s/ Greg Van Guilder
   (Duly authorized signature)

Name: Greg Van Guilder
   (Please print or type full name of signatory)

Title: Chief Investment Officer
   (Please print or type full title)

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INVESTORS:

IF AN INDIVIDUAL:

(Please print or type full name of Key Holder)

By: ________________________________
   (Signature)

IF AN ENTITY:

Name: Pines Edge LLC
      (Please print or type full name of Key Holder)

By: /s/ John Hinck
    (Duly authorized signature)

Name: John Hinck
      (Please print or type full name of signatory)

Title: President and CEO of Trustee
      (Please print or type full title)

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IN WITNESS WHEREOF, the parties hereto have executed this Second Amended and Restated Investors’ Rights Agreement as of the date first written above.

INVESTORS:

IF AN INDIVIDUAL:

Daniel A. Traylor
(Please print or type full name of Key Holder)

By: /s/ Daniel A. Traylor
(Signature)

IF AN ENTITY:

Name:
(Please print or type full name of Key Holder)

By: 
(Duly authorized signature)

Name: 
(Please print or type full name of signatory)

Title: 
(Please print or type full title)

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<td>(Please print or type full name of signatory)</td>
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<tr>
<td>By: /s/ LAD Trust</td>
<td>By: /s/ LAD Trust</td>
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<tr>
<td>(Signature)</td>
<td>(Duly authorized signature)</td>
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Second Amended and Restated Investors’ Rights Agreement)
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INVESTORS:

IF AN INDIVIDUAL:

(Please print or type full name of Key Holder)

By: __________________________
(Signature)

IF AN ENTITY:

Name: Lowe Interests, L.P.
(Please print or type full name of Key Holder)

By: /s/ Geoffrey Perrin
(Duly authorized signature)

Name: Geoffrey Perrin
(Please print or type full name of signatory)

Title: CFO
(Please print or type full title)

(Signature Page to Shattuck Labs, Inc.
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**INVESTORS:**

**IF AN INDIVIDUAL:**

(Please print or type full name of Key Holder)

By: ____________________________

(Signature)

**IF AN ENTITY:**

Name: Montrose Investments Fund I, L.P.

(Please print or type full name of Key Holder)

By: /s/ Will Rose

(Duly authorized signature)

Name: Will Rose

(Please print or type full name of signatory)

Title: Authorized Signatory

(Please print or type full title)

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Second Amended and Restated Investors’ Rights Agreement)
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<th>IF AN INDIVIDUAL:</th>
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<tr>
<td>Name: Puffin Partners, L.P.</td>
<td>Name: Puffin Partners, L.P.</td>
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<td>(Please print or type full name of Key Holder)</td>
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<tr>
<td>By: /s/ Will Rose</td>
<td>By: /s/ Will Rose</td>
</tr>
<tr>
<td>(Duly authorized signature)</td>
<td>(Duly authorized signature)</td>
</tr>
<tr>
<td>Name: Will Rose</td>
<td>Name: Will Rose</td>
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<tr>
<td>(Please print or type full name of signatory)</td>
<td>(Please print or type full name of signatory)</td>
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<tr>
<td>Title: Authorized Signatory</td>
<td>Title: Authorized Signatory</td>
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INVESTORS:

IF AN INDIVIDUAL:    IF AN ENTITY:

(Please print or type full name of Key Holder) By: /s/ Lanse Davis (Duly authorized signature)

By: _______________________________ (Signature) (Please print or type full name of signatory)

Title: Treasurer (Please print or type full title)

(Signature Page to Shattuck Labs, Inc. Second Amended and Restated Investors’ Rights Agreement)
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### INVESTORS:

**IF AN INDIVIDUAL:**

<table>
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<tr>
<th>Name</th>
<th>Daniel A. Traylor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>Managing Principal</td>
</tr>
</tbody>
</table>

**IF AN ENTITY:**

<table>
<thead>
<tr>
<th>Name</th>
<th>Traylor Capital, LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>By</td>
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INVESTORS:

IF AN INDIVIDUAL:

(Please print or type full name of Key Holder)

By: 
(Signature)

IF AN ENTITY:

Name: Millennium Pharmaceuticals, Inc.  
(Please print or type full name of Key Holder)

By: /s/ Michael Martin  
(Duly authorized signature)

Name: Michael Martin  
(Please print or type full name of signatory)

Title: President, Takeda Ventures, Inc.  
(Please print or type full title)

(Signature Page to Shattuck Labs, Inc.  
Second Amended and Restated Investors’ Rights Agreement)
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INVESTORS:

IF AN INDIVIDUAL:

Charles Dorrance
(Please print or type full name of Key Holder)

By: /s/ Charles Dorrance
(Signature)

IF AN ENTITY:

Name:
(Please print or type full name of Key Holder)

By: ______________________
(Duly authorized signature)

Name: ______________________
(Please print or type full name of signatory)

Title: ______________________
(Please print or type full title)

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INVESTORS:

IF AN INDIVIDUAL:

(Name: Delphinium, Inc.
(Please print or type full name of Key Holder)

By: /s/ John T. Dorrance
(Duly authorized signature)

(Name: John T. Dorrance
(Please print or type full name of signatory)

Title: Director
(Please print or type full title)

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<tr>
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<td><strong>Name:</strong> GSD Revocable Trust 2011</td>
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<td><em>(Please print or type full name of Key Holder)</em></td>
<td><em>(Please print or type full name of Key Holder)</em></td>
</tr>
<tr>
<td><strong>By:</strong> /s/ James B. Hoar</td>
<td><strong>By:</strong> /s/ James B. Hoar</td>
</tr>
<tr>
<td><em>(Duly authorized signature)</em></td>
<td><em>(Duly authorized signature)</em></td>
</tr>
<tr>
<td><strong>Name:</strong> James B. Hoar</td>
<td><strong>Name:</strong> James B. Hoar</td>
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<tr>
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<tr>
<td><strong>Title:</strong> Trustee</td>
<td><strong>Title:</strong> Trustee</td>
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*(Signature Page to Shattuck Labs, Inc.*

**Second Amended and Restated Investors’ Rights Agreement**
IN WITNESS WHEREOF, the parties hereto have executed this Second Amended and Restated Investors’ Rights Agreement as of the date first written above.

INVESTORS:

IF AN INDIVIDUAL:

G. Walter Loewenbaum
(Please print or type full name of Key Holder)

By: /s/ G. Walter Loewenbaum
(Signature)

IF AN ENTITY:

Name: 
(Please print or type full name of Key Holder)

By: 
(Duly authorized signature)

Name: 
(Please print or type full name of signatory)

Title: 
(Please print or type full title)

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INVESTORS:

IF AN INDIVIDUAL:

__________________________________________
(Please print or type full name of Key Holder)

By: __________________________
(Signature)

IF AN ENTITY:

Name: Strata Trust Company Custodian FBO George Walter Loewenbaum Account# 201207360
(Please print or type full name of Key Holder)

By: /s/ Melissa Coffman
(Duly authorized signature)

Name: Melissa Coffman
(Please print or type full name of signatory)

Title: Alt Corp. Signer
(Please print or type full title)

Read and Approved

/s/ G. Walter Loewenbaum

G. Walter Loewenbaum

(Signature Page to Shattuck Labs, Inc.
Second Amended and Restated Investors’ Rights Agreement)
IN WITNESS WHEREOF, the parties hereto have executed this Second Amended and Restated Investors’ Rights Agreement as of the date first written above.

INVESTORS:

IF AN INDIVIDUAL:

(Please print or type full name of Key Holder)

By: 
(Signature)

IF AN ENTITY:

Name: The Loewenbaum 1992 Trust
(Please print or type full name of Key Holder)

By: /s/ G. Walter Loewenbaum
(Duly authorized signature)

Name: G. Walter Loewenbaum
(Please print or type full name of signatory)

Title: Trustee
(Please print or type full title)

(Signature Page to Shattuck Labs, Inc. Second Amended and Restated Investors’ Rights Agreement)
IN WITNESS WHEREOF, the parties hereto have executed this **Second Amended and Restated Investors’ Rights Agreement** as of the date first written above.

**INVESTORS:**

**IF AN INDIVIDUAL:**

(Please print or type full name of Key Holder)

By:

(Signature)

**IF AN ENTITY:**

Name: The Waterproof Partnership, LTD

(Please print or type full name of Key Holder)

By: /s/ G. Walter Loewenbaum

(Duly authorized signature)

Name: G. Walter Loewenbaum

(Please print or type full name of signatory)

Title: General Partner

(Please print or type full title)

(Signature Page to Shattuck Labs, Inc.
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**INVESTORS:**

<table>
<thead>
<tr>
<th>IF AN INDIVIDUAL:</th>
<th>IF AN ENTITY:</th>
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<tbody>
<tr>
<td>(Please print or type full name of Key Holder)</td>
<td>Name: Lennox Dallas Partners, LP</td>
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<td>(Please print or type full name of Key Holder)</td>
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<tr>
<td></td>
<td>By: RS Holdings, Inc., its general partner</td>
</tr>
<tr>
<td>By:</td>
<td>By: /s/ Tyler Brous</td>
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<tr>
<td>(Signature)</td>
<td>(Duly authorized signature)</td>
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<td></td>
<td>Name: Tyler Brous</td>
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<td>(Please print or type full name of signatory)</td>
</tr>
<tr>
<td></td>
<td>Title: VP of RS Holdings, Inc.</td>
</tr>
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<td>(Please print or type full title)</td>
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</table>

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**INVESTORS:**

**IF AN INDIVIDUAL:**

(Please print or type full name of Key Holder)

By: __________________________

(Signature)

**IF AN ENTITY:**

Name: Lennox Dallas Holdings, LLC – Series 9

(Please print or type full name of Key Holder)

By: RS Holdings, Inc., its manager

By: __________________________

(Duly authorized signature)

Name: Tyler Brous

(Please print or type full name of signatory)

Title: VP of RS Holdings, Inc.

(Please print or type full title)

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<tbody>
<tr>
<td><strong>Name:</strong> Lennox Dallas Holdings, LLC – Series 3</td>
<td><strong>Name:</strong> Lennox Dallas Holdings, LLC – Series 3</td>
</tr>
<tr>
<td><strong>(Please print or type full name of Key Holder)</strong></td>
<td><strong>(Please print or type full name of Key Holder)</strong></td>
</tr>
<tr>
<td>By: RS Holdings, Inc., its manager</td>
<td>By: RS Holdings, Inc., its manager</td>
</tr>
<tr>
<td><strong>By:</strong> /s/ Tyler Brous</td>
<td><strong>By:</strong> /s/ Tyler Brous</td>
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<tr>
<td><strong>(Duly authorized signature)</strong></td>
<td><strong>(Duly authorized signature)</strong></td>
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<tr>
<td><strong>Name:</strong> Tyler Brous</td>
<td><strong>Name:</strong> Tyler Brous</td>
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<tr>
<td><strong>(Please print or type full name of signatory)</strong></td>
<td><strong>(Please print or type full name of signatory)</strong></td>
</tr>
<tr>
<td><strong>Title:</strong> VP of RS Holdings, Inc.</td>
<td><strong>Title:</strong> VP of RS Holdings, Inc.</td>
</tr>
<tr>
<td><strong>(Please print or type full title)</strong></td>
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INVESTORS:

IF AN INDIVIDUAL:

(Please print or type full name of Key Holder)

By: __________________________
(Signature)

IF AN ENTITY:

Name: Lennox Dallas Holdings, LLC – Series 10
(Please print or type full name of Key Holder)

By: /s/ Tyler Brous
(Duly authorized signature)

Name: Tyler Brous
(Please print or type full name of signatory)

Title: Manager
(Please print or type full title)

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Second Amended and Restated Investors’ Rights Agreement)
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INVESTORS:

IF AN INDIVIDUAL:

______________________________________________
(Please print or type full name of Key Holder)

By: ______________________________
(Signature)

IF AN ENTITY:

Name: David G. Lowe and Ann M. Lowe, as Trustee of the Lowe
       Family Trust dated December 11, 1991
(Please print or type full name of Key Holder)

By: /s/ David Lowe
(Duly authorized signature)

Name: David Lowe
(Please print or type full name of signatory)

Title: Trustee
(Please print or type full title)

(Signature Page to Shattuck Labs, Inc.
   Second Amended and Restated Investors’ Rights Agreement)
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**HEY HOLDERS:**

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</thead>
<tbody>
<tr>
<td>(Please print or type full name of Key Holder)</td>
<td>Name: Houghton Capital Holdings, LLC</td>
</tr>
<tr>
<td>By:</td>
<td>(Please print or type full name of Key Holder)</td>
</tr>
<tr>
<td>(Signature)</td>
<td>By: /s/ Taylor Schreiber</td>
</tr>
<tr>
<td></td>
<td>(Duly authorized signature)</td>
</tr>
</tbody>
</table>

Name: Taylor Schreiber
(Please print or type full name of signatory)

Title: Principal
(Please print or type full title)

(Signature Page to Shattuck Labs, Inc.
Second Amended and Restated Investors’ Rights Agreement)
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KEY HOLDERS:

IF AN INDIVIDUAL:

(Please print or type full name of Key Holder)

By: _________________________________
(Signature)

IF AN ENTITY:

Name: Hornblower Capital Holdings, LLC
(Please print or type full name of Key Holder)

By: /s/ Josiah Hornblower
(Duly authorized signature)

Name: Josiah Hornblower
(Please print or type full name of signatory)

Title: Managing Partner
(Please print or type full title)

(Signature Page to Shattuck Labs, Inc.
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KEY HOLDERS:

IF AN INDIVIDUAL:

(Please print or type full name of Key Holder)

By: ______________________
(Signature)

IF AN ENTITY:

Name: Moorea Trust
(Please print or type full name of Key Holder)

By: /s/ Josiah Hornblower
(Duly authorized signature)

Name: Josiah Hornblower
(Please print or type full name of signatory)

Title: Trustee
(Please print or type full title)

(Signature Page to Shattuck Labs, Inc.
Second Amended and Restated Investors’ Rights Agreement)
EMPLOYMENT AGREEMENT

This EMPLOYMENT AGREEMENT (the “Agreement”) is entered into as of December 5, 2019 (the “Effective Date”), by and between Shattuck Labs, Inc. (the “Company”) and Josiah C. Hornblower (“Executive”).

WHEREAS, the Company wishes to continue to employ Executive as the Chief Executive Officer of the Company and Executive wishes to continue to work as the Chief Executive Officer of the Company; and

WHEREAS, the Company and Executive wish to enter into this Agreement on the terms and conditions set forth below.

NOW, THEREFORE, it is hereby agreed as follows

1. Employment. The Company agrees to employ Executive, and Executive hereby accepts such employment, upon the terms and subject to the conditions set forth herein, for a period commencing on the Effective Date and ending on the date that this Agreement is terminated in accordance with Section 7 below (the “Employment Term”).

2. Position; Duties. During the Employment Term, Executive shall serve as the Chief Executive Officer of the Company. In such position, Executive shall report directly to the Company’s Board of Directors (the “Board”) and shall have such duties and authority as are customary to such position and as otherwise determined from time to time by the Company. During the Employment Term, Executive agrees to devote Executive’s full time and reasonable best efforts to the performance of Executive’s duties to the Company. The foregoing shall not be construed to prohibit Executive from engaging in activities relating to serving on civic and charitable boards or committees, and managing personal investments, provided that such activities do not significantly interfere or conflict with the performance by Executive of Executive’s duties, responsibilities, or authorities hereunder.

3. Base Salary. During the Employment Term, the Company shall pay Executive an initial base salary at the annual rate of $325,000, payable in regular installments in accordance with the Company’s usual payment practices. Executive’s base salary may be increased in the sole discretion of the Compensation Committee of the Board (the “Committee”). Executive’s annual base salary, as in effect from time to time, is hereinafter referred to as the “Base Salary.”

4. Incentive Compensation. During the Employment Term, Executive shall be eligible to receive an annual cash bonus based on performance objectives established by the Committee each year (the “Annual Bonus”). Executive’s target Annual Bonus amount will be the percentage of Base Salary designated as the target by the Committee, which amount shall be at least 30% of the Base Salary then in effect (the “Target Annual Bonus”). Notwithstanding the preceding, Executive’s Annual Bonus, if any, may be below (including zero), at, or above the target based upon the achievement of the performance objectives.
5. **Employee Benefits.** During the Employment Term, Executive shall be entitled to participate in the Company’s employee benefit plans as in effect from time to time (collectively “Employee Benefits”), on the same basis as those benefits are generally made available to other senior executives of the Company, in each case to the extent that Executive is eligible under the terms of such plans or programs.

6. **Business Expenses.** During the Employment Term, reasonable business expenses incurred by Executive in the performance of Executive’s duties hereunder shall be advanced or promptly reimbursed by the Company in accordance with Company policies.

7. **Termination.** The Employment Term and Executive’s employment may be terminated by the Company at any time and for any reason upon Notice to Executive and by Executive upon at least 30 days’ advance Notice of any such resignation of Executive’s employment. Notwithstanding any other provision of this Agreement, the provisions of this Section 7 shall exclusively govern Executive’s rights to payment of compensation, severance, Employee Benefits and business expenses upon termination of employment with the Company.

(a) **By the Company for Cause; By Executive without Good Reason.**

   (i) The Employment Term and Executive’s employment may be terminated by the Company for Cause and shall terminate automatically upon the effective date of Executive’s resignation without Good Reason. For purposes of this Agreement, “Cause” shall mean (A) indictment for, conviction of, or a plea of *nolo contendere* to, (x) a felony (other than traffic-related) under the laws of the United States or any state thereof or (y) a crime involving moral turpitude that could be injurious to the Company or its reputation, (B) Executive’s willful malfeasance or willful misconduct which is materially and demonstrably injurious to the Company, (C) any act of fraud by Executive in the performance of Executive’s duties or (D) Executive’s material breach of any Agreement with the Company or any of the Company’s material policies. The determination of Cause shall be made by the Board, in its good faith discretion. For purposes of this Agreement, “Good Reason” shall mean the occurrence of any of the following events, without Executive’s written consent, provided, in each case, that such event is not cured within thirty (30) days after the Company receives notice from Executive specifying in reasonable detail the event which constitutes Good Reason: (1) any failure by the Company to pay Executive’s Base Salary or Annual Bonus (if any) when due; (2) a reduction in Executive’s Base Salary or Target Annual Bonus (excluding any change in value of equity incentives); (3) any diminution in Executive’s title or any substantial and sustained diminution in Executive’s duties; or (4) a required relocation of Executive’s primary work location by more than 25 miles from Executive’s current work location. “Good Reason” shall cease to exist for an event on the 90th day following Executive’s knowledge thereof, unless Executive has given the Company Notice thereof prior to such date.
(ii) If Executive’s employment is terminated by the Company for Cause, or if Executive resigns without Good Reason, Executive shall be entitled to receive:

(A) the Base Salary accrued through the date of termination, payable as soon as practicable following the date of such termination or as otherwise required by applicable law;

(B) any Annual Bonus earned, but unpaid, as of the date of termination for the year immediately preceding the year in which such termination occurs, paid on the date when bonuses are otherwise paid to Company executives, and in all events by March 15th of the calendar year following the year in which such termination occurs;

(C) reimbursement, within 60 days following submission by Executive to the Company of appropriate supporting documentation, for any unreimbursed business expenses properly incurred by Executive in accordance with Company policy prior to the date of Executive’s termination; provided, that claims for such reimbursement (accompanied by appropriate supporting documentation) are submitted to the Company within 90 days following the date of Executive’s termination of employment; and

(D) such Employee Benefits, if any, as to which Executive may be entitled under the employee benefit plans of the Company, which shall be paid in accordance with the terms of the applicable plans (the amounts described in clauses (A) through (D) hereof, the “Accrued Rights”).

Following such termination of Executive’s employment by the Company for Cause or resignation by Executive without Good Reason, except as set forth in this Section 7(a)(ii), Executive shall have no further rights to any compensation or any other benefits under this Agreement.

(b) Disability or Death.

(i) The Employment Term and Executive’s employment shall terminate automatically upon Executive’s death and may be terminated by the Company upon Executive’s Disability. For purposes of this Agreement, a “Disability” shall be deemed to have occurred if Executive has for one hundred twenty (120) consecutive days or one hundred eighty (180) non-consecutive days in any twelve (12) month period been disabled in a manner which has rendered Executive unable to perform the essential functions of Executive’s job duties with or without reasonable accommodation.

(ii) Upon termination of Executive’s employment for either Disability or death, Executive or Executive’s estate (as the case may be) shall be entitled to receive (A) the Accrued Rights and (B) a pro rata portion of the actual Annual Bonus earned for the year of termination, based on the days employed during such year, payable on the date when bonuses are otherwise paid to Company executives and in all events by March 15th of the calendar year following the year in which such termination occurs.
Following Executive’s termination of employment due to death or Disability, except as set forth in this Section 7(b)(ii), Executive shall have no further rights to any compensation or any other benefits under this Agreement.

(c) **By the Company without Cause; By Executive with Good Reason.**

(i) The Employment Term and Executive’s employment may be terminated by the Company without Cause or by Executive with Good Reason.

(ii) If Executive’s employment is terminated by the Company without Cause (other than by reason of death or Disability) or if Executive resigns with Good Reason, in either event not within 30 days before or two years after a Change in Control, Executive shall be entitled to receive:

(A) the Accrued Rights; and

(B) subject to Executive’s execution and non-revocation of a release of claims in the form provided by the Company and within the time period specified therein and Executive’s continued compliance with the provisions of Section 8 and the PIIA Agreement:

1. a pro rata portion of the actual Annual Bonus that would have been earned for the year of termination, based on the days employed during such year, payable on the date when bonuses are otherwise paid to Company executives and in all events by March 15th of the calendar year following the year in which such termination occurs;

2. payment of an amount equal to 1.00 times the sum of Executive’s annual Base Salary plus Executive’s Target Annual Bonus amount for the year of termination, which shall be payable to Executive in equal installments in accordance with the Company’s normal payroll practices, for 12 months following the date that the release of claims becomes effective and irrevocable (provided, however, that if the period during which the release could become effective and irrevocable spans two calendar years, payments of such installments shall not commence until the first normal payroll date in the second calendar year);

3. effective as of immediately prior to such termination of employment, accelerated vesting of all then unvested equity awards (with any applicable performance-based awards deemed earned at the target level of achievement) with such awards (other than stock options) settled as soon as practicable thereafter and in all events by March 15th of the calendar year following the year in which such termination occurs or to remain exercisable (with respect to stock options) through the 90th day following such termination of employment; and
subject to Executive’s timely election of continuation coverage under the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended (“COBRA”), and subject to Executive’s copayment of premium amounts at the active employees’ rate, the Company shall pay the remainder of the premiums for Executive’s participation in the Company’s group health plans pursuant to COBRA for a period ending on the earlier of (i) the 12 month anniversary of the date of termination; (ii) Executive becoming eligible for other group health benefits, or (iii) the expiration of Executive’s rights under COBRA; provided, however, that in the event that the benefits provided herein would subject the Company or any of its affiliates to any tax or penalty under the Patient Protection and Affordable Care Act or Section 105(h) of the Internal Revenue Code of 1986, as amended (the “Code”), Executive and the Company agree to work together in good faith to restructure the foregoing benefit.

Following Executive’s termination of employment by the Company without Cause (other than by reason of Executive’s death or Disability) or Executive’s resignation with Good Reason not within 30 days before or two years after a Change in Control, except as set forth in this Section 7(c) (ii), Executive shall have no further rights to any compensation or any other benefits under this Agreement.

(iii) If Executive’s employment is terminated by the Company without Cause (other than by reason of death or Disability) or if Executive resigns with Good Reason, in either event within 30 days before or two years after a Change in Control, Executive shall be entitled to receive the payments and benefits described in Section 7(c)(ii)(A) and (B), except that the severance multiplier in Section 7(c)(ii)(B)(2) shall be increased from 1.00 to 2.00. For the avoidance of doubt, payment of such amounts and benefits other than the Accrued Rights shall be subject to Executive providing and not revoking a release of claims in the form provided by the Company and within the time period specified therein and Executive’s continued compliance with the provisions of Section 8 and the PIIA Agreement. For purposes of this Agreement, “Change in Control” means the occurrence of one or more of the following events: (i) any “person” (as such term is used in Sections 3(a)(9) and 13(d) of the Securities Exchange Act of 1934, as amended (the “Act”)) or “group” (as such term is used in Section 13(d)(3) of the Act), other than the Company or its subsidiaries or any benefit plan of the Company or its subsidiaries is or becomes a “beneficial owner” (as such term is used in Rule 13d-3 promulgated under the Act) of more than 50% of the Voting Stock of the Company; (ii) the Company transfers all or substantially all of its assets (unless the shareholders of the Company immediately prior to the transaction beneficially own, directly or indirectly, in substantially the same proportion as they owned the Voting Stock of the Company, all of the Voting Stock or other ownership interests of the entity or entities, if any, that succeed to the business of the Company or the Company’s ultimate parent company if the Company is a subsidiary of another corporation); or (iii) any merger, reorganization, consolidation or similar transaction unless, immediately after consummation of such transaction, the shareholders of the Company immediately prior to the transaction hold, directly or indirectly, more than 50% of the Voting Stock of the Company or the Company’s ultimate parent company if
the Company is a subsidiary of another corporation. For purposes of this Change in Control definition, “Voting Stock” means securities or ownership interests of any class or classes having general voting power under ordinary circumstances, in the absence of contingencies, to elect the directors of a corporation.

Following Executive’s termination of employment by the Company without Cause (other than by reason of Executive’s death or Disability) or by Executive with Good Reason within 30 days before or two years after a Change in Control, except as set forth in this Section 7(c)(iii), Executive shall have no further rights to any compensation or any other benefits under this Agreement.

(d) Notice of Termination. Any termination of employment by the Company or by Executive (other than due to Executive’s death) shall be communicated by Notice of Termination to the other party hereto in accordance with Section 11(k) hereof. For purposes of this Agreement, a “Notice of Termination” shall mean a Notice that indicates the specific termination provision in this Agreement relied upon and sets forth in reasonable detail the facts and circumstances claimed to provide a basis for termination of employment under the provision so indicated.

(e) Termination and Offices Held. Upon termination of Executive’s employment for any reason, Executive shall be deemed to have resigned from all positions that Executive may then hold as an employee, officer or director of the Company or any affiliate of the Company. Executive shall promptly deliver to the Company any additional documents reasonably required by the Company to confirm such resignations.

8. Non-Disparagement. Executive shall not, while employed by the Company or at any time thereafter, disparage the Company (or any affiliate) in any way that materially and adversely affects the goodwill, reputation or business relationships of the Company or the affiliate with the public generally, or with any of its customers, vendors or employees. The Company shall not (and shall use reasonable efforts to procure that its directors and officers shall not) disparage Executive in any way that materially and adversely affects Executive or Executive’s reputation or business relationships. Notwithstanding the foregoing, this Section shall not prohibit either party from rebutting claims or statements made by any other person.

9. Proprietary Information and Inventions Assignment Agreement. Executive previously entered into a Proprietary Information and Inventions Assignment Agreement with the Company (the “PIIA Agreement”) and hereby reaffirms all of Executive’s obligations thereunder. The provisions of Section 8 hereof and the provisions of the PIIA Agreement shall survive the termination of Executive’s employment for any reason.

10. Specific Performance. Executive acknowledges and agrees that the Company’s remedies at law for a breach or threatened breach of any of the provisions of Section 8 would be inadequate and the Company would suffer irreparable damages as a result of such breach or threatened breach. In recognition of this fact, Executive agrees that, in the event of such a breach or threatened breach, in addition to any remedies at law, the Company, without posting any bond, shall be entitled to cease making any payments or providing any benefit otherwise required by this Agreement and obtain equitable relief in the form of specific performance, temporary restraining order, temporary or permanent injunction or any other equitable remedy which may then be available.
11. **Miscellaneous.**

(a) **Arbitration.** For the avoidance of doubt, the arbitration and equitable relief provisions of the PIIA Agreement shall apply to any dispute concerning Executive’s employment with the Company or arising under or in any way related to this Agreement.

(b) **Governing Law; Consent to Personal Jurisdiction.** THIS AGREEMENT WILL BE GOVERNED BY THE LAWS OF THE STATE OF TEXAS WITHOUT REGARD FOR CONFLICTS OF LAWS PRINCIPLES. SUBJECT TO THE ARBITRATION PROVISION IN THE PIIA AGREEMENT, EXECUTIVE HEREBY EXPRESSLY CONSENTS TO THE PERSONAL JURISDICTION OF THE STATE AND FEDERAL COURTS LOCATED IN TEXAS FOR ANY LAWSUIT FILED THERE AGAINST EXECUTIVE BY THE COMPANY CONCERNING EXECUTIVE’S EMPLOYMENT OR THE TERMINATION OF EXECUTIVE’S EMPLOYMENT OR ARISING FROM OR RELATING TO THIS AGREEMENT.

(c) **Entire Agreement/Amendments.** This Agreement, together with the PIIA Agreement, contains the entire understanding of the parties with respect to the employment of Executive by the Company. There are no restrictions, agreements, promises, warranties, covenants or undertakings between the parties with respect to the subject matter herein other than those expressly set forth herein or as may be set forth from time to time in the Company’s employee benefit plans and policies applicable to Executive. This Agreement may not be altered, modified, or amended except by written instrument signed by the parties hereto. In the event of any inconsistency between this Agreement and any other plan, program, practice or agreement of which Executive is a participant or a party, this Agreement shall control unless such other plan, program, practice or agreement specifically refers to the provisions of this sentence.

(d) **No Waiver.** The failure of a party to insist upon strict adherence to any term of this Agreement on any occasion shall not be considered a waiver of such party’s rights or deprive such party of the right thereafter to insist upon strict adherence to that term or any other term of this Agreement.

(e) **Severability.** In the event that any one or more of the provisions of this Agreement shall be or become invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions of this Agreement shall not be affected thereby.

(f) **Assignment.** This Agreement, and all of Executive’s rights and duties hereunder, shall not be assignable or delegable by Executive. Any purported assignment or delegation by Executive in violation of the foregoing shall be null and void ab initio and of no force and effect. This Agreement may be assigned by the Company to a person or entity which is an affiliate or a successor in interest to substantially all of the business operations of the Company. Upon such assignment, the rights and obligations of the Company hereunder shall become the rights and obligations of such affiliate or successor person or entity.
(g) **Counterclaim; No Mitigation.** The Company’s obligation to pay Executive the amounts provided and to make the arrangements provided hereunder shall be subject to counterclaim and to seek recoupment of amounts owed by Executive to the Company or its affiliates. Executive shall not be required to mitigate the amount of any payment provided for pursuant to this Agreement by seeking other employment, and such payments shall not be reduced by any compensation or benefits received from any subsequent employer or other endeavor.

(h) **Compliance with Code Section 409A.** Notwithstanding anything herein to the contrary, (i) if at the time of Executive’s termination of employment with the Company Executive is a “specified employee” as defined in Section 409A of the Code and the deferral of the commencement of any payments or benefits otherwise payable hereunder as a result of such termination of employment is necessary in order to prevent any accelerated or additional tax under Section 409A of the Code, then the Company will defer the commencement of the payment of any such payments or benefits hereunder (without any reduction in such payments or benefits ultimately paid or provided to Executive) until the date that is six months following Executive’s termination of employment with the Company (or the earliest date as is permitted under Section 409A of the Code) and (ii) if any other payments of money or other benefits due to Executive hereunder could cause the application of an accelerated or additional tax under Section 409A of the Code, such payments or other benefits shall be deferred if deferral will make such payment or other benefits compliant under Section 409A of the Code, or otherwise such payment or other benefits shall be restructured, to the extent possible, in a manner, determined by the Board, that does not cause such an accelerated or additional tax. For purposes of Section 409A of the Code, each payment made under this Agreement shall be designated as a “separate payment” within the meaning of the Section 409A of the Code, and references herein to Executive’s “termination of employment” shall refer to Executive’s separation from service with the Company within the meaning of Section 409A. To the extent any reimbursements or in-kind benefits due to Executive under this Agreement constitute “deferred compensation” under Section 409A of the Code, any such reimbursements or in-kind benefits shall be paid to Executive in a manner consistent with Treas. Reg. Section 1.409A-3(i)(1)(iv). The Company shall consult with Executive in good faith regarding the implementation of the provisions of this Section 11(h); provided that neither the Company nor any of its employees or representatives shall have any liability to Executive with respect to thereto or any tax imposed under Section 409A.

(i) **Code Section 280G.**

(ii) **Prior to the Date Any Company Stock is Readily Tradeable on an Established Securities Market or Otherwise; Shareholder Vote Sought.**

To the extent that the exemption under Section 280G(b)(5) of the Code is available at the time of a Change in Control if the shareholder approval requirements under Treasury Regulation §1.280G-1, Q/A-7 are satisfied, the Company may elect to pursue a shareholder vote in accordance with such provisions and the Company and Executive shall cooperate with each other and use their commercially reasonable efforts to obtain a vote satisfying the requirements of Section 280G(b)(5) of the Code and Treasury Regulation §1.280G-1, Q/A-7, such that neither Executive nor the Company or its Affiliates suffers any adverse tax consequences under Sections 280G and 4999 of the Code.
Prior to the Date Any Company Stock is Readily Tradeable on an Established Securities Market or Otherwise; Shareholder Vote Not Sought. To the extent that the exemption under Section 280G(b)(5) of the Code is available at the time of a Change in Control if the shareholder approval requirements under Treasury Regulation §1.280G-1, Q/A-7 are satisfied and the Company does not seek a shareholder vote in accordance with Section 11(i)(i) hereof, if it is determined by a nationally recognized United States public accounting firm selected by the Company (the “Auditors”) that any payment or benefit in the nature of compensation made or provided to Executive in connection with Executive’s employment with the Company (collectively, a “Payment”), would be subject to the excise tax imposed by Section 4999 of the Code (the “Parachute Tax”), then the Company shall pay to Executive, prior to the time the Parachute Tax is payable with respect to such Payment, an additional payment (a “Gross-Up Payment”) in an amount such that, after payment by Executive of all taxes (including any Parachute Tax) imposed upon the Gross-Up Payment, Executive retains an amount of the Gross-Up Payment equal to the Parachute Tax imposed upon the Payment.

a. The amount of any Gross-Up Payment shall be determined by the Auditors, subject to adjustment, as necessary, as a result of any Internal Revenue Service position. For purposes of making the calculations required by this Agreement, the Auditors may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of Sections 280G and 4999 of the Code; provided that the Auditors’ determinations must be made with substantial authority (within the meaning of Section 6662 of the Code).

b. The federal tax returns filed by Executive (and any filing made by a consolidated tax group which includes the Company) shall be prepared and filed on a basis consistent with the determination of the Auditors with respect to the Parachute Tax payable by Executive. Executive shall make proper payment of the amount of any Parachute Tax, and at the request of the Company, provide to the Company true and correct copies (with any amendments) of Executive’s federal income tax return as filed with the Internal Revenue Service, and such other documents reasonably requested by the Company, evidencing such payment. If, after the Company’s payment to Executive of the Gross-Up Payment, the Auditors determine in good faith that the amount of the Gross-Up Payment should be reduced or increased, or such determination is made by the Internal Revenue Service, then within ten (10) business days of such determination, Executive shall pay to the Company the amount of any such reduction, or the Company shall pay to Executive the amount of any such increase; provided, however, that (i) the fees and expenses of the Auditors (and any other legal and accounting fees) incurred for services rendered in connection with the Auditor’s determination of the Parachute Tax or any challenge by the Internal Revenue Service or other taxing authority relating to such determination shall be paid by the Company, and (ii) the Company shall indemnify and hold Executive harmless on an after-tax basis for any interest and penalties imposed upon Executive to the extent that such interest and penalties are related to the Auditor’s determination of the Parachute Tax or the Gross-Up Payment.
On and After the Date Any Company Stock is Readily Tradeable on an Established Securities Market or Otherwise. To the extent that the exemption under Section 280G(b)(5) of the Code is unavailable at the time of a Change in Control because any Company stock is readily tradeable on an established securities market or otherwise, if it is determined by a nationally recognized United States public accounting firm selected by the Company (the “Auditors”) that any payment or benefit in the nature of compensation made or provided to Executive in connection with Executive’s employment with the Company (collectively, a “Payments”), would be subject to the excise tax imposed by Section 4999 of the Code (the “Parachute Tax”), then Executive will be entitled to receive either (A) the full amount of the Payments, or (B) a portion of the Payments having a value equal to $1 less than three (3) times Executive’s “base amount” (as such term is defined in Section 280G(b)(3)(A) of the Code), whichever of clauses (A) and (B), after taking into account applicable federal, state, and local income and employment taxes and the Parachute Tax, results in the receipt by Executive on an after-tax basis, of the greatest portion of the Payments.

a. Any determination required under this Section shall be made in writing by the Auditor, whose determination, absent manifest error, shall be conclusive and binding for all purposes upon the Company and Executive. For purposes of making the calculations required by this Agreement, the Auditors may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of Sections 280G and 4999 of the Code; provided that the Auditors’ determinations must be made with substantial authority (within the meaning of Section 6662 of the Code).

b. If there is a reduction of the Payments pursuant to this Section, such reduction shall occur in accordance with Section 409A of the Code and in the following order: (1) any cash severance payable by reference to Executive’s base salary or annual bonus, (2) any other cash amount payable to Executive, (3) any employee benefit valued as a “parachute payment,” and (4) acceleration of vesting of any outstanding equity award.

c. For the avoidance of doubt, in the event that additional Payments are made to Executive after the application of the cutback in this Section, which additional Payments result in the cutback no longer being applicable, the Company shall pay Executive an additional amount equal to the value of the Payments that were originally cut back. The Company shall determine at the end of each calendar year whether any such restoration is necessary based on additional Payments (if any) made during such calendar year, and shall pay such restoration by March 15 of the calendar year following such calendar year. In no event whatsoever shall Executive be entitled to a tax gross-up or other payment in respect of any excise tax, interest or penalties that may be imposed on the Payments by reason of the application of Section 280G or Section 4999 of the Code at any time when any Company stock is readily tradeable on an established securities market or otherwise.
(j) **Successors; Binding Agreement.** This Agreement shall inure to the benefit of and be binding upon personal or legal representatives, executors, administrators, successors, heirs, distributrices, devisees and legatees. In the event of Executive’s death prior to receipt of all amounts payable to Executive (including any unpaid amounts due under Section 7), such amounts shall be paid to Executive’s beneficiary designated in a Notice provided to and accepted by the Company or, in the absence of such designation, to Executive’s estate.

(k) **Notice.** For the purpose of this Agreement, notices and all other communications provided for in the Agreement shall be in writing and shall be deemed to have been duly given when delivered by hand or overnight courier or three postal delivery days after it has been mailed by United States registered mail, return receipt requested, postage prepaid, addressed to the respective addresses set forth below in this Agreement, or to such other address as either party may have furnished to the other in writing in accordance herewith, except that Notice of change of address shall be effective only upon receipt (each such communication, “Notice”).

If to the Company, addressed to:

Shattuck Labs, Inc.
Attn: General Counsel
1018 W. 11th Street, Suite 100
Austin, TX 78703

If to Executive, to the address listed in the Company’s payroll records from time to time.

(l) **Executive Representation.** Executive hereby represents to the Company that the execution and delivery of this Agreement by Executive and the Company and the performance by Executive of Executive’s duties hereunder shall not constitute a breach of, or otherwise contravene, the terms of any employment agreement or other agreement or policy to which Executive is a party or otherwise bound.

(m) **Prior Agreements.** This Agreement supersedes all prior agreements and understandings (including verbal agreements) between Executive and the Company and/or its affiliates regarding the terms and conditions of Executive’s employment with the Company and/or its affiliates.

(n) **Cooperation.** Executive shall provide Executive’s reasonable cooperation in connection with any action or proceeding (or any appeal from any action or proceeding) which relates to events occurring during Executive’s employment hereunder, provided, that, following termination of Executive’s employment, the Company shall pay all reasonable expenses incurred by Executive in providing such cooperation. This provision shall survive any termination of this Agreement.

(o) **Withholding Taxes.** The Company may withhold from any amounts payable under this Agreement such federal, state and local taxes as may be required to be withheld pursuant to any applicable law or regulation.
(p) Counterparts. This Agreement may be signed in counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument.

[Signature Page Follows this Page]
IN WITNESS WHEREOF, the parties hereto have duly executed this Employment Agreement as of the Effective Date.

SHATTUCK LABS, INC.

/s/ Taylor Schreiber
By: Taylor Schreiber
Title: Chief Scientific Officer

EXECUTIVE

/s/ Josiah Hornblower
Name: Josiah Hornblower
AMENDMENT NO. 1
TO EMPLOYMENT AGREEMENT

This AMENDMENT NO. 1 (the “Amendment”) is entered into as of this 27th day of March, 2020 by and between Shattuck Labs, Inc. (the “Company”) and Josiah C. Hornblower (the “Executive”) and amends that certain Employment Agreement dated as of December 5, 2019 (the “Agreement”) between the Company and the Executive.

WHEREAS, the Company currently employs the Executive pursuant to the terms of the Agreement;

WHEREAS, Section 11(c) of the Agreement provides that the Agreement may be amended by a written instrument signed by the Executive and the Company; and

WHEREAS, the Executive and the Company wish to amend and modify certain provisions in the Agreement as provided herein, while leaving unchanged all other provisions of the Agreement.

NOW, THEREFORE, in consideration of the mutual covenants set forth in this Amendment, the Company and the Executive hereby agree as follows:

1. Effective as of January 29, 2020, Section 2 of the Agreement is hereby amended and restated in its entirety to read as follows:

   2. Position; Duties. During the Employment Term, Executive shall serve as the Executive Chairman of the Company. In such position, Executive shall report directly to the Company’s Board of Directors (the “Board”) and shall have such duties and authority as are customary to such position and as otherwise determined from time to time by the Board. During the Employment Term, Executive agrees to devote Executive’s full time and reasonable best efforts to the performance of Executive’s duties to the Company. The foregoing shall not be construed to prohibit Executive from engaging in activities relating to serving on civic and charitable boards or committees, and managing personal investments, provided that such activities do not significantly interfere or conflict with the performance by Executive of Executive’s duties, responsibilities, or authorities hereunder.

2. The Executive hereby expressly waives any right to claim “Good Reason” (as defined in Section 7(a)(i) of the Agreement) by virtue of his change in title pursuant to this Amendment and any resulting change in his duties and responsibilities.

3. In consideration of his continued employment pursuant to the terms of the Agreement as amended hereby, the Executive, on behalf of himself and his heirs, executors, successors, and assigns, hereby releases and discharges the Company and its affiliates, and their respective agents, employees, representatives, officers, directors (individually and collectively), partners and the successors and assigns of any of them (collectively referred to as the “Released Parties”) from, and hereby waives, any claim, counterclaim or other action, whether known or unknown, against
any Released Parties, that the Executive has or may have arising under statute, common law, policy, written or oral agreement, contract, understanding
or otherwise (including any dispute arising under the Civil Rights Act of 1964, the Americans with Disabilities Act, the Employee Retirement Income
Security Act, each as amended, and any similar state or local law regulating the employment relationship) arising prior to the date the Executive executes this Amendment. This release shall not, however, apply to the following: (i) any obligation of the Company to the Executive set forth in the Agreement as amended herein, (ii) the Executive’s rights to any vested benefits under any employee benefit plan of the Company, (iii) any rights of the Executive to indemnification or advancement of expenses under any of the organizational documents of, or any other agreement with, the Company or of any affiliate of the Company, (iv) and claims arising after the date hereof; or (v) any claim that cannot be waived under applicable law, including any rights to workers’ compensation insurance.

4. Except as otherwise set forth in this Amendment, all terms and provisions of the Agreement remain unchanged and in full force and effect.

IN WITNESS WHEREOF, the undersigned have executed this Amendment No. 1 to the Employment Agreement as of the date first set forth above.

EXECUTIVE

/s/ Josiah C. Hornblower
Josiah C. Hornblower

SHATTUCK LABS, INC.

By: /s/ Taylor Schreiber
   Name: Taylor Schreiber, MD, PhD
   Title: Chief Executive Officer
EMPLOYMENT AGREEMENT

This EMPLOYMENT AGREEMENT (the “Agreement”) is entered into as of December 5, 2019 (the “Effective Date”), by and between Shattuck Labs, Inc. (the “Company”) and Taylor Schreiber ("Executive").

WHEREAS, the Company wishes to continue to employ Executive as the Chief Scientific Officer of the Company and Executive wishes to continue to work as the Chief Scientific Officer of the Company; and

WHEREAS, the Company and Executive wish to enter into this Agreement on the terms and conditions set forth below.

NOW, THEREFORE, it is hereby agreed as follows

1. Employment. The Company agrees to employ Executive, and Executive hereby accepts such employment, upon the terms and subject to the conditions set forth herein, for a period commencing on the Effective Date and ending on the date that this Agreement is terminated in accordance with Section 7 below (the “Employment Term”).

2. Position; Duties. During the Employment Term, Executive shall serve as the Chief Scientific Officer of the Company. In such position, Executive shall report directly to the Company’s Chief Executive Officer and shall have such duties and authority as are customary to such position and as otherwise determined from time to time by the Company. During the Employment Term, Executive agrees to devote Executive’s full time and reasonable best efforts to the performance of Executive’s duties to the Company. The foregoing shall not be construed to prohibit Executive from engaging in activities relating to serving on civic and charitable boards or committees, and managing personal investments, provided that such activities do not significantly interfere or conflict with the performance by Executive of Executive’s duties, responsibilities, or authorities hereunder.

3. Base Salary. During the Employment Term, the Company shall pay Executive an initial base salary at the annual rate of $325,000, payable in regular installments in accordance with the Company’s usual payment practices. Executive’s base salary may be increased in the sole discretion of the Compensation Committee of the Board (the “Committee”). Executive’s annual base salary, as in effect from time to time, is hereinafter referred to as the “Base Salary.”

4. Incentive Compensation. During the Employment Term, Executive shall be eligible to receive an annual cash bonus based on performance objectives established by the Committee each year (the “Annual Bonus”). Executive’s target Annual Bonus amount will be the percentage of Base Salary designated as the target by the Committee, which amount shall be at least 30% of the Base Salary then in effect (the “Target Annual Bonus”). Notwithstanding the preceding, Executive’s Annual Bonus, if any, may be below (including zero), at, or above the target based upon the achievement of the performance objectives.
5. **Employee Benefits.** During the Employment Term, Executive shall be entitled to participate in the Company’s employee benefit plans as in effect from time to time (collectively “Employee Benefits”), on the same basis as those benefits are generally made available to other senior executives of the Company, in each case to the extent that Executive is eligible under the terms of such plans or programs.

6. **Business Expenses.** During the Employment Term, reasonable business expenses incurred by Executive in the performance of Executive’s duties hereunder shall be advanced or promptly reimbursed by the Company in accordance with Company policies.

7. **Termination.** The Employment Term and Executive’s employment may be terminated by the Company at any time and for any reason upon Notice to Executive and by Executive upon at least 30 days’ advance Notice of any such resignation of Executive’s employment. Notwithstanding any other provision of this Agreement, the provisions of this Section 7 shall exclusively govern Executive’s rights to payment of compensation, severance, Employee Benefits and business expenses upon termination of employment with the Company.

(a) **By the Company for Cause; By Executive without Good Reason.**

(i) The Employment Term and Executive’s employment may be terminated by the Company for Cause and shall terminate automatically upon the effective date of Executive’s resignation without Good Reason. For purposes of this Agreement, “Cause” shall mean (A) indictment for, conviction of, or a plea of *nolo contendere* to, (x) a felony (other than traffic-related) under the laws of the United States or any state thereof or (y) a crime involving moral turpitude that could be injurious to the Company or its reputation, (B) Executive’s willful malfeasance or willful misconduct which is materially and demonstrably injurious to the Company, (C) any act of fraud by Executive in the performance of Executive’s duties or (D) Executive’s material breach of any Agreement with the Company or any of the Company’s material policies. The determination of Cause shall be made by the Board, in its good faith discretion. For purposes of this Agreement, “Good Reason” shall mean the occurrence of any of the following events, without Executive’s written consent, provided, in each case, that such event is not cured within thirty (30) days after the Company receives notice from Executive specifying in reasonable detail the event which constitutes Good Reason: (1) any failure by the Company to pay Executive’s Base Salary or Annual Bonus (if any) when due; (2) a reduction in Executive’s Base Salary or Target Annual Bonus (excluding any change in value of equity incentives); (3) any diminution in Executive’s title or any substantial and sustained diminution in Executive’s duties; or (4) a required relocation of Executive’s primary work location by more than 25 miles from Executive’s current work location. “Good Reason” shall cease to exist for an event on the 90th day following Executive’s knowledge thereof, unless Executive has given the Company Notice thereof prior to such date.
(ii) If Executive’s employment is terminated by the Company for Cause, or if Executive resigns without Good Reason, Executive shall be entitled to receive:

(A) the Base Salary accrued through the date of termination, payable as soon as practicable following the date of such termination or as otherwise required by applicable law;

(B) any Annual Bonus earned, but unpaid, as of the date of termination for the year immediately preceding the year in which such termination occurs, paid on the date when bonuses are otherwise paid to Company executives, and in all events by March 15th of the calendar year following the year in which such termination occurs;

(C) reimbursement, within 60 days following submission by Executive to the Company of appropriate supporting documentation, for any unreimbursed business expenses properly incurred by Executive in accordance with Company policy prior to the date of Executive’s termination; provided, that claims for such reimbursement (accompanied by appropriate supporting documentation) are submitted to the Company within 90 days following the date of Executive’s termination of employment; and

(D) such Employee Benefits, if any, to which Executive may be entitled under the employee benefit plans of the Company, which shall be paid in accordance with the terms of the applicable plans (the amounts described in clauses (A) through (D) hereof, the “Accrued Rights”).

Following such termination of Executive’s employment by the Company for Cause or resignation by Executive without Good Reason, except as set forth in this Section 7(a)(ii), Executive shall have no further rights to any compensation or any other benefits under this Agreement.

(b) Disability or Death.

(i) The Employment Term and Executive’s employment shall terminate automatically upon Executive’s death and may be terminated by the Company upon Executive’s Disability. For purposes of this Agreement, a “Disability” shall be deemed to have occurred if Executive has for one hundred twenty (120) consecutive days or one hundred eighty (180) non-consecutive days in any twelve (12) month period been disabled in a manner which has rendered Executive unable to perform the essential functions of Executive’s job duties with or without reasonable accommodation.

(ii) Upon termination of Executive’s employment for either Disability or death, Executive or Executive’s estate (as the case may be) shall be entitled to receive (A) the Accrued Rights and (B) a pro rata portion of the actual Annual Bonus earned for the year of termination, based on the days employed during such year, payable on the date when bonuses are otherwise paid to Company executives and in all events by March 15th of the calendar year following the year in which such termination occurs.
Following Executive’s termination of employment due to death or Disability, except as set forth in this Section 7(b)(ii), Executive shall have no further rights to any compensation or any other benefits under this Agreement.

(c) **By the Company without Cause; By Executive with Good Reason.**

(i) The Employment Term and Executive’s employment may be terminated by the Company without Cause or by Executive with Good Reason.

(ii) If Executive’s employment is terminated by the Company without Cause (other than by reason of death or Disability) or if Executive resigns with Good Reason, in either event not within 30 days before or two years after a Change in Control, Executive shall be entitled to receive:

   (A) the Accrued Rights; and

   (B) subject to Executive’s execution and non-revocation of a release of claims in the form provided by the Company and within the time period specified therein and Executive’s continued compliance with the provisions of **Section 8** and the PIIA Agreement:

      (1) a pro rata portion of the actual Annual Bonus that would have been earned for the year of termination, based on the days employed during such year, payable on the date when bonuses are otherwise paid to Company executives and in all events by March 15th of the calendar year following the year in which such termination occurs;

      (2) payment of an amount equal to 1.00 times the sum of Executive’s annual Base Salary plus Executive’s Target Annual Bonus amount for the year of termination, which shall be payable to Executive in equal installments in accordance with the Company’s normal payroll practices, for 12 months following the date that the release of claims becomes effective and irrevocable (provided, however, that if the period during which the release could become effective and irrevocable spans two calendar years, payments of such installments shall not commence until the first normal payroll date in the second calendar year);

      (3) effective as of immediately prior to such termination of employment, accelerated vesting of all then unvested equity awards (with any applicable performance-based awards deemed earned at the target level of achievement) with such awards (other than stock options) settled as soon as practicable thereafter and in all events by March 15th of the calendar year following the year in which such termination occurs or to remain exercisable (with respect to stock options) through the 90th day following such termination of employment; and


subject to Executive’s timely election of continuation coverage under the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA"), and subject to Executive’s copayment of premium amounts at the active employees’ rate, the Company shall pay the remainder of the premiums for Executive’s participation in the Company’s group health plans pursuant to COBRA for a period ending on the earlier of (i) the 12 month anniversary of the date of termination; (ii) Executive becoming eligible for other group health benefits, or (iii) the expiration of Executive’s rights under COBRA; provided, however, that in the event that the benefits provided herein would subject the Company or any of its affiliates to any tax or penalty under the Patient Protection and Affordable Care Act or Section 105(h) of the Internal Revenue Code of 1986, as amended (the "Code"), Executive and the Company agree to work together in good faith to restructure the foregoing benefit.

Following Executive’s termination of employment by the Company without Cause (other than by reason of Executive’s death or Disability) or Executive’s resignation with Good Reason not within 30 days before or two years after a Change in Control, except as set forth in this Section 7(c)(ii), Executive shall have no further rights to any compensation or any other benefits under this Agreement.

(iii) If Executive’s employment is terminated by the Company without Cause (other than by reason of death or Disability) or if Executive resigns with Good Reason, in either event within 30 days before or two years after a Change in Control, Executive shall be entitled to receive the payments and benefits described in Section 7(c)(ii)(A) and (B), except that the severance multiplier in Section 7(c)(ii)(B)(2) shall be increased from 1.00 to 2.00. For the avoidance of doubt, payment of such amounts and benefits other than the Accrued Rights shall be subject to Executive providing and not revoking a release of claims in the form provided by the Company and within the time period specified therein and Executive’s continued compliance with the provisions of Section 8 and the PIIA Agreement. For purposes of this Agreement, “Change in Control” means the occurrence of one or more of the following events: (i) any “person” (as such term is used in Sections 3(a)(9) and 13(d) of the Securities Exchange Act of 1934, as amended (the “Act”)) or “group” (as such term is used in Section 13(d)(3) of the Act), other than the Company or its subsidiaries or any benefit plan of the Company or its subsidiaries is or becomes a “beneficial owner” (as such term is used in Rule 13d-3 promulgated under the Act) of more than 50% of the Voting Stock of the Company; (ii) the Company transfers all or substantially all of its assets (unless the shareholders of the Company immediately prior to such transaction beneficially own, directly or indirectly, in substantially the same proportion as they owned the Voting Stock of the Company, all of the Voting Stock or other ownership interests of the entity or entities, if any, that succeed to the business of the Company or the Company’s ultimate parent company if the Company is a subsidiary of another corporation); or (iii) any merger, reorganization, consolidation or similar transaction unless, immediately after consummation of such transaction, the shareholders of the Company immediately prior to the transaction hold, directly or indirectly, more than 50% of the Voting Stock of the Company or the Company’s ultimate parent company if
the Company is a subsidiary of another corporation. For purposes of this Change in Control definition, “Voting Stock” means securities or ownership interests of any class or classes having general voting power under ordinary circumstances, in the absence of contingencies, to elect the directors of a corporation.

Following Executive’s termination of employment by the Company without Cause (other than by reason of Executive’s death or Disability) or by Executive with Good Reason within 30 days before or two years after a Change in Control, except as set forth in this Section 7(c)(iii), Executive shall have no further rights to any compensation or any other benefits under this Agreement.

(d) Notice of Termination. Any termination of employment by the Company or by Executive (other than due to Executive’s death) shall be communicated by Notice of Termination to the other party hereto in accordance with Section 11(k) hereof. For purposes of this Agreement, a “Notice of Termination” shall mean a Notice that indicates the specific termination provision in this Agreement relied upon and sets forth in reasonable detail the facts and circumstances claimed to provide a basis for termination of employment under the provision so indicated.

(e) Termination and Offices Held. Upon termination of Executive’s employment for any reason, Executive shall be deemed to have resigned from all positions that Executive may then hold as an employee, officer or director of the Company or any affiliate of the Company. Executive shall promptly deliver to the Company any additional documents reasonably required by the Company to confirm such resignations.

8. Non-Disparagement. Executive shall not, while employed by the Company or at any time thereafter, disparage the Company (or any affiliate) in any way that materially and adversely affects the goodwill, reputation or business relationships of the Company or the affiliate with the public generally, or with any of its customers, vendors or employees. The Company shall not (and shall use reasonable efforts to procure that its directors and officers shall not) disparage Executive in any way that materially and adversely affects Executive or Executive’s reputation or business relationships. Notwithstanding the foregoing, this Section shall not prohibit either party from rebutting claims or statements made by any other person.

9. Proprietary Information and Inventions Assignment Agreement. Executive previously entered into a Proprietary Information and Inventions Assignment Agreement with the Company (the “PIIA Agreement”) and hereby reaffirms all of Executive’s obligations thereunder. The provisions of Section 8 hereof and the provisions of the PIIA Agreement shall survive the termination of Executive’s employment for any reason.

10. Specific Performance. Executive acknowledges and agrees that the Company’s remedies at law for a breach or threatened breach of any of the provisions of Section 8 would be inadequate and the Company would suffer irreparable damages as a result of such breach or threatened breach. In recognition of this fact, Executive agrees that, in the event of such a breach or threatened breach, in addition to any remedies at law, the Company, without posting any bond, shall be entitled to cease making any payments or providing any benefit otherwise required by this Agreement and obtain equitable relief in the form of specific performance, temporary restraining order, temporary or permanent injunction or any other equitable remedy which may then be available.
11. Miscellaneous.

(a) Arbitration. For the avoidance of doubt, the arbitration and equitable relief provisions of the PIIA Agreement shall apply to any dispute concerning Executive’s employment with the Company or arising under or in any way related to this Agreement.

(b) Governing Law; Consent to Personal Jurisdiction. THIS AGREEMENT WILL BE GOVERNED BY THE LAWS OF THE STATE OF TEXAS WITHOUT REGARD FOR CONFLICTS OF LAWS PRINCIPLES. SUBJECT TO THE ARBITRATION PROVISION IN THE PIIA AGREEMENT, EXECUTIVE HEREBY EXPRESSLY CONSENTS TO THE PERSONAL JURISDICTION OF THE STATE AND FEDERAL COURTS LOCATED IN TEXAS FOR ANY LAWSUIT FILED THERE AGAINST EXECUTIVE BY THE COMPANY CONCERNING EXECUTIVE’S EMPLOYMENT OR THE TERMINATION OF EXECUTIVE’S EMPLOYMENT OR ARISING FROM OR RELATING TO THIS AGREEMENT.

(c) Entire Agreement/Amendments. This Agreement, together with the PIIA Agreement, contains the entire understanding of the parties with respect to the employment of Executive by the Company. There are no restrictions, agreements, promises, warranties, covenants or undertakings between the parties with respect to the subject matter herein other than those expressly set forth herein or as may be set forth from time to time in the Company’s employee benefit plans and policies applicable to Executive. This Agreement may not be altered, modified, or amended except by written instrument signed by the parties hereto. In the event of any inconsistency between this Agreement and any other plan, program, practice or agreement of which Executive is a participant or a party, this Agreement shall control unless such other plan, program, practice or agreement specifically refers to the provisions of this sentence.

(d) No Waiver. The failure of a party to insist upon strict adherence to any term of this Agreement on any occasion shall not be considered a waiver of such party’s rights or deprive such party of the right thereafter to insist upon strict adherence to that term or any other term of this Agreement.

(e) Severability. In the event that any one or more of the provisions of this Agreement shall be or become invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions of this Agreement shall not be affected thereby.

(f) Assignment. This Agreement, and all of Executive’s rights and duties hereunder, shall not be assignable or delegable by Executive. Any purported assignment or delegation by Executive in violation of the foregoing shall be null and void ab initio and of no force and effect. This Agreement may be assigned by the Company to a person or entity which is an affiliate or a successor in interest to substantially all of the business operations of the Company. Upon such assignment, the rights and obligations of the Company hereunder shall become the rights and obligations of such affiliate or successor person or entity.
(g) **Counterclaim; No Mitigation.** The Company’s obligation to pay Executive the amounts provided and to make the arrangements provided hereunder shall be subject to counterclaim and to seek recoupment of amounts owed by Executive to the Company or its affiliates. Executive shall not be required to mitigate the amount of any payment provided for pursuant to this Agreement by seeking other employment, and such payments shall not be reduced by any compensation or benefits received from any subsequent employer or other endeavor.

(h) **Compliance with Code Section 409A.** Notwithstanding anything herein to the contrary, (i) if at the time of Executive’s termination of employment with the Company Executive is a “specified employee” as defined in Section 409A of the Code and the deferral of the commencement of any payments or benefits otherwise payable hereunder as a result of such termination of employment is necessary in order to prevent any accelerated or additional tax under Section 409A of the Code, then the Company will defer the commencement of the payment of any such payments or benefits hereunder (without any reduction in such payments or benefits ultimately paid or provided to Executive) until the date that is six months following Executive’s termination of employment with the Company (or the earliest date as is permitted under Section 409A of the Code) and (ii) if any other payments of money or other benefits due to Executive hereunder could cause the application of an accelerated or additional tax under Section 409A of the Code, such payments or other benefits shall be deferred if deferral will make such payment or other benefits compliant under Section 409A of the Code, or otherwise such payment or other benefits shall be restructured, to the extent possible, in a manner, determined by the Board, that does not cause such an accelerated or additional tax. For purposes of Section 409A of the Code, each payment made under this Agreement shall be designated as a “separate payment” within the meaning of the Section 409A of the Code, and references herein to Executive’s “termination of employment” shall refer to Executive’s separation from service with the Company within the meaning of Section 409A. To the extent any reimbursements or in-kind benefits due to Executive under this Agreement constitute “deferred compensation” under Section 409A of the Code, any such reimbursements or in-kind benefits shall be paid to Executive in a manner consistent with Treas. Reg. Section 1.409A-3(i)(1)(iv). The Company shall consult with Executive in good faith regarding the implementation of the provisions of this Section 11(h); provided that neither the Company nor any of its employees or representatives shall have any liability to Executive with respect thereto or any tax imposed under Section 409A.

(i) **Code Section 280G.**

Prior to the Date Any Company Stock is Readily Tradeable on an Established Securities Market or Otherwise; Shareholder Vote Sought. To the extent that the exemption under Section 280G(b)(5) of the Code is available at the time of a Change in Control if the shareholder approval requirements under Treasury Regulation §1.280G-1, Q/A-7 are satisfied, the Company may elect to pursue a shareholder vote in accordance with such provisions and the Company and Executive shall cooperate with each other and use their commercially reasonable efforts to obtain a vote satisfying the requirements of Section 280G(b)(5) of the Code and Treasury Regulation §1.280G-1, Q/A-7, such that neither Executive nor the Company or its Affiliates suffers any adverse tax consequences under Sections 280G and 4999 of the Code.
Prior to the Date Any Company Stock is Readily Tradeable on an Established Securities Market or Otherwise; Shareholder Vote Not Sought. To the extent that the exemption under Section 280G(b)(5) of the Code is available at the time of a Change in Control if the shareholder approval requirements under Treasury Regulation §1.280G-1, Q/A-7 are satisfied and the Company does not seek a shareholder vote in accordance with Section 11(i) hereof, if it is determined by a nationally recognized United States public accounting firm selected by the Company (the “Auditors”) that any payment or benefit in the nature of compensation made or provided to Executive in connection with Executive’s employment with the Company (collectively, a “Payment”), would be subject to the excise tax imposed by Section 4999 of the Code (the “Parachute Tax”), then the Company shall pay to Executive, prior to the time the Parachute Tax is payable with respect to such Payment, an additional payment (a “Gross-Up Payment”) in an amount such that, after payment by Executive of all taxes (including any Parachute Tax) imposed upon the Gross-Up Payment, Executive retains an amount of the Gross-Up Payment equal to the Parachute Tax imposed upon the Payment.

a. The amount of any Gross-Up Payment shall be determined by the Auditors, subject to adjustment, as necessary, as a result of any Internal Revenue Service position. For purposes of making the calculations required by this Agreement, the Auditors may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of Sections 280G and 4999 of the Code; provided that the Auditors’ determinations must be made with substantial authority (within the meaning of Section 6662 of the Code).

b. The federal tax returns filed by Executive (and any filing made by a consolidated tax group which includes the Company) shall be prepared and filed on a basis consistent with the determination of the Auditors with respect to the Parachute Tax payable by Executive. Executive shall make proper payment of the amount of any Parachute Tax, and at the request of the Company, provide to the Company true and correct copies (with any amendments) of Executive’s federal income tax return as filed with the Internal Revenue Service, and such other documents reasonably requested by the Company, evidencing such payment. If, after the Company’s payment to Executive of the Gross-Up Payment, the Auditors determine in good faith that the amount of the Gross-Up Payment should be reduced or increased, or such determination is made by the Internal Revenue Service, then within ten (10) business days of such determination, Executive shall pay to the Company the amount of any such reduction, or the Company shall pay to Executive the amount of any such increase; provided, however, that (i) the fees and expenses of the Auditors (and any other legal and accounting fees) incurred for services rendered in connection with the Auditor’s determination of the Parachute Tax or any challenge by the Internal Revenue Service or other taxing authority relating to such determination shall be paid by the Company, and (ii) the Company shall indemnify and hold Executive harmless on an after-tax basis for any interest and penalties imposed upon Executive to the extent that such interest and penalties are related to the Auditor’s determination of the Parachute Tax or the Gross-Up Payment.
(iii) On and After the Date Any Company Stock is Readily Tradeable on an Established Securities Market or Otherwise. To the extent that the exemption under Section 280G(b)(5) of the Code is unavailable at the time of a Change in Control because any Company stock is readily tradeable on an established securities market or otherwise, if it is determined by a nationally recognized United States public accounting firm selected by the Company (the “Auditors”) that any payment or benefit in the nature of compensation made or provided to Executive in connection with Executive’s employment with the Company (collectively, a “Payments”), would be subject to the excise tax imposed by Section 4999 of the Code (the “Parachute Tax”), then Executive will be entitled to receive either (A) the full amount of the Payments, or (B) a portion of the Payments having a value equal to $1 less than three (3) times Executive’s “base amount” (as such term is defined in Section 280G(b)(3)(A) of the Code), whichever of clauses (A) and (B), after taking into account applicable federal, state, and local income and employment taxes and the Parachute Tax, results in the receipt by Executive on an after-tax basis, of the greatest portion of the Payments.

a. Any determination required under this Section 11(i)(iii) shall be made in writing by the Auditor, whose determination, absent manifest error, shall be conclusive and binding for all purposes upon the Company and Executive. For purposes of making the calculations required by this Agreement, the Auditors may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of Sections 280G and 4999 of the Code; provided that the Auditors’ determinations must be made with substantial authority (within the meaning of Section 6662 of the Code).

b. If there is a reduction of the Payments pursuant to this Section 11(i)(iii), such reduction shall occur in accordance with Section 409A of the Code and in the following order: (1) any cash severance payable by reference to Executive’s base salary or annual bonus, (2) any other cash amount payable to Executive, (3) any employee benefit valued as a “parachute payment,” and (4) acceleration of vesting of any outstanding equity award.

c. For the avoidance of doubt, in the event that additional Payments are made to Executive after the application of the cutback in this Section 11(i)(iii), which additional Payments result in the cutback no longer being applicable, the Company shall pay Executive an additional amount equal to the value of the Payments that were originally cut back. The Company shall determine at the end of each calendar year whether any such restoration is necessary based on additional Payments (if any) made during such calendar year, and shall pay such restoration by March 15 of the calendar year following such calendar year. In no event whatsoever shall Executive be entitled to a tax gross-up or other payment in respect of any excise tax, interest or penalties that may be imposed on the Payments by reason of the application of Section 280G or Section 4999 of the Code at any time when any Company stock is readily tradeable on an established securities market or otherwise.
(j) **Successors; Binding Agreement.** This Agreement shall inure to the benefit of and be binding upon personal or legal representatives, executors, administrators, successors, heirs, distributees, devisees and legatees. In the event of Executive’s death prior to receipt of all amounts payable to Executive (including any unpaid amounts due under Section 7), such amounts shall be paid to Executive’s beneficiary designated in a Notice provided to and accepted by the Company or, in the absence of such designation, to Executive’s estate.

(k) **Notice.** For the purpose of this Agreement, notices and all other communications provided for in the Agreement shall be in writing and shall be deemed to have been duly given when delivered by hand or overnight courier or three postal delivery days after it has been mailed by United States registered mail, return receipt requested, postage prepaid, addressed to the respective addresses set forth below in this Agreement, or to such other address as either party may have furnished to the other in writing in accordance herewith, except that Notice of change of address shall be effective only upon receipt (each such communication, “Notice”).

If to the Company, addressed to:

Shattuck Labs, Inc.
Attn: General Counsel
1018 W. 11th Street, Suite 100
Austin, TX 78703

If to Executive, to the address listed in the Company’s payroll records from time to time.

(l) **Executive Representation.** Executive hereby represents to the Company that the execution and delivery of this Agreement by Executive and the Company and the performance by Executive of Executive’s duties hereunder shall not constitute a breach of, or otherwise contravene, the terms of any employment agreement or other agreement or policy to which Executive is a party or otherwise bound.

(m) **Prior Agreements.** This Agreement supersedes all prior agreements and understandings (including verbal agreements) between Executive and the Company and/or its affiliates regarding the terms and conditions of Executive’s employment with the Company and/or its affiliates.

(n) **Cooperation.** Executive shall provide Executive’s reasonable cooperation in connection with any action or proceeding (or any appeal from any action or proceeding) which relates to events occurring during Executive’s employment hereunder, provided, that, following termination of Executive’s employment, the Company shall pay all reasonable expenses incurred by Executive in providing such cooperation. This provision shall survive any termination of this Agreement.

(o) **Withholding Taxes.** The Company may withhold from any amounts payable under this Agreement such federal, state and local taxes as may be required to be withheld pursuant to any applicable law or regulation.
(p) **Counterparts.** This Agreement may be signed in counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument.

[Signature Page Follows this Page]

12
IN WITNESS WHEREOF, the parties hereto have duly executed this Employment Agreement as of the Effective Date.

SHATTUCK LABS, INC.

/s/ Josiah Hornblower
By: Josiah Hornblower
Title: CEO

EXECUTIVE

/s/ Taylor Schreiber
Name: Taylor Schreiber
This AMENDMENT NO. 1 (the “Amendment”) is entered into as of this 27th day of March, 2020 by and between Shattuck Labs, Inc. (the “Company”) and Taylor Schreiber (the “Executive”) and amends that certain Employment Agreement dated as of December 5, 2019 (the “Agreement”) between the Company and the Executive.

WHEREAS, the Company currently employs the Executive pursuant to the terms of the Agreement;

WHEREAS, Section 11(c) of the Agreement provides that the Agreement may be amended by a written instrument signed by the Executive and the Company; and

WHEREAS, the Executive and the Company wish to amend and modify certain provisions in the Agreement as provided herein, while leaving unchanged all other provisions of the Agreement.

NOW, THEREFORE, in consideration of the mutual covenants set forth in this Amendment, the Company and the Executive hereby agree as follows:

1. Effective as of January 29, 2020, Section 2 of the Agreement is hereby amended and restated in its entirety to read as follows:

   2. Position; Duties. During the Employment Term, Executive shall serve as the Chief Executive Officer of the Company. In such position, Executive shall report directly to the Company’s Board of Directors (the “Board”) and shall have such duties and authority as are customary to such position and as otherwise determined from time to time by the Board. During the Employment Term, Executive agrees to devote Executive’s full time and reasonable best efforts to the performance of Executive’s duties to the Company. The foregoing shall not be construed to prohibit Executive from engaging in activities relating to serving on civic and charitable boards or committees, and managing personal investments, provided that such activities do not significantly interfere or conflict with the performance by Executive of Executive’s duties, responsibilities, or authorities hereunder.

2. Effective as of January 29, 2020, Section 3 of the Agreement is hereby amended and restated in its entirety to read as follows:

   3. Base Salary. During the Employment Term, the Company shall pay Executive a base salary at the annual rate of $400,000, payable in regular installments in accordance with the Company’s usual payment practices. Executive’s base salary may be increased in the sole discretion of the Compensation Committee of the Board (the “Committee”). Executive’s annual base salary, as in effect from time to time, is hereinafter referred to as the “Base Salary,”
3. Except as otherwise set forth in this Amendment, all terms and provisions of the Agreement remain unchanged and in full force and effect.

IN WITNESS WHEREOF, the undersigned have executed this Amendment No. 1 to the Employment Agreement as of the date first set forth above.

EMPLOYEE

/s/ Taylor Schreiber
Taylor Schreiber

SHATTUCK LABS, INC.

By: /s/ Josiah Hornblower
Name: Josiah Hornblower
Title: Executive Chairman
This EMPLOYMENT AGREEMENT (the “Agreement”) is entered into as of December 5, 2019 (the “Effective Date”), by and between Shattuck Labs, Inc. (the “Company”) and Arundathy Nirmalini Pandite (“Executive”).

WHEREAS, the Company wishes to continue to employ Executive as the Chief Medical Officer of the Company and Executive wishes to continue to work as the Chief Medical Officer of the Company; and

WHEREAS, the Company and Executive wish to enter into this Agreement on the terms and conditions set forth below.

NOW, THEREFORE, it is hereby agreed as follows

1. Employment. The Company agrees to employ Executive, and Executive hereby accepts such employment, upon the terms and subject to the conditions set forth herein, for a period commencing on the Effective Date and ending on the date that this Agreement is terminated in accordance with Section 7 below (the “Employment Term”).

2. Position; Duties. During the Employment Term, Executive shall serve as the Chief Medical Officer of the Company. In such position, Executive shall report directly to the Company’s Chief Executive Officer and shall have such duties and authority as are customary to such position and as otherwise determined from time to time by the Company. During the Employment Term, Executive agrees to devote Executive’s full time and reasonable best efforts to the performance of Executive’s duties to the Company. The foregoing shall not be construed to prohibit Executive from engaging in activities relating to serving on civic and charitable boards or committees, and managing personal investments, provided that such activities do not significantly interfere or conflict with the performance by Executive of Executive’s duties, responsibilities, or authorities hereunder.

3. Base Salary. During the Employment Term, the Company shall pay Executive an initial base salary at the annual rate of $405,000, payable in regular installments in accordance with the Company’s usual payment practices. Executive’s base salary may be increased in the sole discretion of the Compensation Committee of the Board (the “Committee”). Executive’s annual base salary, as in effect from time to time, is hereinafter referred to as the “Base Salary.”

4. Incentive Compensation. During the Employment Term, Executive shall be eligible to receive an annual cash bonus based on performance objectives established by the Committee each year (the “Annual Bonus”). Executive’s target Annual Bonus amount will be the percentage of Base Salary designated as the target by the Committee, which amount shall be at least 35% of the Base Salary then in effect (the “Target Annual Bonus”). Notwithstanding the preceding, Executive’s Annual Bonus, if any, may be below (including zero), at, or above the target based upon the achievement of the performance objectives.
5. **Employee Benefits.** During the Employment Term, Executive shall be entitled to participate in the Company’s employee benefit plans as in effect from time to time (collectively “Employee Benefits”), on the same basis as those benefits are generally made available to other senior executives of the Company, in each case to the extent that Executive is eligible under the terms of such plans or programs.

6. **Business Expenses.** During the Employment Term, reasonable business expenses incurred by Executive in the performance of Executive’s duties hereunder shall be advanced or promptly reimbursed by the Company in accordance with Company policies.

7. **Termination.** The Employment Term and Executive’s employment may be terminated by the Company at any time and for any reason upon Notice to Executive and by Executive upon at least 30 days’ advance Notice of any such resignation of Executive’s employment. Notwithstanding any other provision of this Agreement, the provisions of this Section 7 shall exclusively govern Executive’s rights to payment of compensation, severance, Employee Benefits and business expenses upon termination of employment with the Company.

   (a) **By the Company for Cause; By Executive without Good Reason.**

   (i) The Employment Term and Executive’s employment may be terminated by the Company for Cause and shall terminate automatically upon the effective date of Executive’s resignation without Good Reason. For purposes of this Agreement, “Cause” shall mean (A) indictment for, conviction of, or a plea of *nolo contendere* to, (x) a felony (other than traffic-related) under the laws of the United States or any state thereof or (y) a crime involving moral turpitude that could be injurious to the Company or its reputation, (B) Executive’s willful malfeasance or willful misconduct which is materially and demonstrably injurious to the Company, (C) any act of fraud by Executive in the performance of Executive’s duties or (D) Executive’s material breach of any Agreement with the Company or any of the Company’s material policies. The determination of Cause shall be made by the Board, in its good faith discretion. For purposes of this Agreement, “Good Reason” shall mean the occurrence of any of the following events, without Executive’s written consent, provided, in each case, that such event is not cured within thirty (30) days after the Company receives notice from Executive specifying in reasonable detail the event which constitutes Good Reason: (1) any failure by the Company to pay Executive’s Base Salary or Annual Bonus (if any) when due; (2) a reduction in Executive’s Base Salary or Target Annual Bonus (excluding any change in value of equity incentives); (3) any diminution in Executive’s title or any substantial and sustained diminution in Executive’s duties; or (4) a required relocation of Executive’s primary work location by more than 25 miles from Executive’s current work location. “Good Reason” shall cease to exist for an event on the 90th day following Executive’s knowledge thereof, unless Executive has given the Company Notice thereof prior to such date.
(ii) If Executive’s employment is terminated by the Company for Cause, or if Executive resigns without Good Reason, Executive shall be entitled to receive:

(A) the Base Salary accrued through the date of termination, payable as soon as practicable following the date of such termination or as otherwise required by applicable law;

(B) any Annual Bonus earned, but unpaid, as of the date of termination for the year immediately preceding the year in which such termination occurs, paid on the date when bonuses are otherwise paid to Company executives, and in all events by March 15th of the calendar year following the year in which such termination occurs;

(C) reimbursement, within 60 days following submission by Executive to the Company of appropriate supporting documentation, for any unreimbursed business expenses properly incurred by Executive in accordance with Company policy prior to the date of Executive’s termination; provided, that claims for such reimbursement (accompanied by appropriate supporting documentation) are submitted to the Company within 90 days following the date of Executive’s termination of employment; and

(D) such Employee Benefits, if any, as to which Executive may be entitled under the employee benefit plans of the Company, which shall be paid in accordance with the terms of the applicable plans (the amounts described in clauses (A) through (D) hereof, the “Accrued Rights”).

Following such termination of Executive’s employment by the Company for Cause or resignation by Executive without Good Reason, except as set forth in this Section 7(a)(ii), Executive shall have no further rights to any compensation or any other benefits under this Agreement.

(b) Disability or Death.

(i) The Employment Term and Executive’s employment shall terminate automatically upon Executive’s death and may be terminated by the Company upon Executive’s Disability. For purposes of this Agreement, a “Disability” shall be deemed to have occurred if Executive has for one hundred twenty (120) consecutive days or one hundred eighty (180) non-consecutive days in any twelve (12) month period been disabled in a manner which has rendered Executive unable to perform the essential functions of Executive’s job duties with or without reasonable accommodation.

(ii) Upon termination of Executive’s employment for either Disability or death, Executive or Executive’s estate (as the case may be) shall be entitled to receive (A) the Accrued Rights and (B) a pro rata portion of the actual Annual Bonus earned for the year of termination, based on the days employed during such year, payable on the date when bonuses are otherwise paid to Company executives and in all events by March 15th of the calendar year following the year in which such termination occurs.
Following Executive’s termination of employment due to death or Disability, except as set forth in this Section 7(b)(ii), Executive shall have no further rights to any compensation or any other benefits under this Agreement.

(c) **By the Company without Cause; By Executive with Good Reason.**

(i) The Employment Term and Executive’s employment may be terminated by the Company without Cause or by Executive with Good Reason.

(ii) If Executive’s employment is terminated by the Company without Cause (other than by reason of death or Disability) or if Executive resigns with Good Reason, in either event not within 30 days before or two years after a Change in Control, Executive shall be entitled to receive:

(A) the Accrued Rights; and

(B) subject to Executive’s execution and non-revocation of a release of claims in the form provided by the Company and within the time period specified therein and Executive’s continued compliance with the provisions of Section 8 and the PIIA Agreement:

1. a pro rata portion of the actual Annual Bonus that would have been earned for the year of termination, based on the days employed during such year, payable on the date when bonuses are otherwise paid to Company executives and in all events by March 15th of the calendar year following the year in which such termination occurs;

2. payment of an amount equal to 1.00 times the sum of Executive’s annual Base Salary plus Executive’s Target Annual Bonus amount for the year of termination, which shall be payable to Executive in equal installments in accordance with the Company’s normal payroll practices, for 12 months following the date that the release of claims becomes effective and irrevocable (provided, however, that if the period during which the release could become effective and irrevocable spans two calendar years, payments of such installments shall not commence until the first normal payroll date in the second calendar year);

3. effective as of immediately prior to such termination of employment, accelerated vesting of all then unvested equity awards (with any applicable performance-based awards deemed earned at the target level of achievement) with such awards (other than stock options) settled as soon as practicable thereafter and in all events by March 15th of the calendar year following the year in which such termination occurs or to remain exercisable (with respect to stock options) through the 90th day following such termination of employment; and
(4) subject to Executive’s timely election of continuation coverage under the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended (“COBRA”), and subject to Executive’s copayment of premium amounts at the active employees’ rate, the Company shall pay the remainder of the premiums for Executive’s participation in the Company’s group health plans pursuant to COBRA for a period ending on the earlier of (i) the 12 month anniversary of the date of termination; (ii) Executive becoming eligible for other group health benefits, or (iii) the expiration of Executive’s rights under COBRA; provided, however, that in the event that the benefits provided herein would subject the Company or any of its affiliates to any tax or penalty under the Patient Protection and Affordable Care Act or Section 105(h) of the Internal Revenue Code of 1986, as amended (the “Code”), Executive and the Company agree to work together in good faith to restructure the foregoing benefit.

Following Executive’s termination of employment by the Company without Cause (other than by reason of Executive’s death or Disability) or Executive’s resignation with Good Reason not within 30 days before or two years after a Change in Control, except as set forth in this Section 7(c) (ii), Executive shall have no further rights to any compensation or any other benefits under this Agreement.

(iii) If Executive’s employment is terminated by the Company without Cause (other than by reason of death or Disability) or if Executive resigns with Good Reason, in either event within 30 days before or two years after a Change in Control, Executive shall be entitled to receive the payments and benefits described in Section 7(c)(ii)(A) and (B), except that the severance multiplier in Section 7(c)(ii)(B)(2) shall be increased from 1.00 to 2.00. For the avoidance of doubt, payment of such amounts and benefits other than the Accrued Rights shall be subject to Executive providing and not revoking a release of claims in the form provided by the Company and within the time period specified therein and Executive’s continued compliance with the provisions of Section 8 and the PIIA Agreement. For purposes of this Agreement, “Change in Control” means the occurrence of one or more of the following events: (i) any “person” (as such term is used in Sections 3(a)(9) and 13(d) of the Securities Exchange Act of 1934, as amended (the “Act”)) or “group” (as such term is used in Section 13(d)(3) of the Act), other than the Company or its subsidiaries or any benefit plan of the Company or its subsidiaries is or becomes a “beneficial owner” (as such term is used in Rule 13d-3 promulgated under the Act) of more than 50% of the Voting Stock of the Company; (ii) the Company transfers all or substantially all of its assets (unless the shareholders of the Company immediately prior to such transaction beneficially own, directly or indirectly, in substantially the same proportion as they owned the Voting Stock of the Company, all of the Voting Stock or other ownership interests of the entity or entities, if any, that succeed to the business of the Company or the Company’s ultimate parent company if the Company is a subsidiary of another corporation); or (iii) any merger, reorganization, consolidation or similar transaction unless, immediately after consummation of such transaction, the shareholders of the Company immediately prior to the transaction hold, directly or indirectly, more than 50% of the Voting Stock of the Company or the Company’s ultimate parent company if
the Company is a subsidiary of another corporation. For purposes of this Change in Control definition, “Voting Stock” means securities or ownership interests of any class or classes having general voting power under ordinary circumstances, in the absence of contingencies, to elect the directors of a corporation.

Following Executive's termination of employment by the Company without Cause (other than by reason of Executive’s death or Disability) or by Executive with Good Reason within 30 days before or two years after a Change in Control, except as set forth in this Section 7(c)(iii), Executive shall have no further rights to any compensation or any other benefits under this Agreement.

(d) Notice of Termination. Any termination of employment by the Company or by Executive (other than due to Executive’s death) shall be communicated by Notice of Termination to the other party hereto in accordance with Section 11(k) hereof. For purposes of this Agreement, a “Notice of Termination” shall mean a Notice that indicates the specific termination provision in this Agreement relied upon and sets forth in reasonable detail the facts and circumstances claimed to provide a basis for termination of employment under the provision so indicated.

(e) Termination and Offices Held. Upon termination of Executive’s employment for any reason, Executive shall be deemed to have resigned from all positions that Executive may then hold as an employee, officer or director of the Company or any affiliate of the Company. Executive shall promptly deliver to the Company any additional documents reasonably required by the Company to confirm such resignations.

8. Non-Disparagement. Executive shall not, while employed by the Company or at any time thereafter, disparage the Company (or any affiliate) in any way that materially and adversely affects the goodwill, reputation or business relationships of the Company or the affiliate with the public generally, or with any of its customers, vendors or employees. The Company shall not (and shall use reasonable efforts to procure that its directors and officers shall not) disparage Executive in any way that materially and adversely affects Executive or Executive’s reputation or business relationships. Notwithstanding the foregoing, this Section shall not prohibit either party from rebutting claims or statements made by any other person.

9. Proprietary Information and Inventions Assignment Agreement. Executive previously entered into a Proprietary Information and Inventions Assignment Agreement with the Company (the “PIIA Agreement”) and hereby reaffirms all of Executive’s obligations thereunder. The provisions of Section 8 hereof and the provisions of the PIIA Agreement shall survive the termination of Executive’s employment for any reason.

10. Specific Performance. Executive acknowledges and agrees that the Company’s remedies at law for a breach or threatened breach of any of the provisions of Section 8 would be inadequate and the Company would suffer irreparable damages as a result of such breach or threatened breach. In recognition of this fact, Executive agrees that, in the event of such a breach or threatened breach, in addition to any remedies at law, the Company, without posting any bond, shall be entitled to cease making any payments or providing any benefit otherwise required by this Agreement and obtain equitable relief in the form of specific performance, temporary restraining order, temporary or permanent injunction or any other equitable remedy which may then be available.
11. **Miscellaneous.**

(a) **Arbitration.** For the avoidance of doubt, the arbitration and equitable relief provisions of the PIIA Agreement shall apply to any dispute concerning Executive’s employment with the Company or arising under or in any way related to this Agreement.

(b) **Governing Law; Consent to Personal Jurisdiction.** THIS AGREEMENT WILL BE GOVERNED BY THE LAWS OF THE STATE OF TEXAS WITHOUT REGARD FOR CONFLICTS OF LAWS PRINCIPLES. SUBJECT TO THE ARBITRATION PROVISION IN THE PIIA AGREEMENT, EXECUTIVE HEREBY EXPRESSLY CONSENTS TO THE PERSONAL JURISDICTION OF THE STATE AND FEDERAL COURTS LOCATED IN TEXAS FOR ANY LAWSUIT FILED THERE AGAINST EXECUTIVE BY THE COMPANY CONCERNING EXECUTIVE’S EMPLOYMENT OR THE TERMINATION OF EXECUTIVE’S EMPLOYMENT OR ARISING FROM OR RELATING TO THIS AGREEMENT.

(c) **Entire Agreement/Amendments.** This Agreement, together with the PIIA Agreement, contains the entire understanding of the parties with respect to the employment of Executive by the Company. There are no restrictions, agreements, promises, warranties, covenants or undertakings between the parties with respect to the subject matter herein other than those expressly set forth herein or as may be set forth from time to time in the Company’s employee benefit plans and policies applicable to Executive. This Agreement may not be altered, modified, or amended except by written instrument signed by the parties hereto. In the event of any inconsistency between this Agreement and any other plan, program, practice or agreement of which Executive is a participant or a party, this Agreement shall control unless such other plan, program, practice or agreement specifically refers to the provisions of this sentence.

(d) **No Waiver.** The failure of a party to insist upon strict adherence to any term of this Agreement on any occasion shall not be considered a waiver of such party’s rights or deprive such party of the right thereafter to insist upon strict adherence to that term or any other term of this Agreement.

(e) **Severability.** In the event that any one or more of the provisions of this Agreement shall be or become invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions of this Agreement shall not be affected thereby.

(f) **Assignment.** This Agreement, and all of Executive’s rights and duties hereunder, shall not be assignable or delegable by Executive. Any purported assignment or delegation by Executive in violation of the foregoing shall be null and void ab initio and of no force and effect. This Agreement may be assigned by the Company to a person or entity which is an affiliate or a successor in interest to substantially all of the business operations of the Company. Upon such assignment, the rights and obligations of the Company hereunder shall become the rights and obligations of such affiliate or successor person or entity.
(g) **Counterclaim; No Mitigation.** The Company’s obligation to pay Executive the amounts provided and to make the arrangements provided hereunder shall be subject to counterclaim and to seek recoupment of amounts owed by Executive to the Company or its affiliates. Executive shall not be required to mitigate the amount of any payment provided for pursuant to this Agreement by seeking other employment, and such payments shall not be reduced by any compensation or benefits received from any subsequent employer or other endeavor.

(h) **Compliance with Code Section 409A.** Notwithstanding anything herein to the contrary, (i) if at the time of Executive’s termination of employment with the Company Executive is a “specified employee” as defined in Section 409A of the Code and the deferral of the commencement of any payments or benefits otherwise payable hereunder as a result of such termination of employment is necessary in order to prevent any accelerated or additional tax under Section 409A of the Code, then the Company will defer the commencement of the payment of any such payments or benefits hereunder (without any reduction in such payments or benefits ultimately paid or provided to Executive) until the date that is six months following Executive’s termination of employment with the Company (or the earliest date as is permitted under Section 409A of the Code) and (ii) if any other payments of money or other benefits due to Executive hereunder could cause the application of an accelerated or additional tax under Section 409A of the Code, such payments or other benefits shall be deferred if deferral will make such payment or other benefits compliant under Section 409A of the Code, or otherwise such payment or other benefits shall be restructured, to the extent possible, in a manner, determined by the Board, that does not cause such an accelerated or additional tax. For purposes of Section 409A of the Code, each payment made under this Agreement shall be designated as a “separate payment” within the meaning of the Section 409A of the Code, and references herein to Executive’s “termination of employment” shall refer to Executive’s separation from service with the Company within the meaning of Section 409A. To the extent any reimbursements or in-kind benefits due to Executive under this Agreement constitute “deferred compensation” under Section 409A of the Code, any such reimbursements or in-kind benefits shall be paid to Executive in a manner consistent with Treas. Reg. Section 1.409A-3(i)(1)(iv).

(i) **Code Section 280G.**

(i) **Prior to the Date Any Company Stock is Readily Tradeable on an Established Securities Market or Otherwise; Shareholder Vote Sought.** To the extent that the exemption under Section 280G(b)(5) of the Code is available at the time of a Change in Control if the shareholder approval requirements under Treasury Regulation §1.280G-1, Q/A-7 are satisfied, the Company may elect to pursue a shareholder vote in accordance with such provisions and the Company and Executive shall cooperate with each other and use their commercially reasonable efforts to obtain a vote satisfying the requirements of Section 280G(b)(5) of the Code and Treasury Regulation §1.280G-1, Q/A-7, such that neither Executive nor the Company or its Affiliates suffers any adverse tax consequences under Sections 280G and 4999 of the Code.
Prior to the Date Any Company Stock is Readily Tradeable on an Established Securities Market or Otherwise; Shareholder Vote Not Sought. To the extent that the exemption under Section 280G(b)(5) of the Code is available at the time of a Change in Control if the shareholder approval requirements under Treasury Regulation §1.280G-1, Q/A-7 are satisfied and the Company does not seek a shareholder vote in accordance with Section 11(i)(i) hereof, if it is determined by a nationally recognized United States public accounting firm selected by the Company (the “Auditors”) that any payment or benefit in the nature of compensation made or provided to Executive in connection with Executive’s employment with the Company (collectively, a “Payment”), would be subject to the excise tax imposed by Section 4999 of the Code (the “Parachute Tax”), then the Company shall pay to Executive, prior to the time the Parachute Tax is payable with respect to such Payment, an additional payment (a “Gross-Up Payment”) in an amount such that, after payment by Executive of all taxes (including any Parachute Tax) imposed upon the Gross-Up Payment, Executive retains an amount of the Gross-Up Payment equal to the Parachute Tax imposed upon the Payment.

a. The amount of any Gross-Up Payment shall be determined by the Auditors, subject to adjustment, as necessary, as a result of any Internal Revenue Service position. For purposes of making the calculations required by this Agreement, the Auditors may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of Sections 280G and 4999 of the Code; provided that the Auditors’ determinations must be made with substantial authority (within the meaning of Section 6662 of the Code).

b. The federal tax returns filed by Executive (and any filing made by a consolidated tax group which includes the Company) shall be prepared and filed on a basis consistent with the determination of the Auditors with respect to the Parachute Tax payable by Executive. Executive shall make proper payment of the amount of any Parachute Tax, and at the request of the Company, provide to the Company true and correct copies (with any amendments) of Executive’s federal income tax return as filed with the Internal Revenue Service, and such other documents reasonably requested by the Company, evidencing such payment. If, after the Company’s payment to Executive of the Gross-Up Payment, the Auditors determine in good faith that the amount of the Gross-Up Payment should be reduced or increased, or such determination is made by the Internal Revenue Service, then within ten (10) business days of such determination, Executive shall pay to the Company the amount of any such reduction, or the Company shall pay to Executive the amount of any such increase; provided, however, that (i) the fees and expenses of the Auditors (and any other legal and accounting fees) incurred for services rendered in connection with the Auditor’s determination of the Parachute Tax or any challenge by the Internal Revenue Service or other taxing authority relating to such determination shall be paid by the Company, and (ii) the Company shall indemnify and hold Executive harmless on an after-tax basis for any interest and penalties imposed upon Executive to the extent that such interest and penalties are related to the Auditor’s determination of the Parachute Tax or the Gross-Up Payment.
On and After the Date Any Company Stock is Readily Tradeable on an Established Securities Market or Otherwise. To the extent that the exemption under Section 280G(b)(5) of the Code is unavailable at the time of a Change in Control because any Company stock is readily tradeable on an established securities market or otherwise, if it is determined by a nationally recognized United States public accounting firm selected by the Company (the “Auditors”) that any payment or benefit in the nature of compensation made or provided to Executive in connection with Executive’s employment with the Company (collectively, a “Payments”), would be subject to the excise tax imposed by Section 4999 of the Code (the “Parachute Tax”), then Executive will be entitled to receive either (A) the full amount of the Payments, or (B) a portion of the Payments having a value equal to $1 less than three (3) times Executive’s “base amount” (as such term is defined in Section 280G(b)(3)(A) of the Code), whichever of clauses (A) and (B), after taking into account applicable federal, state, and local income and employment taxes and the Parachute Tax, results in the receipt by Executive on an after-tax basis, of the greatest portion of the Payments.

a. Any determination required under this Section 11(i)(iii) shall be made in writing by the Auditor, whose determination, absent manifest error, shall be conclusive and binding for all purposes upon the Company and Executive. For purposes of making the calculations required by this Agreement, the Auditors may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of Sections 280G and 4999 of the Code; provided that the Auditors’ determinations must be made with substantial authority (within the meaning of Section 6662 of the Code).

b. If there is a reduction of the Payments pursuant to this Section 11(i)(iii), such reduction shall occur in accordance with Section 409A of the Code and in the following order: (1) any cash severance payable by reference to Executive’s base salary or annual bonus, (2) any other cash amount payable to Executive, (3) any employee benefit valued as a “parachute payment,” and (4) acceleration of vesting of any outstanding equity award.

c. For the avoidance of doubt, in the event that additional Payments are made to Executive after the application of the cutback in this Section 11(i)(iii), which additional Payments result in the cutback no longer being applicable, the Company shall pay Executive an additional amount equal to the value of the Payments that were originally cut back. The Company shall determine at the end of each calendar year whether any such restoration is necessary based on additional Payments (if any) made during such calendar year, and shall pay such restoration by March 15 of the calendar year following such calendar year. In no event whatsoever shall Executive be entitled to a tax gross-up or other payment in respect of any excise tax, interest or penalties that may be imposed on the Payments by reason of the application of Section 280G or Section 4999 of the Code at any time when any Company stock is readily tradeable on an established securities market or otherwise.
(j) **Successors; Binding Agreement.** This Agreement shall inure to the benefit of and be binding upon personal or legal representatives, executors, administrators, successors, heirs, distributees, devisees and legatees. In the event of Executive’s death prior to receipt of all amounts payable to Executive (including any unpaid amounts due under Section 7), such amounts shall be paid to Executive’s beneficiary designated in a Notice provided to and accepted by the Company or, in the absence of such designation, to Executive’s estate.

(k) **Notice.** For the purpose of this Agreement, notices and all other communications provided for in the Agreement shall be in writing and shall be deemed to have been duly given when delivered by hand or overnight courier or three postal delivery days after it has been mailed by United States registered mail, return receipt requested, postage prepaid, addressed to the respective addresses set forth below in this Agreement, or to such other address as either party may have furnished to the other in writing in accordance herewith, except that Notice of change of address shall be effective only upon receipt (each such communication, “Notice”).

If to the Company, addressed to:

Shattuck Labs, Inc.
Attn: General Counsel
1018 W. 11th Street, Suite 100
Austin, TX 78703

If to Executive, to the address listed in the Company’s payroll records from time to time.

(l) **Executive Representation.** Executive hereby represents to the Company that the execution and delivery of this Agreement by Executive and the Company and the performance by Executive of Executive’s duties hereunder shall not constitute a breach of, or otherwise contravene, the terms of any employment agreement or other agreement or policy to which Executive is a party or otherwise bound.

(m) **Prior Agreements.** This Agreement supersedes all prior agreements and understandings (including verbal agreements) between Executive and the Company and/or its affiliates regarding the terms and conditions of Executive’s employment with the Company and/or its affiliates.

(n) **Cooperation.** Executive shall provide Executive’s reasonable cooperation in connection with any action or proceeding (or any appeal from any action or proceeding) which relates to events occurring during Executive’s employment hereunder, provided, that, following termination of Executive’s employment, the Company shall pay all reasonable expenses incurred by Executive in providing such cooperation. This provision shall survive any termination of this Agreement.

(o) **Withholding Taxes.** The Company may withhold from any amounts payable under this Agreement such federal, state and local taxes as may be required to be withheld pursuant to any applicable law or regulation.
(p) Counterparts. This Agreement may be signed in counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument.

[Signature Page Follows this Page]
IN WITNESS WHEREOF, the parties hereto have duly executed this Employment Agreement as of the Effective Date.

SHATTUCK LABS, INC.

/s/ Josiah Hornblower
By: Josiah Hornblower
Title: CEO

EXECUTIVE

/s/ Arundathy Nirmalini Pandite
Name: Arundathy Nirmalini Pandite
This EMPLOYMENT AGREEMENT (the “Agreement”) is entered into as of December 5, 2019 (the “Effective Date”), by and between Shattuck Labs, Inc. (the “Company”) and Erin Ator Thomson (“Executive”).

WHEREAS, the Company wishes to continue to employ Executive as the General Counsel of the Company and Executive wishes to continue to work as the General Counsel of the Company; and

WHEREAS, the Company and Executive wish to enter into this Agreement on the terms and conditions set forth below.

NOW, THEREFORE, it is hereby agreed as follows

1. Employment. The Company agrees to employ Executive, and Executive hereby accepts such employment, upon the terms and subject to the conditions set forth herein, for a period commencing on the Effective Date and ending on the date that this Agreement is terminated in accordance with Section 7 below (the “Employment Term”).

2. Position; Duties. During the Employment Term, Executive shall serve as the General Counsel of the Company. In such position, Executive shall report directly to the Company’s Chief Executive Officer and shall have such duties and authority as are customary to such position and as otherwise determined from time to time by the Company. During the Employment Term, Executive agrees to devote Executive’s full time and reasonable best efforts to the performance of Executive’s duties to the Company. The foregoing shall not be construed to prohibit Executive from engaging in activities relating to serving on civic and charitable boards or committees, and managing personal investments, provided that such activities do not significantly interfere or conflict with the performance by Executive of Executive’s duties, responsibilities, or authorities hereunder.

3. Base Salary. During the Employment Term, the Company shall pay Executive an initial base salary at the annual rate of $315,000, payable in regular installments in accordance with the Company’s usual payment practices. Executive’s base salary may be increased in the sole discretion of the Compensation Committee of the Board (the “Committee”). Executive’s annual base salary, as in effect from time to time, is hereinafter referred to as the “Base Salary.”

4. Incentive Compensation. During the Employment Term, Executive shall be eligible to receive an annual cash bonus based on performance objectives established by the Committee each year (the “Annual Bonus”). Executive’s target Annual Bonus amount will be the percentage of Base Salary designated as the target by the Committee, which amount shall be at least 20% of the Base Salary then in effect (the “Target Annual Bonus”). Notwithstanding the preceding, Executive’s Annual Bonus, if any, may be below (including zero), at, or above the target based upon the achievement of the performance objectives.
5. **Employee Benefits.** During the Employment Term, Executive shall be entitled to participate in the Company’s employee benefit plans as in effect from time to time (collectively “Employee Benefits”), on the same basis as those benefits are generally made available to other senior executives of the Company, in each case to the extent that Executive is eligible under the terms of such plans or programs.

6. **Business Expenses.** During the Employment Term, reasonable business expenses incurred by Executive in the performance of Executive’s duties hereunder shall be advanced or promptly reimbursed by the Company in accordance with Company policies.

7. **Termination.** The Employment Term and Executive’s employment may be terminated by the Company at any time and for any reason upon Notice to Executive and by Executive upon at least 30 days’ advance Notice of any such resignation of Executive’s employment. Notwithstanding any other provision of this Agreement, the provisions of this Section 7 shall exclusively govern Executive’s rights to payment of compensation, severance, Employee Benefits and business expenses upon termination of employment with the Company.

(a) **By the Company for Cause; By Executive without Good Reason.**

(i) The Employment Term and Executive’s employment may be terminated by the Company for Cause and shall terminate automatically upon the effective date of Executive’s resignation without Good Reason. For purposes of this Agreement, “Cause” shall mean (A) indictment for, conviction of, or a plea of *nolo contendere* to, (x) a felony (other than traffic-related) under the laws of the United States or any state thereof or (y) a crime involving moral turpitude that could be injurious to the Company or its reputation, (B) Executive’s willful malfeasance or willful misconduct which is materially and demonstrably injurious to the Company, (C) any act of fraud by Executive in the performance of Executive’s duties or (D) Executive’s material breach of any Agreement with the Company or any of the Company’s material policies. The determination of Cause shall be made by the Board, in its good faith discretion. For purposes of this Agreement, “Good Reason” shall mean the occurrence of any of the following events, without Executive’s written consent, provided, in each case, that such event is not cured within thirty (30) days after the Company receives notice from Executive specifying in reasonable detail the event which constitutes Good Reason: (1) any failure by the Company to pay Executive’s Base Salary or Annual Bonus (if any) when due; (2) a reduction in Executive’s Base Salary or Target Annual Bonus (excluding any change in value of equity incentives); (3) any diminution in Executive’s title or any substantial and sustained diminution in Executive’s duties; or (4) a required relocation of Executive’s primary work location by more than 25 miles from Executive’s current work location. “Good Reason” shall cease to exist for an event on the 90th day following Executive’s knowledge thereof, unless Executive has given the Company Notice thereof prior to such date.
(ii) If Executive’s employment is terminated by the Company for Cause, or if Executive resigns without Good Reason, Executive shall be entitled to receive:

(A) the Base Salary accrued through the date of termination, payable as soon as practicable following the date of such termination or as otherwise required by applicable law;

(B) any Annual Bonus earned, but unpaid, as of the date of termination for the year immediately preceding the year in which such termination occurs, paid on the date when bonuses are otherwise paid to Company executives, and in all events by March 15th of the calendar year following the year in which such termination occurs;

(C) reimbursement, within 60 days following submission by Executive to the Company of appropriate supporting documentation, for any unreimbursed business expenses properly incurred by Executive in accordance with Company policy prior to the date of Executive’s termination; provided, that claims for such reimbursement (accompanied by appropriate supporting documentation) are submitted to the Company within 90 days following the date of Executive’s termination of employment; and

(D) such Employee Benefits, if any, as to which Executive may be entitled under the employee benefit plans of the Company, which shall be paid in accordance with the terms of the applicable plans (the amounts described in clauses (A) through (D) hereof, the "Accrued Rights").

Following such termination of Executive’s employment by the Company for Cause or resignation by Executive without Good Reason, except as set forth in this Section 7(a)(ii), Executive shall have no further rights to any compensation or any other benefits under this Agreement.

(b) Disability or Death.

(i) The Employment Term and Executive’s employment shall terminate automatically upon Executive’s death and may be terminated by the Company upon Executive’s Disability. For purposes of this Agreement, a "Disability" shall be deemed to have occurred if Executive has for one hundred twenty (120) consecutive days or one hundred eighty (180) non-consecutive days in any twelve (12) month period been disabled in a manner which has rendered Executive unable to perform the essential functions of Executive’s job duties with or without reasonable accommodation.

(ii) Upon termination of Executive’s employment for either Disability or death, Executive or Executive’s estate (as the case may be) shall be entitled to receive (A) the Accrued Rights and (B) a pro rata portion of the actual Annual Bonus earned for the year of termination, based on the days employed during such year, payable on the date when bonuses are otherwise paid to Company executives and in all events by March 15th of the calendar year following the year in which such termination occurs.
Following Executive’s termination of employment due to death or Disability, except as set forth in this Section 7(b)(ii), Executive shall have no further rights to any compensation or any other benefits under this Agreement.

(c) **By the Company without Cause; By Executive with Good Reason.**

(i) The Employment Term and Executive’s employment may be terminated by the Company without Cause or by Executive with Good Reason.

(ii) If Executive’s employment is terminated by the Company without Cause (other than by reason of death or Disability) or if Executive resigns with Good Reason, in either event not within 30 days before or two years after a Change in Control, Executive shall be entitled to receive:

   (A) the Accrued Rights; and

   (B) subject to Executive’s execution and non-revocation of a release of claims in the form provided by the Company and within the time period specified therein and Executive’s continued compliance with the provisions of Section 8 and the PIIA Agreement:

   (1) a pro rata portion of the actual Annual Bonus that would have been earned for the year of termination, based on the days employed during such year, payable on the date when bonuses are otherwise paid to Company executives and in all events by March 15th of the calendar year following the year in which such termination occurs;

   (2) payment of an amount equal to 0.75 times the sum of Executive’s annual Base Salary plus Executive’s Target Annual Bonus amount for the year of termination, which shall be payable to Executive in equal installments in accordance with the Company’s normal payroll practices, for 9 months following the date that the release of claims becomes effective and irrevocable (provided, however, that if the period during which the release could become effective and irrevocable spans two calendar years, payments of such installments shall not commence until the first normal payroll date in the second calendar year);

   (3) effective as of immediately prior to such termination of employment, accelerated vesting of all then unvested equity awards (with any applicable performance-based awards deemed earned at the target level of achievement) with such awards (other than stock options) settled as soon as practicable thereafter and in all events by March 15th of the calendar year following the year in which such termination occurs or to remain exercisable (with respect to stock options) through the 90th day following such termination of employment; and
(4) subject to Executive’s timely election of continuation coverage under the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended (“COBRA”), and subject to Executive’s copayment of premium amounts at the active employees’ rate, the Company shall pay the remainder of the premiums for Executive’s participation in the Company’s group health plans pursuant to COBRA for a period ending on the earlier of (i) the 9 month anniversary of the date of termination; (ii) Executive becoming eligible for other group health benefits, or (iii) the expiration of Executive’s rights under COBRA; provided, however, that in the event that the benefits provided herein would subject the Company or any of its affiliates to any tax or penalty under the Patient Protection and Affordable Care Act or Section 105(h) of the Internal Revenue Code of 1986, as amended (the “Code”), Executive and the Company agree to work together in good faith to restructure the foregoing benefit.

Following Executive’s termination of employment by the Company without Cause (other than by reason of Executive’s death or Disability) or Executive’s resignation with Good Reason not within 30 days before or two years after a Change in Control, except as set forth in this Section 7(c)(ii), Executive shall have no further rights to any compensation or any other benefits under this Agreement.

(iii) If Executive’s employment is terminated by the Company without Cause (other than by reason of death or Disability) or if Executive resigns with Good Reason, in either event within 30 days before or two years after a Change in Control, Executive shall be entitled to receive the payments and benefits described in Section 7(c)(ii)(A) and (B), except that the severance multiplier in Section 7(c)(ii)(B)(2) shall be increased from 0.75 to 1.50. For the avoidance of doubt, payment of such amounts and benefits other than the Accrued Rights shall be subject to Executive providing and not revoking a release of claims in the form provided by the Company and within the time period specified therein and Executive’s continued compliance with the provisions of Section 8 and the PIIA Agreement. For purposes of this Agreement, “Change in Control” means the occurrence of one or more of the following events: (i) any “person” (as such term is used in Sections 3(a)(9) and 13(d) of the Securities Exchange Act of 1934, as amended (the “Act”)) or “group” (as such term is used in Section 13(d)(3) of the Act), other than the Company or its subsidiaries or any benefit plan of the Company or its subsidiaries is or becomes a “beneficial owner” (as such term is used in Rule 13d-3 promulgated under the Act) of more than 50% of the Voting Stock of the Company; (ii) the Company transfers all or substantially all of its assets (unless the shareholders of the Company immediately prior to such transaction beneficially own, directly or indirectly, in substantially the same proportion as they owned the Voting Stock of the Company, all of the Voting Stock or other ownership interests of the entity or entities, if any, that succeeded to the business of the Company or the Company’s ultimate parent company if the Company is a subsidiary of another corporation); or (iii) any merger, reorganization, consolidation or similar transaction unless, immediately after consummation of such transaction, the shareholders of the Company immediately prior to the transaction hold, directly or indirectly, more than 50% of the Voting Stock of the Company or the Company’s ultimate parent company if
the Company is a subsidiary of another corporation. For purposes of this Change in Control definition, “Voting Stock” means securities or ownership interests of any class or classes having general voting power under ordinary circumstances, in the absence of contingencies, to elect the directors of a corporation.

Following Executive’s termination of employment by the Company without Cause (other than by reason of Executive’s death or Disability) or by Executive with Good Reason within 30 days before or two years after a Change in Control, except as set forth in this Section 7(c)(iii), Executive shall have no further rights to any compensation or any other benefits under this Agreement.

(d) Notice of Termination. Any termination of employment by the Company or by Executive (other than due to Executive’s death) shall be communicated by Notice of Termination to the other party hereto in accordance with Section 11(k) hereof. For purposes of this Agreement, a “Notice of Termination” shall mean a Notice that indicates the specific termination provision in this Agreement relied upon and sets forth in reasonable detail the facts and circumstances claimed to provide a basis for termination of employment under the provision so indicated.

(e) Termination and Offices Held. Upon termination of Executive’s employment for any reason, Executive shall be deemed to have resigned from all positions that Executive may then hold as an employee, officer or director of the Company or any affiliate of the Company. Executive shall promptly deliver to the Company any additional documents reasonably required by the Company to confirm such resignations.

8. Non-Disparagement. Executive shall not, while employed by the Company or at any time thereafter, disparage the Company (or any affiliate) in any way that materially and adversely affects the goodwill, reputation or business relationships of the Company or the affiliate with the public generally, or with any of its customers, vendors or employees. The Company shall not (and shall use reasonable efforts to procure that its directors and officers shall not) disparage Executive in any way that materially and adversely affects Executive or Executive’s reputation or business relationships. Notwithstanding the foregoing, this Section shall not prohibit either party from rebutting claims or statements made by any other person.

9. Proprietary Information and Inventions Assignment Agreement. Executive previously entered into a Proprietary Information and Inventions Assignment Agreement with the Company (the “PIIA Agreement”) and hereby reaffirms all of Executive’s obligations thereunder. The provisions of Section 8 hereof and the provisions of the PIIA Agreement shall survive the termination of Executive’s employment for any reason.

10. Specific Performance. Executive acknowledges and agrees that the Company’s remedies at law for a breach or threatened breach of any of the provisions of Section 8 would be inadequate and the Company would suffer irreparable damages as a result of such breach or threatened breach. In recognition of this fact, Executive agrees that, in the event of such a breach or threatened breach, in addition to any remedies at law, the Company, without posting any bond, shall be entitled to cease making any payments or providing any benefit otherwise required by this Agreement and obtain equitable relief in the form of specific performance, temporary restraining order, temporary or permanent injunction or any other equitable remedy which may then be available.
11. **Miscellaneous.**

(a) **Arbitration.** For the avoidance of doubt, the arbitration and equitable relief provisions of the PIIA Agreement shall apply to any dispute concerning Executive’s employment with the Company or arising under or in any way related to this Agreement.

(b) **Governing Law; Consent to Personal Jurisdiction.** THIS AGREEMENT WILL BE GOVERNED BY THE LAWS OF THE STATE OF TEXAS WITHOUT REGARD FOR CONFLICTS OF LAWS PRINCIPLES. SUBJECT TO THE ARBITRATION PROVISION IN THE PIIA AGREEMENT, EXECUTIVE HEREBY EXPRESSLY CONSENTS TO THE PERSONAL JURISDICTION OF THE STATE AND FEDERAL COURTS LOCATED IN TEXAS FOR ANY LAWSUIT FILED THERE AGAINST EXECUTIVE BY THE COMPANY CONCERNING EXECUTIVE’S EMPLOYMENT OR THE TERMINATION OF EXECUTIVE’S EMPLOYMENT OR ARISING FROM OR RELATING TO THIS AGREEMENT.

(c) **Entire Agreement/Amendments.** This Agreement, together with the PIIA Agreement, contains the entire understanding of the parties with respect to the employment of Executive by the Company. There are no restrictions, agreements, promises, warranties, covenants or undertakings between the parties with respect to the subject matter herein other than those expressly set forth herein or as may be set forth from time to time in the Company’s employee benefit plans and policies applicable to Executive. This Agreement may not be altered, modified, or amended except by written instrument signed by the parties hereto. In the event of any inconsistency between this Agreement and any other plan, program, practice or agreement of which Executive is a participant or a party, this Agreement shall control unless such other plan, program, practice or agreement specifically refers to the provisions of this sentence.

(d) **No Waiver.** The failure of a party to insist upon strict adherence to any term of this Agreement on any occasion shall not be considered a waiver of such party’s rights or deprive such party of the right thereafter to insist upon strict adherence to that term or any other term of this Agreement.

(e) **Severability.** In the event that any one or more of the provisions of this Agreement shall be or become invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions of this Agreement shall not be affected thereby.

(f) **Assignment.** This Agreement, and all of Executive’s权利和 duties hereunder, shall not be assignable or delegable by Executive. Any purported assignment or delegation by Executive in violation of the foregoing shall be null and void ab initio and of no force and effect. This Agreement may be assigned by the Company to a person or entity which is an affiliate or a successor in interest to substantially all of the business operations of the Company. Upon such assignment, the rights and obligations of the Company hereunder shall become the rights and obligations of such affiliate or successor person or entity.
Counterclaim; No Mitigation. The Company’s obligation to pay Executive the amounts provided and to make the arrangements provided hereunder shall be subject to counterclaim and to seek recoupment of amounts owed by Executive to the Company or its affiliates. Executive shall not be required to mitigate the amount of any payment provided for pursuant to this Agreement by seeking other employment, and such payments shall not be reduced by any compensation or benefits received from any subsequent employer or other endeavor.

Compliance with Code Section 409A. Notwithstanding anything herein to the contrary, (i) if at the time of Executive’s termination of employment with the Company Executive is a “specified employee” as defined in Section 409A of the Code and the deferral of the commencement of any payments or benefits otherwise payable hereunder as a result of such termination of employment is necessary in order to prevent any accelerated or additional tax under Section 409A of the Code, then the Company will defer the commencement of the payment of any such payments or benefits hereunder (without any reduction in such payments or benefits ultimately paid or provided to Executive) until the date that is six months following Executive’s termination of employment with the Company (or the earliest date as is permitted under Section 409A of the Code) and (ii) if any other payments of money or other benefits due to Executive hereunder could cause the application of an accelerated or additional tax under Section 409A of the Code, such payments or other benefits shall be deferred if deferral will make such payment or other benefits compliant under Section 409A of the Code, or otherwise such payment or other benefits shall be restructured, to the extent possible, in a manner, determined by the Board, that does not cause such an accelerated or additional tax. For purposes of Section 409A of the Code, each payment made under this Agreement shall be designated as a “separate payment” within the meaning of the Section 409A of the Code, and references herein to Executive’s “termination of employment” shall refer to Executive’s separation from service with the Company within the meaning of Section 409A. To the extent any reimbursements or in-kind benefits due to Executive under this Agreement constitute “deferred compensation” under Section 409A of the Code, any such reimbursements or in-kind benefits shall be paid to Executive in a manner consistent with Treas. Reg. Section 1.409A-3(i)(1)(iv). The Company shall consult with Executive in good faith regarding the implementation of the provisions of this Section 11(h); provided that neither the Company nor any of its employees or representatives shall have any liability to Executive with respect to thereto or any tax imposed under Section 409A.

Code Section 280G.

Prior to the Date Any Company Stock is Readily Tradeable on an Established Securities Market or Otherwise; Shareholder Vote Sought. To the extent that the exemption under Section 280G(b)(5) of the Code is available at the time of a Change in Control if the shareholder approval requirements under Treasury Regulation §1.280G-1, Q/A-7 are satisfied, the Company may elect to pursue a shareholder vote in accordance with such provisions and the Company and Executive shall cooperate with each other and use their commercially reasonable efforts to obtain a vote satisfying the requirements of Section 280G(b)(5) of the Code and Treasury Regulation §1.280G-1, Q/A-7, such that neither Executive nor the Company or its Affiliates suffers any adverse tax consequences under Sections 280G and 4999 of the Code.
(ii) Prior to the Date Any Company Stock is Readily Tradeable on an Established Securities Market or Otherwise: Shareholder Vote Not Sought. To the extent that the exemption under Section 280G(b)(5) of the Code is available at the time of a Change in Control if the shareholder approval requirements under Treasury Regulation §1.280G-1, Q/A-7 are satisfied and the Company does not seek a shareholder vote in accordance with Section 11(i)(i) hereof, if it is determined by a nationally recognized United States public accounting firm selected by the Company (the “Auditors”) that any payment or benefit in the nature of compensation made or provided to Executive in connection with Executive’s employment with the Company (collectively, a “Payment”), would be subject to the excise tax imposed by Section 4999 of the Code (the “Parachute Tax”), then the Company shall pay to Executive, prior to the time the Parachute Tax is payable with respect to such Payment, an additional payment (a “Gross-Up Payment”) in an amount such that, after payment by Executive of all taxes (including any Parachute Tax) imposed upon the Gross-Up Payment, Executive retains an amount of the Gross-Up Payment equal to the Parachute Tax imposed upon the Payment.

a. The amount of any Gross-Up Payment shall be determined by the Auditors, subject to adjustment, as necessary, as a result of any Internal Revenue Service position. For purposes of making the calculations required by this Agreement, the Auditors may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of Sections 280G and 4999 of the Code; provided that the Auditors’ determinations must be made with substantial authority (within the meaning of Section 6662 of the Code).

b. The federal tax returns filed by Executive (and any filing made by a consolidated tax group which includes the Company) shall be prepared and filed on a basis consistent with the determination of the Auditors with respect to the Parachute Tax payable by Executive. Executive shall make proper payment of the amount of any Parachute Tax, and at the request of the Company, provide to the Company true and correct copies (with any amendments) of Executive’s federal income tax return as filed with the Internal Revenue Service, and such other documents reasonably requested by the Company, evidencing such payment. If, after the Company’s payment to Executive of the Gross-Up Payment, the Auditors determine in good faith that the amount of the Gross-Up Payment should be reduced or increased, or such determination is made by the Internal Revenue Service, then within ten (10) business days of such determination, Executive shall pay to the Company the amount of any such reduction, or the Company shall pay to Executive the amount of any such increase; provided, however, that (i) the fees and expenses of the Auditors (and any other legal and accounting fees) incurred for services rendered in connection with the Auditor’s determination of the Parachute Tax or any challenge by the Internal Revenue Service or other taxing authority relating to such determination shall be paid by the Company, and (ii) the Company shall indemnify and hold Executive harmless on an after-tax basis for any interest and penalties imposed upon Executive to the extent that such interest and penalties are related to the Auditor’s determination of the Parachute Tax or the Gross-Up Payment.
On and After the Date Any Company Stock is Readily Tradeable on an Established Securities Market or Otherwise. To the extent that the exemption under Section 280G(b)(5) of the Code is unavailable at the time of a Change in Control because any Company stock is readily tradeable on an established securities market or otherwise, if it is determined by a nationally recognized United States public accounting firm selected by the Company (the “Auditors”) that any payment or benefit in the nature of compensation made or provided to Executive in connection with Executive’s employment with the Company (collectively, a “Payments”), would be subject to the excise tax imposed by Section 4999 of the Code (the “Parachute Tax”), then Executive will be entitled to receive either (A) the full amount of the Payments, or (B) a portion of the Payments having a value equal to $1 less than three (3) times Executive’s “base amount” (as such term is defined in Section 280G(b)(3)(A) of the Code), whichever of clauses (A) and (B), after taking into account applicable federal, state, and local income and employment taxes and the Parachute Tax, results in the receipt by Executive on an after-tax basis, of the greatest portion of the Payments.

a. Any determination required under this Section 11(i)(iii) shall be made in writing by the Auditor, whose determination, absent manifest error, shall be conclusive and binding for all purposes upon the Company and Executive. For purposes of making the calculations required by this Agreement, the Auditors may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of Sections 280G and 4999 of the Code; provided that the Auditors’ determinations must be made with substantial authority (within the meaning of Section 6662 of the Code).

b. If there is a reduction of the Payments pursuant to this Section 11(i)(iii), such reduction shall occur in accordance with Section 409A of the Code and in the following order: (1) any cash severance payable by reference to Executive’s base salary or annual bonus, (2) any other cash amount payable to Executive, (3) any employee benefit valued as a “parachute payment,” and (4) acceleration of vesting of any outstanding equity award.

c. For the avoidance of doubt, in the event that additional Payments are made to Executive after the application of the cutback in this Section 11(i)(iii), which additional Payments result in the cutback no longer being applicable, the Company shall pay Executive an additional amount equal to the value of the Payments that were originally cut back. The Company shall determine at the end of each calendar year whether any such restoration is necessary based on additional Payments (if any) made during such calendar year, and shall pay such restoration by March 15 of the calendar year following such calendar year. In no event whatsoever shall Executive be entitled to a tax gross-up or other payment in respect of any excise tax, interest or penalties that may be imposed on the Payments by reason of the application of Section 280G or Section 4999 of the Code at any time when any Company stock is readily tradeable on an established securities market or otherwise.
(j) Successors; Binding Agreement. This Agreement shall inure to the benefit of and be binding upon personal or legal representatives, executors, administrators, successors, heirs, distributees, devisees and legatees. In the event of Executive’s death prior to receipt of all amounts payable to Executive (including any unpaid amounts due under Section 7), such amounts shall be paid to Executive’s beneficiary designated in a Notice provided to and accepted by the Company or, in the absence of such designation, to Executive’s estate.

(k) Notice. For the purpose of this Agreement, notices and all other communications provided for in the Agreement shall be in writing and shall be deemed to have been duly given when delivered by hand or overnight courier or three postal delivery days after it has been mailed by United States registered mail, return receipt requested, postage prepaid, addressed to the respective addresses set forth below in this Agreement, or to such other address as either party may have furnished to the other in writing in accordance herewith, except that Notice of change of address shall be effective only upon receipt (each such communication, “Notice”).

If to the Company, addressed to:

    Shattuck Labs, Inc.
    Attn: General Counsel
    1018 W. 11th Street, Suite 100
    Austin, TX 78703

If to Executive, to the address listed in the Company’s payroll records from time to time.

(l) Executive Representation. Executive hereby represents to the Company that the execution and delivery of this Agreement by Executive and the Company and the performance by Executive of Executive’s duties hereunder shall not constitute a breach of, or otherwise contravene, the terms of any employment agreement or other agreement or policy to which Executive is a party or otherwise bound.

(m) Prior Agreements. This Agreement supersedes all prior agreements and understandings (including verbal agreements) between Executive and the Company and/or its affiliates regarding the terms and conditions of Executive’s employment with the Company and/or its affiliates.

(n) Cooperation. Executive shall provide Executive’s reasonable cooperation in connection with any action or proceeding (or any appeal from any action or proceeding) which relates to events occurring during Executive’s employment hereunder, provided, that, following termination of Executive’s employment, the Company shall pay all reasonable expenses incurred by Executive in providing such cooperation. This provision shall survive any termination of this Agreement.

(o) Withholding Taxes. The Company may withhold from any amounts payable under this Agreement such federal, state and local taxes as may be required to be withheld pursuant to any applicable law or regulation.
(p) **Counterparts.** This Agreement may be signed in counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument.

[Signature Page Follows this Page]
IN WITNESS WHEREOF, the parties hereto have duly executed this Employment Agreement as of the Effective Date.

SHATTUCK LABS, INC.

/s/ Josiah Hornblower
By: Josiah Hornblower
Title: CEO

EXECUTIVE

/s/ Erin Ator Thomson
Name: Erin Ator Thomson
EMPLOYMENT AGREEMENT

This EMPLOYMENT AGREEMENT (the “Agreement”) is entered into as of December 5, 2019 (the “Effective Date”), by and between Shattuck Labs, Inc. (the “Company”) and Andrew Neill (“Executive”).

WHEREAS, the Company wishes to continue to employ Executive as the Vice President of Corporate Development and Strategy of the Company and Executive wishes to continue to work as the Vice President of Corporate Development and Strategy of the Company; and

WHEREAS, the Company and Executive wish to enter into this Agreement on the terms and conditions set forth below.

NOW, THEREFORE, it is hereby agreed as follows

1. Employment. The Company agrees to employ Executive, and Executive hereby accepts such employment, upon the terms and subject to the conditions set forth herein, for a period commencing on the Effective Date and ending on the date that this Agreement is terminated in accordance with Section 7 below (the “Employment Term”).

2. Position; Duties. During the Employment Term, Executive shall serve as the Vice President of Corporate Development and Strategy of the Company. In such position, Executive shall report directly to the Company’s Chief Executive Officer and shall have such duties and authority as are customary to such position and as otherwise determined from time to time by the Company. During the Employment Term, Executive agrees to devote Executive’s full time and reasonable best efforts to the performance of Executive’s duties to the Company. The foregoing shall not be construed to prohibit Executive from engaging in activities relating to serving on civic and charitable boards or committees, and managing personal investments, provided that such activities do not significantly interfere or conflict with the performance by Executive of Executive’s duties, responsibilities, or authorities hereunder.

3. Base Salary. During the Employment Term, the Company shall pay Executive an initial base salary at the annual rate of $250,000, payable in regular installments in accordance with the Company’s usual payment practices. Executive’s base salary may be increased in the sole discretion of the Compensation Committee of the Board (the “Committee”). Executive’s annual base salary, as in effect from time to time, is hereinafter referred to as the “Base Salary.”

4. Incentive Compensation. During the Employment Term, Executive shall be eligible to receive an annual cash bonus based on performance objectives established by the Committee each year (the “Annual Bonus”). Executive’s target Annual Bonus amount will be the percentage of Base Salary designated as the target by the Committee, which amount shall be at least 20% of the Base Salary then in effect (the “Target Annual Bonus”). Notwithstanding the preceding, Executive’s Annual Bonus, if any, may be below (including zero), at, or above the target based upon the achievement of the performance objectives.
5. **Employee Benefits.** During the Employment Term, Executive shall be entitled to participate in the Company’s employee benefit plans as in effect from time to time (collectively “Employee Benefits”), on the same basis as those benefits are generally made available to other senior executives of the Company, in each case to the extent that Executive is eligible under the terms of such plans or programs.

6. **Business Expenses.** During the Employment Term, reasonable business expenses incurred by Executive in the performance of Executive’s duties hereunder shall be advanced or promptly reimbursed by the Company in accordance with Company policies.

7. **Termination.** The Employment Term and Executive’s employment may be terminated by the Company at any time and for any reason upon Notice to Executive and by Executive upon at least 30 days’ advance Notice of any such resignation of Executive’s employment. Notwithstanding any other provision of this Agreement, the provisions of this Section 7 shall exclusively govern Executive’s rights to payment of compensation, severance, Employee Benefits and business expenses upon termination of employment with the Company.

(a) **By the Company for Cause; By Executive without Good Reason.**

(i) The Employment Term and Executive’s employment may be terminated by the Company for Cause and shall terminate automatically upon the effective date of Executive’s resignation without Good Reason. For purposes of this Agreement, “Cause” shall mean (A) indictment for, conviction of, or a plea of *nolo contendere* to, (x) a felony (other than traffic-related) under the laws of the United States or any state thereof or (y) a crime involving moral turpitude that could be injurious to the Company or its reputation, (B) Executive’s willful malfeasance or willful misconduct which is materially and demonstrably injurious to the Company, (C) any act of fraud by Executive in the performance of Executive’s duties or (D) Executive’s material breach of any Agreement with the Company or any of the Company’s material policies. The determination of Cause shall be made by the Board, in its good faith discretion. For purposes of this Agreement, “Good Reason” shall mean the occurrence of any of the following events, without Executive’s written consent, provided, in each case, that such event is not cured within thirty (30) days after the Company receives notice from Executive specifying in reasonable detail the event which constitutes Good Reason: (1) any failure by the Company to pay Executive’s Base Salary or Annual Bonus (if any) when due; (2) a reduction in Executive’s Base Salary or Target Annual Bonus (excluding any change in value of equity incentives); (3) any diminution in Executive’s title or any substantial and sustained diminution in Executive’s duties; or (4) a required relocation of Executive’s primary work location by more than 25 miles from Executive’s current work location. “Good Reason” shall cease to exist for an event on the 90th day following Executive’s knowledge thereof, unless Executive has given the Company Notice thereof prior to such date.
(ii) If Executive’s employment is terminated by the Company for Cause, or if Executive resigns without Good Reason, Executive shall be entitled to receive:

(A) the Base Salary accrued through the date of termination, payable as soon as practicable following the date of such termination or as otherwise required by applicable law;

(B) any Annual Bonus earned, but unpaid, as of the date of termination for the year immediately preceding the year in which such termination occurs, paid on the date when bonuses are otherwise paid to Company executives, and in all events by March 15th of the calendar year following the year in which such termination occurs;

(C) reimbursement, within 60 days following submission by Executive to the Company of appropriate supporting documentation, for any unreimbursed business expenses properly incurred by Executive in accordance with Company policy prior to the date of Executive’s termination; provided, that claims for such reimbursement (accompanied by appropriate supporting documentation) are submitted to the Company within 90 days following the date of Executive’s termination of employment; and

(D) such Employee Benefits, if any, as to which Executive may be entitled under the employee benefit plans of the Company, which shall be paid in accordance with the terms of the applicable plans (the amounts described in clauses (A) through (D) hereof, the “Accrued Rights”).

Following such termination of Executive’s employment by the Company for Cause or resignation by Executive without Good Reason, except as set forth in this Section 7(a)(ii), Executive shall have no further rights to any compensation or any other benefits under this Agreement.

(b) Disability or Death.

(i) The Employment Term and Executive’s employment shall terminate automatically upon Executive’s death and may be terminated by the Company upon Executive’s Disability. For purposes of this Agreement, a “Disability” shall be deemed to have occurred if Executive has for one hundred twenty (120) consecutive days or one hundred eighty (180) non-consecutive days in any twelve (12) month period been disabled in a manner which has rendered Executive unable to perform the essential functions of Executive’s job duties with or without reasonable accommodation.

(ii) Upon termination of Executive’s employment for either Disability or death, Executive or Executive’s estate (as the case may be) shall be entitled to receive (A) the Accrued Rights and (B) a pro rata portion of the actual Annual Bonus earned for the year of termination, based on the days employed during such year, payable on the date when bonuses are otherwise paid to Company executives and in all events by March 15th of the calendar year following the year in which such termination occurs.
Following Executive’s termination of employment due to death or Disability, except as set forth in this Section 7(b)(ii), Executive shall have no further rights to any compensation or any other benefits under this Agreement.

(c) By the Company without Cause; By Executive with Good Reason.

(i) The Employment Term and Executive’s employment may be terminated by the Company without Cause or by Executive with Good Reason.

(ii) If Executive’s employment is terminated by the Company without Cause (other than by reason of death or Disability) or if Executive resigns with Good Reason, in either event not within 30 days before or two years after a Change in Control, Executive shall be entitled to receive:

(A) the Accrued Rights; and

(B) subject to Executive’s execution and non-revocation of a release of claims in the form provided by the Company and within the time period specified therein and Executive’s continued compliance with the provisions of Section 8 and the PIIA Agreement:

(1) a pro rata portion of the actual Annual Bonus that would have been earned for the year of termination, based on the days employed during such year, payable on the date when bonuses are otherwise paid to Company executives and in all events by March 15th of the calendar year following the year in which such termination occurs;

(2) payment of an amount equal to 0.75 times the sum of Executive’s annual Base Salary plus Executive’s Target Annual Bonus amount for the year of termination, which shall be payable to Executive in equal installments in accordance with the Company’s normal payroll practices, for 9 months following the date that the release of claims becomes effective and irrevocable (provided, however, that if the period during which the release could become effective and irrevocable spans two calendar years, payments of such installments shall not commence until the first normal payroll date in the second calendar year);

(3) effective as of immediately prior to such termination of employment, accelerated vesting of all then unvested equity awards (with any applicable performance-based awards deemed earned at the target level of achievement) with such awards (other than stock options) settled as soon as practicable thereafter and in all events by March 15th of the calendar year following the year in which such termination occurs or to remain exercisable (with respect to stock options) through the 90th day following such termination of employment; and

4
subject to Executive’s timely election of continuation coverage under the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended (“COBRA”), and subject to Executive’s copayment of premium amounts at the active employees’ rate, the Company shall pay the remainder of the premiums for Executive’s participation in the Company’s group health plans pursuant to COBRA for a period ending on the earlier of (i) the 9 month anniversary of the date of termination; (ii) Executive becoming eligible for other group health benefits, or (iii) the expiration of Executive’s rights under COBRA; provided, however, that in the event that the benefits provided herein would subject the Company or any of its affiliates to any tax or penalty under the Patient Protection and Affordable Care Act or Section 105(h) of the Internal Revenue Code of 1986, as amended (the “Code”), Executive and the Company agree to work together in good faith to restructure the foregoing benefit.

Following Executive’s termination of employment by the Company without Cause (other than by reason of Executive’s death or Disability) or Executive’s resignation with Good Reason not within 30 days before or two years after a Change in Control, except as set forth in this Section 7(c)(ii), Executive shall have no further rights to any compensation or any other benefits under this Agreement.

(iii) If Executive’s employment is terminated by the Company without Cause (other than by reason of death or Disability) or if Executive resigns with Good Reason, in either event within 30 days before or two years after a Change in Control, Executive shall be entitled to receive the payments and benefits described in Section 7(c)(ii)(A) and (B), except that the severance multiplier in Section 7(c)(ii)(B)(2) shall be increased from 0.75 to 1.50. For the avoidance of doubt, payment of such amounts and benefits other than the Accrued Rights shall be subject to Executive providing and not revoking a release of claims in the form provided by the Company and within the time period specified therein and Executive’s continued compliance with the provisions of Section 8 and the PIIA Agreement. For purposes of this Agreement, “Change in Control” means the occurrence of one or more of the following events: (i) any “person” (as such term is used in Sections 3(a)(9) and 13(d) of the Securities Exchange Act of 1934, as amended (the “Act”)) or “group” (as such term is used in Section 13(d)(3) of the Act), other than the Company or its subsidiaries or any benefit plan of the Company or its subsidiaries is or becomes a “beneficial owner” (as such term is used in Rule 13d-3 promulgated under the Act) of more than 50% of the Voting Stock of the Company; (ii) the Company transfers all or substantially all of its assets (unless the shareholders of the Company immediately prior to such transaction beneficially own, directly or indirectly, in substantially the same proportion as they owned the Voting Stock of the Company, all of the Voting Stock or other ownership interests of the entity or entities, if any, that succeeded to the business of the Company or the Company’s ultimate parent company if the Company is a subsidiary of another corporation); or (iii) any merger, reorganization, consolidation or similar transaction unless, immediately after consummation of such transaction, the shareholders of the Company immediately prior to the transaction hold, directly or indirectly, more than 50% of the Voting Stock of the Company or the Company’s ultimate parent company if
the Company is a subsidiary of another corporation. For purposes of this Change in Control definition, “Voting Stock” means securities or ownership interests of any class or classes having general voting power under ordinary circumstances, in the absence of contingencies, to elect the directors of a corporation.

Following Executive’s termination of employment by the Company without Cause (other than by reason of Executive’s death or Disability) or by Executive with Good Reason within 30 days before or two years after a Change in Control, except as set forth in this Section 7(c)(iii), Executive shall have no further rights to any compensation or any other benefits under this Agreement.

(d) Notice of Termination. Any termination of employment by the Company or by Executive (other than due to Executive’s death) shall be communicated by Notice of Termination to the other party hereto in accordance with Section 11(k) hereof. For purposes of this Agreement, a “Notice of Termination” shall mean a Notice that indicates the specific termination provision in this Agreement relied upon and sets forth in reasonable detail the facts and circumstances claimed to provide a basis for termination of employment under the provision so indicated.

(e) Termination and Offices Held. Upon termination of Executive’s employment for any reason, Executive shall be deemed to have resigned from all positions that Executive may then hold as an employee, officer or director of the Company or any affiliate of the Company. Executive shall promptly deliver to the Company any additional documents reasonably required by the Company to confirm such resignations.

8. Non-Disparagement. Executive shall not, while employed by the Company or at any time thereafter, disparage the Company (or any affiliate) in any way that materially and adversely affects the goodwill, reputation or business relationships of the Company or the affiliate with the public generally, or with any of its customers, vendors or employees. The Company shall not (and shall use reasonable efforts to procure that its directors and officers shall not) disparage Executive in any way that materially and adversely affects Executive or Executive’s reputation or business relationships. Notwithstanding the foregoing, this Section shall not prohibit either party from rebutting claims or statements made by any other person.

9. Proprietary Information and Inventions Assignment Agreement. Executive previously entered into a Proprietary Information and Inventions Assignment Agreement with the Company (the “PIIA Agreement”) and hereby reaffirms all of Executive’s obligations thereunder. The provisions of Section 8 hereof and the provisions of the PIIA Agreement shall survive the termination of Executive’s employment for any reason.

10. Specific Performance. Executive acknowledges and agrees that the Company’s remedies at law for a breach or threatened breach of any of the provisions of Section 8 would be inadequate and the Company would suffer irreparable damages as a result of such breach or threatened breach. In recognition of this fact, Executive agrees that, in the event of such a breach or threatened breach, in addition to any remedies at law, the Company, without posting any bond, shall be entitled to cease making any payments or providing any benefit otherwise required by this Agreement and obtain equitable relief in the form of specific performance, temporary restraining order, temporary or permanent injunction or any other equitable remedy which may then be available.
11. Miscellaneous.

(a) **Arbitration.** For the avoidance of doubt, the arbitration and equitable relief provisions of the PIIA Agreement shall apply to any dispute concerning Executive’s employment with the Company or arising under or in any way related to this Agreement.

(b) **Governing Law; Consent to Personal Jurisdiction.** THIS AGREEMENT WILL BE GOVERNED BY THE LAWS OF THE STATE OF TEXAS WITHOUT REGARD FOR CONFLICTS OF LAWS PRINCIPLES. SUBJECT TO THE ARBITRATION PROVISION IN THE PIIA AGREEMENT, EXECUTIVE HEREBY EXPRESSLY CONSENTS TO THE PERSONAL JURISDICTION OF THE STATE AND FEDERAL COURTS LOCATED IN TEXAS FOR ANY LAWSUIT FILED THERE AGAINST EXECUTIVE BY THE COMPANY CONCERNING EXECUTIVE’S EMPLOYMENT OR THE TERMINATION OF EXECUTIVE’S EMPLOYMENT OR ARISING FROM OR RELATING TO THIS AGREEMENT.

(c) **Entire Agreement/Amendments.** This Agreement, together with the PIIA Agreement, contains the entire understanding of the parties with respect to the employment of Executive by the Company. There are no restrictions, agreements, promises, warranties, covenants or undertakings between the parties with respect to the subject matter herein other than those expressly set forth herein or as may be set forth from time to time in the Company’s employee benefit plans and policies applicable to Executive. This Agreement may not be altered, modified, or amended except by written instrument signed by the parties hereto. In the event of any inconsistency between this Agreement and any other plan, program, practice or agreement of which Executive is a participant or a party, this Agreement shall control unless such other plan, program, practice or agreement specifically refers to the provisions of this sentence.

(d) **No Waiver.** The failure of a party to insist upon strict adherence to any term of this Agreement on any occasion shall not be considered a waiver of such party’s rights or deprive such party of the right thereafter to insist upon strict adherence to that term or any other term of this Agreement.

(e) **Severability.** In the event that any one or more of the provisions of this Agreement shall be or become invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions of this Agreement shall not be affected thereby.

(f) **Assignment.** This Agreement, and all of Executive’s rights and duties hereunder, shall not be assignable or delegable by Executive. Any purported assignment or delegation by Executive in violation of the foregoing shall be null and void ab initio and of no force and effect. This Agreement may be assigned by the Company to a person or entity which is an affiliate or a successor in interest to substantially all of the business operations of the Company. Upon such assignment, the rights and obligations of the Company hereunder shall become the rights and obligations of such affiliate or successor person or entity.
(g) **Counterclaim; No Mitigation.** The Company’s obligation to pay Executive the amounts provided and to make the arrangements provided hereunder shall be subject to counterclaim and to seek recoupment of amounts owed by Executive to the Company or its affiliates. Executive shall not be required to mitigate the amount of any payment provided for pursuant to this Agreement by seeking other employment, and such payments shall not be reduced by any compensation or benefits received from any subsequent employer or other endeavor.

(h) **Compliance with Code Section 409A.** Notwithstanding anything herein to the contrary, (i) if at the time of Executive’s termination of employment with the Company Executive is a “specified employee” as defined in Section 409A of the Code and the deferral of the commencement of any payments or benefits otherwise payable hereunder as a result of such termination of employment is necessary in order to prevent any accelerated or additional tax under Section 409A of the Code, then the Company will defer the commencement of the payment of any such payments or benefits hereunder (without any reduction in such payments or benefits ultimately paid or provided to Executive) until the date that is six months following Executive’s termination of employment with the Company (or the earliest date as is permitted under Section 409A of the Code) and (ii) if any other payments of money or other benefits due to Executive hereunder could cause the application of an accelerated or additional tax under Section 409A of the Code, such payments or other benefits shall be deferred if deferral will make such payment or other benefits compliant under Section 409A of the Code, or otherwise such payment or other benefits shall be restructured, to the extent possible, in a manner, determined by the Board, that does not cause such an accelerated or additional tax. For purposes of Section 409A of the Code, each payment made under this Agreement shall be designated as a “separate payment” within the meaning of the Section 409A of the Code, and references herein to Executive’s “termination of employment” shall refer to Executive’s separation from service with the Company within the meaning of Section 409A. To the extent any reimbursements or in-kind benefits due to Executive under this Agreement constitute “deferred compensation” under Section 409A of the Code, any such reimbursements or in-kind benefits shall be paid to Executive in a manner consistent with Treas. Reg. Section 1.409A-3(i)(1)(iv). The Company shall consult with Executive in good faith regarding the implementation of the provisions of this Section 11(h); provided that neither the Company nor any of its employees or representatives shall have any liability to Executive with respect to thereto or any tax imposed under Section 409A.

(i) **Code Section 280G.**

(i) **Prior to the Date Any Company Stock is Readily Tradeable on an Established Securities Market or Otherwise; Shareholder Vote Sought.** To the extent that the exemption under Section 280G(b)(5) of the Code is available at the time of a Change in Control if the shareholder approval requirements under Treasury Regulation §1.280G-1, Q/A-7 are satisfied, the Company may elect to pursue a shareholder vote in accordance with such provisions and the Company and Executive shall cooperate with each other and use their commercially reasonable efforts to obtain a vote satisfying the requirements of Section 280G(b)(5) of the Code and Treasury Regulation §1.280G-1, Q/A-7, such that neither Executive nor the Company or its Affiliates suffers any adverse tax consequences under Sections 280G and 4999 of the Code.
Prior to the Date Any Company Stock is Readily Tradeable on an Established Securities Market or Otherwise: Shareholder Vote Not Sought. To the extent that the exemption under Section 280G(b)(5) of the Code is available at the time of a Change in Control if the shareholder approval requirements under Treasury Regulation §1.280G-1, Q/A-7 are satisfied and the Company does not seek a shareholder vote in accordance with Section 11(i)(i) hereof, if it is determined by a nationally recognized United States public accounting firm selected by the Company (the “Auditors”) that any payment or benefit in the nature of compensation made or provided to Executive in connection with Executive’s employment with the Company (collectively, a “Payment”), would be subject to the excise tax imposed by Section 4999 of the Code (the “Parachute Tax”), then the Company shall pay to Executive, prior to the time the Parachute Tax is payable with respect to such Payment, an additional payment (a “Gross-Up Payment”) in an amount such that, after payment by Executive of all taxes (including any Parachute Tax) imposed upon the Gross-Up Payment, Executive retains an amount of the Gross-Up Payment equal to the Parachute Tax imposed upon the Payment.

a. The amount of any Gross-Up Payment shall be determined by the Auditors, subject to adjustment, as necessary, as a result of any Internal Revenue Service position. For purposes of making the calculations required by this Agreement, the Auditors may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of Sections 280G and 4999 of the Code; provided that the Auditors’ determinations must be made with substantial authority (within the meaning of Section 6662 of the Code).

b. The federal tax returns filed by Executive (and any filing made by a consolidated tax group which includes the Company) shall be prepared and filed on a basis consistent with the determination of the Auditors with respect to the Parachute Tax payable by Executive. Executive shall make proper payment of the amount of any Parachute Tax, and at the request of the Company, provide to the Company true and correct copies (with any amendments) of Executive’s federal income tax return as filed with the Internal Revenue Service, and such other documents reasonably requested by the Company, evidencing such payment. If, after the Company’s payment to Executive of the Gross-Up Payment, the Auditors determine in good faith that the amount of the Gross-Up Payment should be reduced or increased, or such determination is made by the Internal Revenue Service, then within ten (10) business days of such determination, Executive shall pay to the Company the amount of any such reduction, or the Company shall pay to Executive the amount of any such increase; provided, however, that (i) the fees and expenses of the Auditors (and any other legal and accounting fees) incurred for services rendered in connection with the Auditor’s determination of the Parachute Tax or any challenge by the Internal Revenue Service or other taxing authority relating to such determination shall be paid by the Company, and (ii) the Company shall indemnify and hold Executive harmless on an after-tax basis for any interest and penalties imposed upon Executive to the extent that such interest and penalties are related to the Auditor’s determination of the Parachute Tax or the Gross-Up Payment.
On and After the Date Any Company Stock is Readily Tradeable on an Established Securities Market or Otherwise. To the extent that the exemption under Section 280G(b)(5) of the Code is unavailable at the time of a Change in Control because any Company stock is readily tradeable on an established securities market or otherwise, if it is determined by a nationally recognized United States public accounting firm selected by the Company (the “Auditors”) that any payment or benefit in the nature of compensation made or provided to Executive in connection with Executive’s employment with the Company (collectively, a “Payments”), would be subject to the excise tax imposed by Section 4999 of the Code (the “Parachute Tax”), then Executive will be entitled to receive either (A) the full amount of the Payments, or (B) a portion of the Payments having a value equal to $1 less than three (3) times Executive’s “base amount” (as such term is defined in Section 280G(b)(3)(A) of the Code), whichever of clauses (A) and (B), after taking into account applicable federal, state, and local income and employment taxes and the Parachute Tax, results in the receipt by Executive on an after-tax basis, of the greatest portion of the Payments.

a. Any determination required under this Section 11(i)(iii) shall be made in writing by the Auditor, whose determination, absent manifest error, shall be conclusive and binding for all purposes upon the Company and Executive. For purposes of making the calculations required by this Agreement, the Auditors may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of Sections 280G and 4999 of the Code; provided that the Auditors’ determinations must be made with substantial authority (within the meaning of Section 6662 of the Code).

b. If there is a reduction of the Payments pursuant to this Section 11(i)(iii), such reduction shall occur in accordance with Section 409A of the Code and in the following order: (1) any cash severance payable by reference to Executive’s base salary or annual bonus, (2) any other cash amount payable to Executive, (3) any employee benefit valued as a “parachute payment,” and (4) acceleration of vesting of any outstanding equity award.

c. For the avoidance of doubt, in the event that additional Payments are made to Executive after the application of the cutback in this Section 11(i)(iii), which additional Payments result in the cutback no longer being applicable, the Company shall pay Executive an additional amount equal to the value of the Payments that were originally cut back. The Company shall determine at the end of each calendar year whether any such restoration is necessary based on additional Payments (if any) made during such calendar year, and shall pay such restoration by March 15 of the calendar year following such calendar year. In no event whatsoever shall Executive be entitled to a tax gross-up or other payment in respect of any excise tax, interest or penalties that may be imposed on the Payments by reason of the application of Section 280G or Section 4999 of the Code at any time when any Company stock is readily tradeable on an established securities market or otherwise.
(j) Successors; Binding Agreement. This Agreement shall inure to the benefit of and be binding upon personal or legal representatives, executors, administrators, successors, heirs, distributees, devisees and legatees. In the event of Executive’s death prior to receipt of all amounts payable to Executive (including any unpaid amounts due under Section 7), such amounts shall be paid to Executive’s beneficiary designated in a Notice provided to and accepted by the Company or, in the absence of such designation, to Executive’s estate.

(k) Notice. For the purpose of this Agreement, notices and all other communications provided for in the Agreement shall be in writing and shall be deemed to have been duly given when delivered by hand or overnight courier or three postal delivery days after it has been mailed by United States registered mail, return receipt requested, postage prepaid, addressed to the respective addresses set forth below in this Agreement, or to such other address as either party may have furnished to the other in writing in accordance herewith, except that Notice of change of address shall be effective only upon receipt (each such communication, “Notice”).

If to the Company, addressed to:

Shattuck Labs, Inc.
Attn: General Counsel
1018 W. 11th Street, Suite 100
Austin, TX 78703

If to Executive, to the address listed in the Company’s payroll records from time to time.

(l) Executive Representation. Executive hereby represents to the Company that the execution and delivery of this Agreement by Executive and the Company and the performance by Executive of Executive’s duties hereunder shall not constitute a breach of, or otherwise contravene, the terms of any employment agreement or other agreement or policy to which Executive is a party or otherwise bound.

(m) Prior Agreements. This Agreement supersedes all prior agreements and understandings (including verbal agreements) between Executive and the Company and/or its affiliates regarding the terms and conditions of Executive’s employment with the Company and/or its affiliates.

(n) Cooperation. Executive shall provide Executive’s reasonable cooperation in connection with any action or proceeding (or any appeal from any action or proceeding) which relates to events occurring during Executive’s employment hereunder, provided, that, following termination of Executive’s employment, the Company shall pay all reasonable expenses incurred by Executive in providing such cooperation. This provision shall survive any termination of this Agreement.

(o) Withholding Taxes. The Company may withhold from any amounts payable under this Agreement such federal, state and local taxes as may be required to be withheld pursuant to any applicable law or regulation.
Counterparts. This Agreement may be signed in counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument.

[Signature Page Follows this Page]
IN WITNESS WHEREOF, the parties hereto have duly executed this Employment Agreement as of the Effective Date.

SHATTUCK LABS, INC.

/s/ Josiah Hornblower

By: Josiah Hornblower

Title: CEO

EXECUTIVE

/s/ Andrew Neill

Name: Andrew Neill
SHATTUCK LABS, INC.

and

MILLENIUM PHARMACEUTICALS, INC.

COLLABORATION AGREEMENT

Effective as of August 8, 2017
**TABLE OF CONTENTS**

<table>
<thead>
<tr>
<th>ARTICLE 1 DEFINITIONS/INTERPRETATION</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Definitions</td>
<td>1</td>
</tr>
<tr>
<td>1.2 Interpretation</td>
<td>13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ARTICLE 2 DEVELOPMENT PROGRAM</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 The Development Program</td>
<td>14</td>
</tr>
<tr>
<td>2.2 Development Plan and Budget</td>
<td>14</td>
</tr>
<tr>
<td>2.3 Conduct of Development Program</td>
<td>15</td>
</tr>
<tr>
<td>2.4 Subcontracting</td>
<td>15</td>
</tr>
<tr>
<td>2.5 Scientific Recordkeeping</td>
<td>15</td>
</tr>
<tr>
<td>2.6 Reporting</td>
<td>16</td>
</tr>
<tr>
<td>2.7 Adverse Event and Product Complaint Reporting</td>
<td>16</td>
</tr>
<tr>
<td>2.8 Development of Designated ARC Molecules; Designation of SM2; Replacement</td>
<td>16</td>
</tr>
<tr>
<td>2.9 Competitive Activities</td>
<td>17</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ARTICLE 3 JOINT DEVELOPMENT COMMITTEE</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Joint Development Committee</td>
<td>18</td>
</tr>
<tr>
<td>3.2 Governance of JDC</td>
<td>20</td>
</tr>
<tr>
<td>3.3 Decision Making</td>
<td>21</td>
</tr>
<tr>
<td>3.4 Responsibilities</td>
<td>22</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ARTICLE 4 EXCLUSIVE OPTION; [***] ROFN</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 Exclusive Option to Enter Licenses</td>
<td>22</td>
</tr>
<tr>
<td>4.2 [***] Right of First Negotiation</td>
<td>27</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ARTICLE 5 PAYMENTS</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1 Upfront Payments</td>
<td>29</td>
</tr>
<tr>
<td>5.2 Development Funding</td>
<td>30</td>
</tr>
<tr>
<td>5.3 <em>In Vivo</em> Tumor Studies of Selected Molecules</td>
<td>31</td>
</tr>
<tr>
<td>5.4 Tax Matters</td>
<td>32</td>
</tr>
<tr>
<td>5.5 Late Payments</td>
<td>32</td>
</tr>
<tr>
<td>5.6 Bank Account</td>
<td>32</td>
</tr>
<tr>
<td>5.7 No Set-Off</td>
<td>32</td>
</tr>
<tr>
<td>5.8 Record Retention</td>
<td>33</td>
</tr>
<tr>
<td>5.9 Audit</td>
<td>33</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ARTICLE 6 INTELLECTUAL PROPERTY</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1 Ownership of Intellectual Property</td>
<td>33</td>
</tr>
<tr>
<td>6.2 Research License</td>
<td>34</td>
</tr>
<tr>
<td>6.3 Patent Prosecution</td>
<td>34</td>
</tr>
<tr>
<td>6.4 Abandonment</td>
<td>36</td>
</tr>
<tr>
<td>6.5 Cooperation</td>
<td>36</td>
</tr>
</tbody>
</table>
### SCHEDULES

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Designated ARC Molecules</td>
</tr>
<tr>
<td>B</td>
<td>Development Plans for SM1 and SM2</td>
</tr>
<tr>
<td>C</td>
<td>DM License Agreement</td>
</tr>
<tr>
<td>D</td>
<td>DM1</td>
</tr>
<tr>
<td>E</td>
<td>DM2</td>
</tr>
<tr>
<td>F</td>
<td>SM License Agreement</td>
</tr>
<tr>
<td>G</td>
<td>SM1</td>
</tr>
<tr>
<td>H</td>
<td>Joint Press Release</td>
</tr>
<tr>
<td>9.2</td>
<td>Shattuck Disclosure Schedule</td>
</tr>
</tbody>
</table>
COLLABORATION AGREEMENT

This Collaboration Agreement (this “Agreement”), effective this 8th day of August, 2017 (the “Effective Date”), is between Millennium Pharmaceuticals, Inc., a Delaware corporation having its principal place of business at 40 Landsdowne Street, Cambridge, MA 02139 (“Millennium”), and Shattuck Labs, Inc., a Delaware corporation having its principal place of business at 3317 Bowman Avenue, Austin, TX 78703 (“Shattuck”). Millennium and Shattuck are each sometimes referred to herein as a “Party” and collectively as the “Parties.”

WHEREAS:

(A) Shattuck has proprietary technology and scientific expertise relating to research and development of biologic molecules designed to simultaneously block candidate checkpoint molecules in cancer while also stimulating the TNF superfamily co-stimulatory receptors on T-cells;

(B) Millennium and its Affiliates have expertise in developing, marketing and selling pharmaceutical products; and

(C) Shattuck and Millennium wish to collaborate on the development of certain biologic molecules upon the terms and subject to the conditions set out in this Agreement, and Shattuck wishes to grant to Millennium time-limited options to enter into exclusive licenses to further develop, manufacture and sell products containing such biologic molecules.

WITNESSES THAT, in consideration of the premises and the mutual covenants contained herein, Shattuck and Millennium agree as follows:

ARTICLE I
DEFINITIONS/INTERPRETATION

1.1 Definitions

In this Agreement:

“AAA” has the meaning set out in Section 4.1(c)(ii).

“Action” means any civil, criminal, administrative or regulatory claim, action, cause of action, suit, litigation, controversy, arbitration, investigation, hearing, charge, complaint, or proceeding to, from, by or before any Governmental Entity.

“Adverse Event” means the development of an undesirable medical condition or the deterioration of a pre-existing medical condition in a patient or clinical investigation subject following or during exposure to a pharmaceutical product or investigational drug, whether or not considered causally related to such product or drug, the exacerbation of any pre-existing condition(s) occurring during the use of such product or drug, or any other adverse experience or adverse drug experience described in the FDA’s Investigational New Drug safety reporting and regulatory approval post-marketing reporting regulations, 21 C.F.R. §§ 312.32 and 314.80, respectively, and any applicable corresponding regulations outside the U.S. For purposes of this Agreement, (a) “undesirable medical condition” will include [***], and (b) the failure of a product to exhibit its expected pharmacologic/biologic effect in a Clinical Trial [***].
“Affiliate” means, with respect to any Person, any other Person that directly or indirectly controls, is controlled by, or is under common control with such Person. For purposes of this definition only, “controls” and, with correlative meanings, the terms “controlled by” and “under common control with” another Person will mean:

(a) direct or indirect ownership of more than fifty percent (50%) of the outstanding voting securities or other voting interests of the other Person; or 

(b) direct or indirect possession of the power to elect or appoint more than fifty percent (50%) of the members of the governing body of the other Person;

provided that in the case of jurisdictions in which the maximum percentage ownership permitted by law for a foreign investor is less than fifty percent (50%), such lower percentage will be substituted in clause (a) of the preceding sentence. Neither of the Parties to this Agreement will be deemed to be an “Affiliate” of the other solely as a result of their entering into this Agreement.

“Agreement” has the meaning set out in preamble to this Agreement.

“Agreement Fee” has the meaning set out in Section 5.3(b).

“Ancillary Agreement” means each License Agreement and any additional agreement that may be entered into from time to time after the Effective Date by and between the Parties relating to the subject matter hereof.

“Applicable Law” means all applicable laws, rules, regulations, guidelines and policies that apply to the performance of either Party’s obligations relating to this Agreement that may be in effect from time to time (including disclosure obligations as required by any stock exchange or securities commission having authority over a Party, and any applicable rules, guidelines or other requirements of a Regulatory Authority) to the extent applicable to such Party.

“Arbitrators’ Decision” has the meaning set out in Section 4.1(c)(v).

“ARC Molecule” means a protein comprising an extracellular domain based on a type I transmembrane protein and an extracellular domain based on a type II transmembrane protein designed to simultaneously block candidate checkpoint molecules in cancer cells while also stimulating the tumor necrosis factor superfamily co-stimulatory receptors on T-cells (and innate cells).

“ARC Platform” means Shattuck’s proprietary Agonist Redirected Checkpoint (“ARC”) platform technology useful for Developing, Commercializing and Exploiting ARC Molecules.
“ARC Technology IP” means all Know-How and Patent Rights (a) Controlled by Shattuck or its Affiliates prior to the Effective Date, (b) that comes under Shattuck’s Control at any time during the Term, or (c) that are developed by or on behalf of either Party or its Affiliates as a result of such Party’s activities under this Agreement or as a result of such Party’s access to Shattuck Confidential Information; each of (a)—(c), to the extent such Know-How or Patent Rights (i) Cover the ARC Platform, which includes, for clarity, processes for making ARC Molecules; analytical methods for [*], and (ii) are not Development Molecule IP or Selected Molecule IP. For clarity, a Patent Right may describe or claim ARC Technology IP, Development Molecule IP and Selected Molecule IP, and the determination of what constitutes ARC Technology IP, Development Molecule IP or Selected Molecule IP will be made on a claim-by-claim basis.

“Binding MOU” has the meaning set out in Section 4.2(c).

“Breach Notice” has the meaning set out in Section 8.3(a).

“Breaching Party” has the meaning set out in Section 8.3(a).

“Budget” means a budget that specifies the anticipated internal and out-of-pocket expenses and costs to be incurred by Shattuck during the Development Period for the conduct of the activities set out in the Development Plan, broken down by Calendar Quarter. The initial Budget will be prepared by Shattuck within [*] following the Effective Date.

“Business Day” means any day other than a Saturday or Sunday or a banking holiday in New York, NY.

“Calendar Quarter” means, with respect to the first Calendar Quarter during the Term, the period beginning on the Effective Date and ending on the last day of the calendar quarter within which the Effective Date falls, and thereafter each successive period of three calendar months ending on each of March 31, June 30, September 30 and December 31; except that the last Calendar Quarter during the Term will end upon the expiration of the Term.

“Calendar Year” means the period of twelve consecutive calendar months beginning on January 1 and ending on (and including) December 31; provided, however, that (a) the first Calendar Year during the term will begin on the Effective Date and end on December 31 of the calendar year within which the Effective Date falls, and (b) the last Calendar Year during the Term will end upon expiration of the Term.

“Change of Control Event” has the meaning set out in Section 11.1.

“Clinical Trial” means any clinical study involving the administration of a product to a human subject for the purpose of evaluating the safety, efficacy, performance or other characteristic of such product.

“Commercially Reasonable Efforts” means efforts of a Party to carry out its applicable obligations or tasks under this Agreement in a [*] manner using such efforts and employing such resources normally used by: (a) with respect to Shattuck, [*], and (b) with respect to Millennium, [*], taking into account all relevant factors; which, with respect to (a) and (b) will reflect such efforts for the Development of a product that, in each case is of [*]. With respect to Shattuck, Commercially Reasonable Efforts will additionally take into account [*].

“Competing Activity” has the meaning set out in Section 2.9(b).
“Confidential Information” means all non-public proprietary Intellectual Property Controlled by a Party or other non-public information (whether or not patentable) regarding a Party’s or its Affiliates’ activities and such Party’s and its Affiliates’ technology, products, business information and objectives that is disclosed by a Party to the other Party or that the other Party obtains by access to or inspection of such Party’s operations, facilities, materials or other items of a Party that are available to such other Party, in each case in the course of performing its obligations or, exercising its rights under this Agreement, and that are marked as “confidential” or with a similar marking by the disclosing Party prior to or at the time of such disclosure. Notwithstanding the foregoing, Intellectual Property or other non-public information that is orally, electronically or visually disclosed by a Party without a written designation of confidentiality will constitute Confidential Information of a Party: (a) if the disclosing Party, within [***] after such disclosure, delivers to the other Party a written document summarizing the Intellectual Property or other information, designating the same as confidential or (b) if such information is of the type that is customarily considered to be confidential information by Persons engaged in activities that are substantially similar to the activities being engaged in by the Parties. Notwithstanding the foregoing, (i) any technical or business information of a Party or its Affiliates disclosed at a meeting of the JDC or JPC will constitute Confidential Information of a Party unless otherwise specified in writing and (ii) any Specified Confidential Information will, during the Development Period (or, if applicable, until the end of the Exercise Period) be deemed the Confidential Information of both Parties (with each of Shattuck and Millennium considered the Receiving Party and the Disclosing Party, and clauses (A) and (D) of the second following sentence will not apply to such Specified Confidential Information), and, after the Development Period (or, if applicable, the Exercise Period), in the event (y) Millennium is not granted a DM Exclusive License or SM Exclusive License, as applicable, with respect to the applicable Molecule, the Specified Confidential Information relating to such Molecule will be deemed the Confidential Information of Shattuck and not Millennium and (z) Millennium is granted a DM Exclusive License or SM Exclusive License with respect to such Molecule, the Specified Confidential Information relating to such Molecule will thereafter be deemed the Confidential Information of Millennium and not Shattuck, subject to the terms of the applicable License Agreement (including terms which provide that Specified Confidential Information will be deemed Confidential Information of Shattuck in the event of certain termination events). The terms of this Agreement will constitute Confidential Information of both Parties. “Confidential Information” does not include information that (A) was known or used by the receiving Party prior to its date of disclosure to the receiving Party, as demonstrated by competent and contemporaneous written records; (B) either before or after the date of the disclosure to the receiving Party is lawfully disclosed to the receiving Party by sources (other than the disclosing Party) rightfully in possession of the Confidential Information and not bound by confidentiality obligations to the disclosing Party; (C) either before or after the date of the disclosure to the receiving Party becomes published or generally known to the public through no fault or omission on the part of the receiving Party, or (D) is independently developed by or for the receiving Party without access to, reference to or reliance upon the Confidential Information, as demonstrated by competent and contemporaneous written records.

“Control” or “Controlled” means, when used in reference to a Party and an item, Intellectual Property rights or proprietary or trade secret information, the legal authority or right of such Party or its Affiliates (whether by ownership or license, other than pursuant to a license under this Agreement) to grant the right to use such item or a license or sublicense of such Intellectual Property rights to the other Party, or to otherwise disclose such proprietary or trade secret information to such other Party, without breaching the terms of any agreement with a Third Party pursuant to which such rights, item or information were acquired or generated or misappropriating the proprietary or trade secret information or Know-How of a Third Party. Notwithstanding anything to the contrary under this Agreement, [***].
“Cover”, “Covered” or “Covering” means, (a) with respect to a Patent Right in a country, that the Development, Commercialization or other Exploitation of a composition of matter, product, process or method in such country would, but for ownership or the grant of a license to such Patent Right, infringe a Valid Claim of such Patent Right; and (b) with respect to Know-How in a country, that such Know-How is useful or necessary for the Development, Commercialization or other Exploitation of a composition of matter, product, process or method in such country.

“Covered Results” has the meaning set out in Section 7.4.

“Designated ARC Molecule” means, individually, [***] (as described in greater detail in Schedule A), and “Designated ARC Molecules” means collectively [***].

“Development” or “Develop” means the conduct of all research, formulating, preclinical and other testing, nonclinical activities, Clinical Trials and other studies, and all other activities (including test method development, stability testing, toxicology studies, process development, statistical analysis and report writing, packaging, labelling and regulatory affairs, product approval and registration activities) necessary, desirable, or reasonably useful or otherwise requested or required by a Regulatory Authority as a condition or in support of obtaining and maintaining Regulatory Approval for a Molecule.

“Development Funding Payment” has the meaning set out in Section 5.2(a).

“Development Molecule” means DM1 or DM2, and “Development Molecules” refers to both DM1 and DM2.

“Development Molecule IP” means all Know-How and Patent Rights (a) Controlled by Shattuck prior to the Effective Date, (b) that come under Shattuck’s Control at any time during the Term, or (c) developed by either Party or its Affiliates during the Term as a result of such Party’s activities under this Agreement or as a result of such Party’s access to Shattuck’s Confidential Information; in each case that solely Covers a Development Molecule, including compositions of matter, methods of making, methods of using and methods of manufacture that solely relate to or solely Cover a Development Molecule. For clarity, a Patent Right may describe or claim ARC Technology IP, Development Molecule IP and Selected Molecule IP, and the determination of what constitutes ARC Technology IP, Selected Molecule IP or Development Molecule IP will be made on a claim-by-claim basis.

“Development Period” means the period beginning on the Effective Date and ending at the end of the last-to-expire Development Term.

“Development Plan” means the written plan setting forth in reasonable detail the Development activities related to the Selected Molecules, Designated ARC Molecules and Development Molecules to be conducted by or on behalf of Shattuck and its Affiliates pursuant to this Agreement, as further described in Article 2. The initial Development Plans for SM1 and SM2 are attached as Schedule B. The initial Development Plans for DM1 and the Designated ARC Molecules will be prepared by Shattuck within [***] following the Effective Date.
“Development Program” means the Development activities to be conducted by Shattuck or its Affiliates over the course of the Development Term, as set out in Article 2 herein and in the Development Plan.

“Development Term” means, on a Molecule-by-Molecule basis, the period of time commencing on the Effective Date and continuing: (a) for each Selected Molecule until the earlier of (i) the ninetieth (90th) day following completion of a [*[* study with respect to such Selected Molecule conducted in accordance with the Development Plan, (ii) delivery by Millennium of an Exercise Notice with respect to such Selected Molecule or (iii) delivery by Millennium of a Termination Notice pursuant to Section 8.4 with respect to such Selected Molecule; (b) for each Development Molecule until the earlier of (i) the ninetieth (90th) day following delivery by Shattuck to Millennium of a report detailing the results of the Final Phase I Clinical Trial for such Development Molecule, (ii) delivery by Millennium of an Exercise Notice with respect to such Development Molecule or (iii) delivery by Millennium of a Termination Notice pursuant to Section 8.4 with respect to such Development Molecule; and (c) for each Designated ARC Molecule until the earlier of (i) the designation of such Designated ARC Molecule as SM2 (in which case the Development Term for such Molecule will be governed by the foregoing clause (a)), (ii) delivery by Millennium of a Termination Notice pursuant to Section 8.4 with respect to such Designated ARC Molecule or (iii) the end of the Development Term for SM2.

“Disclosing Party” has the meaning set out in Section 7.1.

“Dispute” has the meaning set out in Section 11.3.

“DM Exclusive License” has the meaning set out in Section 4.1(a).

“DM Exclusive Option” has the meaning set out in Section 4.1(a).

“DM License Agreement” means the license agreement attached to this Agreement as Schedule C.

“DM Option Term” has the meaning set out in Section 4.1(b).

“DM1” means the PD-1-Fc-OX40L molecule (as described in greater detail in Schedule D).

“DM2” means the CSF1R-Fc-CD40L molecule (as described in greater detail in Schedule E).

“Dollars” or the symbol “$” means dollars of the U.S.

“Effective Date” has the meaning set out in the preamble to this Agreement.

“EMA” means the European Medicines Agency and any successor thereto.

“Excluded Activity” has the meaning set out in Section 2.9(b).
“Exclusivity Period” has the meaning set out in Section 4.2(c).

“Exercise Notice” has the meaning set out in Section 4.1(d).

“Exercise Period” has the meaning set out in Section 4.1(d).

“Exploit” means to make, have made, import, use, sell, or offer for sale, including to research, Develop, commercialise, register, manufacture, have manufactured, hold, or keep (whether for disposal or otherwise), have used, export, transport, distribute, promote, market, or have sold or otherwise disposed of.

“Exploitation” means the act of Exploiting a product, treatment, process or use.

“Ex-U.S. Major Market” means any of [***].

“Fair Market Value” means [***].

“FD&C Act” means the Federal Food, Drug & Cosmetic Act, as amended, together with any rules, regulations, requirements and guidances promulgated thereunder (including all additions, supplements, extensions and modifications thereto).

“FDA” means the U.S. Food and Drug Administration and any successor agency thereto.

“Final Phase I Clinical Trial” means, with respect to a Development Molecule, a Phase I Clinical Trial (conducted pursuant to a protocol reviewed and approved by the JDC) in which a recommended dose and dosing schedule for a subsequent Phase II (or higher) Clinical Trial is established.

“First Development Funding Payment” has the meaning set out in Section 5.2(a).

“Former SM2 Molecule” has the meaning set out in Section 2.8(b).

“GCP” or “Good Clinical Practices” means the then-current standards for good clinical practices for pharmaceuticals, as set forth in the FD&C Act, including the Code of Federal Regulations and the guidelines of the International Conference on Harmonization and other comparable regulations and guidances of any Regulatory Authority in any country or region outside of the U.S., as applicable.

“GLP” or “Good Laboratory Practices” means the then-current standards for good laboratory practices for pharmaceuticals, as set forth in the FD&C Act, including the Code of Federal Regulations and the guidelines of the International Conference on Harmonization and other comparable regulations and guidances of any Regulatory Authority in any country or region outside of the U.S., as applicable.

“Governmental Entity” means any instrumentality, subdivision, court, administrative agency, commission or other similar authority of any country, state, province, prefect, municipality, locality, multinational organization or other government or political subdivision thereof, or any quasi-governmental, private body or arbitral body exercising any executive, legislative, judicial, quasi-judicial, regulatory, taxing, importing, administrative or other governmental or quasi-governmental authority.
“Heat” means Heat Biologics, Inc.

“Heat License Agreement” means that certain Exclusive License Agreement, dated as of June 3, 2016, by and between Shattuck and Heat.


“Intellectual Property” means Patent Rights, Know-How, trade names, trademarks, copyright, trade dress, industrial and other designs, sequences, and all other forms of intellectual property, all whether or not registered, capable of registration, published or unpublished.

“In Vitro Efficacy Studies” means, with respect to each Development Molecule, the in vitro studies to be conducted with respect to such Development Molecule, as described in further detail in the Development Plan. The Parties intend that the In Vitro Efficacy Studies will be conducted, and the results thereof will be provided to Millennium, prior to [***].

“JDC Chair” has the meaning set out in Section 3.1(c).

“Joint Development Committee” or “JDC” has the meaning set out in Section 3.1(a).

“Joint Patent Committee” or “JPC” has the meaning set out in Section 6.3(c).

“JPC Chair” has the meaning set out in Section 6.3(c)(i).

“Know-How” means any and all proprietary know-how, inventions, discoveries, trade secrets, information, data and materials, including ideas, concepts, formulas, methods, assays, practices, processes, software, sequences, devices, techniques, procedures, designs, compositions, constructs, compounds, plans, applications, research, preclinical and clinical data, regulatory information, manufacturing process, scale-up and other technical data, reports, documentation and samples, including: biological, chemical, pharmacological, toxicological, pharmaceutical, physical and analytical, pre-clinical, clinical, safety, manufacturing and quality control data and information, including study designs and protocols, in each case whether or not patentable and that is not generally known. Know-How excludes Patent Right(s).

“Laboratory Notebooks” has the meaning set out in Section 2.5(a).

“License Agreement” means, individually, each DM License Agreement and SM License Agreement entered into by the Parties pursuant to the terms hereof, and “License Agreements” means, collectively, all, DM License Agreements and SM License Agreements entered into by the Parties pursuant to the terms hereof.

“License Effective Date” has the meaning set out in Section 4.1(e).

“License Fee” has the meaning set out in Section 4.1(c)(i).
“Losses” has the meaning set out in Section 10.1.

“Millennium” has the meaning set out in the preamble to this Agreement.

“Millennium Indemnified Parties” has the meaning set out in Section 10.2.

“Millennium Technology IP” means all Know-How and Patent Rights that (a) (i) are Controlled by Millennium or its Affiliates prior to the Effective Date, (ii) come into Millennium’s or its Affiliates’ Control at any time during the Development Period, or (iii) are developed by or on behalf of either Party or its Affiliates as a result of such Party’s activities under this Agreement, and Covers Targets (individually or in combination as a Target Pair) or binding domains to such Targets (e.g., peptides, polypeptides, proteins, antibodies, nanobodies, single-chain variable fragments and compounds)); and (b) are not Development Molecule IP or Selected Molecule IP.

“Molecule” means, individually, DM1, DM2, SM1, SM2 or any of the Designated ARC Molecules, and “Molecules” means, collectively, DM1, DM2, SM1, SM2 and the Designated ARC Molecules.

“Negotiation Period” has the meaning set out in Section 4.2(d).

“Non-Breaching Party” has the meaning set out in Section 8.3(a).

“Opt-In Notice” has the meaning set out in Section 4.2(b).

“Opt-In Period” has the meaning set out in Section 4.2(b).

“Option Fee Negotiation Period” has the meaning set out in Section 4.1(c)(i).

“Option Notice” has the meaning set out in Section 4.1(b).

“Other IP” has the meaning set out in Section 6.1(b)(iii).

“Out-of-Pocket Costs” means the actual and documented out-of-pocket expenses incurred by Shattuck and its Affiliates in the performance of Development activities for each of the Selected Molecules and the Designated ARC Molecules in accordance with the Development Plan.

“Party” and/or “Parties” has the meaning set out in the preamble of this Agreement.

“Patent Prosecution” has the meaning set out in Section 6.3(a).

“Patent Rights” means (a) any national, regional and international issued patents and pending patent applications, including provisional patent applications, (b) any patent applications filed either from the foregoing or from an application claiming priority to the foregoing, including all provisional applications, converted provisionals, substitutions, continuations, continuations-in-part, divisionals, renewals, and continued prosecution applications, and all patents granted thereon, (c) patents-of-addition, revalidations, reissues, reexaminations and extensions or restorations (including any supplementary protection certificates and the like) by existing or future extension or restoration mechanisms, including patent term adjustments, patent term extensions,
supplementary protection certificates or the equivalent thereof, (d) inventor’s certificates, utility models, petty patents, innovation patents and design patents, (e) other forms of government-issued rights comparable in scope to any of the foregoing, including so-called pipeline protection or any importation, revalidation, confirmation or introduction patent or registration patent or patent of additions to any of such foregoing and (f) U.S. and foreign counterparts of any of the foregoing.

“[*]” has the meaning set out in Section [*].

“[*]” has the meaning set out in Section [*].

“Permitted Subcontractor” has the meaning set out in Section 2.4.

“Person” means any individual, sole proprietorship, partnership, corporation, limited liability company, joint stock company, unincorporated association, trust or any other entity that has legal capacity to own property in its own name or to sue or be sued, including a government or political subdivision, department or agency of a government.

“Phase I Clinical Trial” means a Clinical Trial of one or more products that is designed to be conducted by or on behalf of a Party, its Affiliates, licensees or sublicensees on a sufficient number of subjects for, and that generally provides for the first introduction into humans of such product(s) with, the primary purpose of assessing metabolism and pharmacologic actions of the product in humans and the side effects associated with increasing doses, in a manner that is generally consistent with 21 C.F.R. § 312.21(a), as amended (or its successor regulation).

“Product Complaint Information” means information regarding a problem or potential problem with the quality, performance or safety of a medical product that has been distributed for commercial use.

“Prospective Investors” has the meaning set out in Section 7.3(e).

“Receiving Party” has the meaning set out in Section 7.1.

“Regulatory Approval” means, with respect to a country or extra-national territory, any and all approvals, licenses, registrations or authorizations of any Regulatory Authority necessary in order to Development, Manufacture, Commercialize and/or otherwise Exploit a Molecule in such country or some or all of such extra-national territory.

“Regulatory Authority” means any federal, national, multinational, regional, state, provincial or local regulatory agency, department, bureau, commission, council or other governmental or quasi-governmental entity with authority over the testing, manufacture, use, storage, import, promotion, marketing, pricing and reimbursement approval, or sale of a product in a country or territory, including the FDA, EMA and any corresponding national or regional regulatory authorities.

“Replacement” has the meaning set out in Section 2.8(b).

“Right of Replacement” has the meaning set out in Section 2.8(b).

“ROFN” has the meaning set out in Section 4.2(a).
“ROFN Term” has the meaning set out in Section 4.2(a).

“SEC” means the U.S. Securities and Exchange Commission.

“Selected Molecule” means SM1 or SM2, and “Selected Molecules” refers to both SM1 and SM2.

“Selected Molecule IP” means all Know-How and Patent Rights (a) Controlled by Shattuck or its Affiliates prior to the Effective Date, (b) that comes under Shattuck’s or its Affiliates’ Control at any time during the Term, or (c) developed by either Party or its Affiliates during the Term as a result of such Party’s activities under this Agreement or as a result of such Party’s access to Shattuck’s Confidential Information; in each case that solely Covers a Selected Molecule or a Designated ARC Molecule, including compositions of matter, methods of making, methods of using and methods of manufacture that solely relate to or solely Cover a Selected Molecule or a Designated ARC Molecule. For clarity, (i) a Patent Right may describe or claim ARC Technology IP, Development Molecule IP and Selected Molecule IP, and the determination of what constitutes ARC Technology IP, Development Molecule IP or Selected Molecule IP will be made on a claim-by-claim basis, and (ii) Selected Molecule IP will not include any Know-How or Patent Rights that solely relate to or solely Cover a Former SM2 Molecule.

“Senior Executive” means, with respect to Shattuck, the Chief Executive Officer or President of Shattuck (or an authorized representative designated by such Chief Executive Officer or President), and, with respect to Millennium, the Chief Medical & Scientific Officer of Takeda (or an authorized representative designated by such Chief Medical & Scientific Officer).

“Shattuck” has the meaning set out in the preamble of this Agreement.

“Shattuck Indemnified Parties” has the meaning set out in Section 10.1.

“Shattuck IP” has the meaning set out in Section 6.1(b)(i).

“SM Exclusive License” has the meaning set out in Section 4.1(a).

“SM Exclusive Option” has the meaning set out in Section 4.1(a).

“SM License Agreement” means the license agreement attached to this Agreement as Schedule F.

“SM Option Term” has the meaning set out in Section 4.1(b).

“SM1” means the [***] molecule (as described in greater detail in Schedule G).

“SM2” means the Designated ARC Molecule selected for further development and so designated by the JDC. For clarity, SM2 includes any Designated ARC Molecule that is designated by Millennium as SM2 in connection with a Replacement in accordance with Section 2.8 (from and after the effective date of such Replacement).

“Specified Confidential Information” means, on a Molecule-by-Molecule basis, all non-public data, results or other Know-How solely related to such Molecule and that constitute Development Molecule IP or Selected Molecule IP, generated prior to the Effective Date or pursuant to the activities conducted under the Development Plan.
“Successful Completion” has the meaning set out in Section 5.3(c).

“Takeda” means Takeda Pharmaceutical Company Limited, the parent company of Millennium. For clarity, Takeda is an Affiliate of Millennium.

“Target” means, when used as a noun, an antigen described by a unique UniProtKB/Swiss accession number (and all fragments, mutations and splice variants thereof).

“Target”, “Targeting” or “Targeted” means, when used as a verb to describe the relationship between a molecule and a Target, that the molecule’s primary intended mechanism of action functions such that it is capable of specifically binding to, interacting with or recognizing the Target (or a portion thereof).

“Target Pair” means a combination of two or more Targets.

“Technical Transfer Materials” means Shattuck information (including technical transfer reports) and materials as provided by Shattuck to its licensees of Know-How and Patent Rights for the purpose of performing process development, manufacturing and clinical development activities with respect to the ARC Platform and the Molecules, as applicable, including: (a) nomenclature, structure and general properties; (b) [***].

“Term” means the term of this Agreement as set out in Section 8.1.

“Terminated Molecule” has the meaning set out in Section 8.5(b).

“Terminated Molecule CI” has the meaning set out in Section 8.5(b).

“Termination Date” has the meaning set out in Section 4.2(f).

“Termination Notice” has the meaning set out in Section 8.4.

“Third Party” means any Person other than Shattuck, Millennium, and their respective Affiliates.

“Third Party Claims” has the meaning set out in Section 10.1.

“Trade Secret” means information of either Party or its Affiliates that is designated as a “Trade Secret” in a written list maintained by the JDC, in each case as of the end of the Development Term.

“Treatment Period” means the days during a Tumor Study in which the animals are administered the applicable treatment (including a Molecule, the single agents that are included in a Molecule or placebo).

“Tumor Study” and “Tumor Studies” have the meanings set out in Section 2.8(a).

“Tumor Study Notice” has the meaning set out in Section 5.3(a).
“Tumor Study Report” has the meaning set out in Section 5.3(a).

“U.S.” means the United States of America (including all possessions and territories thereof, including Puerto Rico).

“Valid Claim” means a claim of any (a) issued Patent Right that has not (i) expired, irretrievably lapsed or been abandoned, revoked, dedicated to the public or disclaimed or (ii) been found to be unpatentable, invalid or unenforceable by a court, national or regional patent office or other appropriate body that has competent jurisdiction in the subject country, from which decision no appeal is taken or can be taken (except for writ of certiorari); (b) with respect to a Patent Right owned or Controlled by Shattuck or its Affiliates other than through the rights granted to Shattuck under the Heat License Agreement, pending application for a Patent Right that (i) has been pending for less than [***] and is being prosecuted in good faith and has not been abandoned or finally disallowed without the possibility of appeal or re-filing and (ii) has not been admitted to be invalid or unenforceable through reissue, reexamination or disclaimer, and that is not subject to an interference claim; or (c) with respect to a Patent Right Controlled by Shattuck or its Affiliates through the rights granted to Shattuck under the Heat License Agreement, pending application for a Patent Right. In the event that a Patent Right issues from an application for a Patent Right described in clauses (b) or (c) of this definition, the claims of such issued Patent Right will be deemed to be Valid Claims from and after the date of issuance so long as such claims satisfy the requirements of clause (a) of this definition.

1.2 Interpretation
   (a) Headings in this Agreement are solely for the convenience of reference and will not be used for purposes of interpreting or construing the provisions hereof.
   (b) All references in this Agreement to a designated “ARTICLE”, “Section”, “Subsection” or other subdivision or to a Schedule are to the designated ARTICLE, Section, Subsection or other subdivision of, or Schedule to, this Agreement.
   (c) The words “herein”, “hereof” and “hereunder” and other words of similar import refer to this Agreement as a whole and not to any particular ARTICLE, Section, Subsection or other subdivision or Schedule.
   (d) The word “including”, when following any general statement, term or matter, is not to be construed to limit such general statement, term or matter to the specific items or matters set forth immediately following such word or to similar items or matters, whether or not non-limiting language (such as “without limitation” or “but not limited to” or words of similar import) is used with reference thereto, but rather is to be construed to refer to all other items or matters that could reasonably fall within the broadest possible scope of such general statement, term or matter.
   (e) Any reference to a statute includes and is a reference to such statute and to the regulations made pursuant thereto, with all amendments made thereto and in force from time to time, and to any statute or regulations that may be passed which has the effect of supplementing or superseding such statute or such regulations.
ARTICLE 2
DEVELOPMENT PROGRAM

2.1 The Development Program
During the Development Period, Shattuck will carry out a Development Program to Develop the Selected Molecules, Designated ARC Molecules and Development Molecules in accordance with the terms of this Agreement and the Development Plan. The objectives of the Development Program will be (x) to advance the Development of the two (2) Development Molecules through a Final Phase I Clinical Trial and (y) to advance the Development of each of SM1 and the Designated ARC Molecules through a [***] study in [***].

(a) Development Molecules. Shattuck will use Commercially Reasonable Efforts to Develop the Development Molecules in accordance with the activities set forth in the Development Plan, for each Development Molecule through completion of a Final Phase I Clinical Trial.

(b) Selected Molecules. Shattuck will use Commercially Reasonable Efforts to Develop SM1 and the Designated ARC Molecules in accordance with the activities set forth in the Development Plan, for each of SM1 and the Designated ARC Molecules through completion of the early stage activities specified in the Development Plan (which will include in vivo tumor studies) and a [***] study in [***].

Notwithstanding anything to the contrary in this Agreement (including the definition of “Commercially Reasonable Efforts”), the Parties agree that Commercially Reasonable Efforts, as the term is used in this Section 2.1, will require, among other things, that Shattuck complete the activities in the Development Plan [***] and so as not to unreasonably delay expiration of the relevant DM Option Term or SM Option Term, as applicable.

2.2 Development Plan and Budget
During the Development Period, the JDC will review the Development Plan and Budget on an ongoing basis and may amend the Development Plan and Budget from time to time. Once approved by [***] of the JDC (subject to Section 3.3(b)), any changes to the Development Plan or Budget will become effective and supersede the previous Development Plan or Budget, as applicable, as of the date of such approval. The Parties will ensure that the Development Plan is and remains consistent with industry standards and good scientific practices. In the event of a conflict between the terms of this Agreement and the Development Plan or Budget, the terms of this Agreement will govern.
2.3 Conduct of Development Program
Shattuck and its Affiliates will conduct the Development Program in compliance with all Applicable Law, including GCP.

2.4 Subcontracting
Shattuck will have the right to reasonably subcontract performance of its activities under the Development Plan to its Affiliates or Third Party contractors (each such Third Party contractor, a “Permitted Subcontractor”), provided that Shattuck will (a) [*] to ensure that all of its Permitted Subcontractors operate in a manner consistent with the terms of this Agreement, (b) be responsible for the performance of its Permitted Subcontractors, (c) remain at all times fully liable for its responsibilities under this Agreement, (d) subject to the allocation of costs and expenses set forth in Section 5.2(b), be responsible for all costs and expenses associated with its utilization of any Permitted Subcontractors, (e) bind its Permitted Subcontractors to obligations of confidentiality and non-use no less restrictive than the obligations set forth in Article 7, and (f) [*] to bind its Permitted Subcontractors to assign to Shattuck or its Affiliate any Know-How and Patent Rights that would be Shattuck IP or Millennium Technology IP.

2.5 Scientific Recordkeeping
(a) Shattuck will and will [*] to require its Affiliates and Permitted Subcontractors to, completely and accurately record in laboratory notebooks all material activities conducted by Shattuck or its Affiliates or Permitted Subcontractors under the Development Program, in sufficient detail and in good scientific manner appropriate for patent and regulatory purposes (such notebooks, the “Laboratory Notebooks”). The Laboratory Notebooks will be created and maintained in a manner sufficient to allow for such Laboratory Notebooks to be used (i) in order to obtain Regulatory Approval for any applicable product in the U.S. and each Ex-U.S. Major Market and (ii) the U.S. Patent and Trademark Office or U.S. courts, to establish the date of invention and inventorship for any applicable invention.

(b) Audits. Millennium will have the right, [*] and at its own expense, to have the Laboratory Notebooks of Shattuck and its Affiliates or its Permitted Subcontractors (to the extent Shattuck has procured such right in the case of Permitted Subcontractors), as applicable, audited by an independent law firm [*]. Shattuck will [*] to procure such audit right referenced in the preceding sentence in the case of Permitted Subcontractors. Audits under this Section 2.5(b) will be conducted at the principal place of business of Shattuck or its relevant Affiliate or Permitted Subcontractor, as applicable, during normal business hours, upon at least [*] prior written notice, and for the sole purpose of verifying that Shattuck or its relevant Affiliate or Permitted Subcontractor, as applicable, is recording all material Development activities conducted under the Development Program in accordance with the provisions of Section 2.5(a). [*] The auditing law firm will provide a written report to both Parties that will disclose only [*]. The report will disclose no other information arising from such audit.
2.6 Reporting
Shattuck will keep Millennium reasonably informed as to the progress and results of its activities under the Development Plan, in each case through meetings of the JDC occurring at least \([***]\) and as otherwise agreed from time to time.

2.7 Adverse Event and Product Complaint Reporting
During the Development Period, Shattuck will update Millennium through the JDC as to (a) any Adverse Events in connection with the activities conducted pursuant to the Development Plan, (b) any Adverse Events in connection with the research or development of any products based on, incorporating or utilizing the ARC Platform; and (c) any Product Complaint Information relating to other products based on, incorporating or utilizing the ARC Platform; provided that the foregoing clauses (b) and (c) will not require Shattuck to violate any agreements with or confidentiality obligations owed to any Third Parties.

2.8 Development of Designated ARC Molecules; Designation of SM2; Replacement
(a) Shattuck will initially Develop the three (3) Designated ARC Molecules in accordance with the Development Plan through completion of specified early stage activities, including in each case an \(\text{in vivo}\) tumor study (in a mouse or other animal model, as agreed upon by the JDC and further described in the Development Plan) (each, a “Tumor Study” and collectively, the “Tumor Studies”). Following completion of the Tumor Studies, the JDC will select one of the Designated ARC Molecules as a lead, and such lead will be designated as SM2 (and will no longer be a Designated ARC Molecule). Following such designation, the two (2) remaining Designated ARC Molecules will continue to be Designated ARC Molecules for all purposes under this Agreement, and during the Development Term for each such Designated ARC Molecule, Shattuck will conduct such Development activities (if any) with respect to such remaining Designated ARC Molecules as are called for by the terms of the Development Plan; provided that, on a Designated ARC Molecule-by-Designated ARC Molecule basis, to the extent that during the Development Term of a Designated ARC Molecule \([***]\).

(b) At any time prior to the end of the Development Term for SM2, Millennium may elect, \([***]\), to de-designate the Molecule that has been designated as SM2 and to designate one of the remaining Designated ARC Molecules as SM2 in its place (a “Replacement” and, such right of Millennium, the “Right of Replacement”). Millennium will exercise its Right of Replacement by providing written notice of such Replacement to Shattuck (which Replacement will be effective immediately upon receipt of such notice by Shattuck). Upon a Replacement, (i) the Molecule that was previously designated as SM2 will cease to be designated as SM2 and will thereafter be deemed a “Former SM2 Molecule” and (ii) the newly designed Molecule will be treated as SM2 for all purposes under this Agreement. For clarity, Shattuck will have no obligation to conduct any Development activities with respect to any Former SM2 Molecule, and the SM Exclusive Option will not apply to any Former SM2 Molecule.
For the avoidance of doubt, (i) Millennium may exercise its Right of Replacement up to [***], in each case prior to the end of the Development Term for SM2, and (ii) following a Replacement, the Development Term for SM2 will end on the ninetieth (90th) day following completion of a [***] study with respect to the newly designated SM2 conducted in accordance with the Development Plan.

2.9 Competitive Activities

(a) On a Molecule-by-Molecule basis, during the Development Term for each Molecule, Shattuck will not (outside of those activities to be conducted as part of the Development Program) (i) grant, or enter into any agreement to grant, any option, license or other right (by itself or through an Affiliate) to a Third Party under any Patent Rights or Know-How Controlled by Shattuck for the purpose of Developing, Commercializing or otherwise Exploiting any compound, molecule or product that Targets the same Target Pair as such Molecule, (ii) initiate or engage in material discussions with any Third Party regarding the grant of rights by Shattuck to such Third Party under any Patent Rights or Know-How Controlled by Shattuck for the Development, Commercialization or other Exploitation of any compound, molecule or product that Targets the same Target Pair as such Molecule or (iii) conduct or support, directly or indirectly, whether itself or with, through or on behalf of any Person, any Development, Commercialization or other Exploitation activities with respect to any compound, molecule or product that Targets the same Target Pair as such Molecule.

For clarity, Shattuck may conduct Development, Commercialization or other Exploitation activities with respect to a compound molecule or product (A) that Targets any Target Pairs that are different from the Target Pairs that are Targeted by any Molecule; (B) that Targets the same Target Pairs that are Targeted by a Molecule after the expiration of the Development Term for such Molecule, provided, that Millennium has not delivered an Option Notice with respect to such Molecule (unless and until Millennium does not thereafter deliver an Exercise Notice within the Exercise Period with respect to such Molecule or delivers written notice to Shattuck rescinding its Option Notice); or (C) that Targets the same Target Pairs that are Targeted by any Former SM2 Molecule. Notwithstanding anything to the contrary in the foregoing, in the event a Third Party makes an investment in Shattuck (and becomes an Affiliate by virtue of such investment) or acquires Shattuck in a Change of Control Event, following such investment or acquisition the restrictions set forth in this Section 2.9(a) will continue to apply to Shattuck and any Patent Rights or Know-How that were Controlled by Shattuck or its Affiliates prior to such investment or acquisition (including any improvements thereof), but will not apply to activities of such Third Party or such Third Party’s other Affiliates that do not utilize ARC Technology IP, Development Molecule IP, Selected Molecule IP or other Patent Rights or Know-How that were Controlled by Shattuck or its Affiliates prior to such investment or acquisition (or any improvements thereof). For purposes of this Section 2.9(a) only, the term “discussions” in clause (ii) does not include the sharing of general information related to Target Pairs that broadly informs the activity of the ARC Platform for potential investors or other potential partners that are conducting bona fide diligence on Shattuck in connection with a potential transaction between such investors or partners, on the one hand, and Shattuck, on the other hand.
On a Molecule-by-Molecule basis, during the Development Term for a Molecule, neither Millennium nor its Affiliates will conduct or fund, directly or indirectly, any Development, Commercialization or other Exploitation activities with respect to antibodies or antibody fragments that are conjugated together and Targeted to the same Target Pairs as such Molecule (a “Competing Activity”); provided that, notwithstanding anything in this Section 2.9(b) to the contrary, the following activities by Millennium or its Affiliates will not constitute a breach of this Section 2.9(b) (each such activity described in the following clauses (i) - (iv), an “Excluded Activity”):

(i) any investment by Millennium or any of its Affiliates in a Third Party that is engaged in a Competing Activity;

(ii) any merger, consolidation or acquisition by Millennium or any of its Affiliates of a Third Party that is engaged in a Competing Activity; and

(iii) any merger, consolidation or acquisition of Millennium or any of its Affiliates of Millennium by a Third Party that is engaged in a Competing Activity;

(iv) any license, collaboration or similar arrangement between Millennium or any of its Affiliates and a Third Party pursuant to which Millennium or such Affiliate funds or assists any Competing Activity by such Third Party, but only to the extent that (A) such Third Party is not engaged in the Competing Activity as of the date that Millennium or its Affiliate enters into such license, collaboration or similar arrangement and (B) Millennium or its Affiliate does not have operational control with respect to the Competing Activity (or to the extent Millennium or such Affiliate has such operational control, provided that it does not exercise such control).

Following any transaction described in the foregoing clauses (i) – (iv), Millennium, its Affiliate(s) and/or the Third Party will be free to continue the Excluded Activity, provided that no ARC Technology IP, Development Molecule IP or Selected Molecule IP is used in connection with such activities.

ARTICLE 3
JOINT DEVELOPMENT COMMITTEE

3.1 Joint Development Committee

(a) Within [***] following the Effective Date, the Parties will establish a Joint Development Committee (“Joint Development Committee” or “JDC”) which will have responsibility to manage, direct and oversee all Development activities relating to the Selected Molecules, Designated ARC Molecules and Development Molecules, including those activities set out in the Development Plan, and the following:

(i) managing, directing and overseeing all activities under the Development Plan;
(ii) providing a forum to facilitate the resolution of issues between the Parties;
(iii) identifying materials or resources to be accessed from Third Parties;
(iv) reviewing and approving or rejecting proposed modifications to the Budget;
(v) selecting the initial SM2 from among the Designated ARC Molecules;
(vi) reviewing and approving or rejecting proposed modifications to the Development Plan in a timely manner and circulating copies of each revised or updated version to the Parties;
(vii) monitoring progress of the Development Plan, including monitoring Shattuck’s compliance with its obligations under same, including the accomplishment of key objectives and milestones;
(viii) circulating to each representative of the JDC, at least, a summary report (in such form and format as determined by the JDC) of the Development Program activities performed in the previous Calendar Quarter;
(ix) identifying and maintaining a list of for purposes of Section 7.1;
(x) appointing and overseeing such subcommittees as the JDC deems appropriate for carrying out activities under this Agreement; and
(xii) carrying out such other duties as are specifically assigned to the JDC under this Agreement, or as agreed by the Parties in writing from time to time.

(b) The JDC will be comprised of representatives of each Party, with each Party having at least representatives on the JDC at all times. Each representative (or any alternate to such representative) will be an employee or consultant of the applicable Party or one of its Affiliates having expertise appropriate for the function and purpose of the JDC and to address all strategic questions which the JDC is reasonably expected to deal in accordance with this Agreement. Each Party may replace its representatives on the JDC from time to time in its discretion with prior written notice to the other Party. All members of the JDC will be subject to written confidentiality obligations commensurate in scope to the provisions of Article 7. Non-voting observers who are subject to written confidentiality obligations commensurate in scope to the provisions of Article 7 may be invited to JDC meetings, as mutually agreed by the Parties’ JDC representatives.
(c) Shattuck will appoint the chair of the JDC (the “JDC Chair”), who will be responsible for coordinating meetings of the JDC and preparing an agenda for each such meeting (which will include any agenda items proposed by either Party). The JDC Chair will have no greater authority on the JDC than any other representative.

(d) The JDC will oversee execution of the Development Plan and Development of the Molecules. The JDC’s oversight responsibilities will continue for each Molecule until the end of the Development Term for such Molecule. The JDC will be dissolved upon expiration of the Development Period.

3.2 Governance of JDC

(a) JDC meetings may be held in-person, by audio or by video conference. The JDC will hold an initial in-person meeting within *** of the Effective Date, at a location to be agreed by the Parties’ JDC representatives. Thereafter, the JDC will meet at least *** (or with such other frequency as the Parties mutually agree), with in-person meetings occurring at least ***.

(b) Unless otherwise agreed by the Parties, the location of in-person meetings will alternate between Shattuck’s facilities in Durham, North Carolina or Austin, Texas, and Millennium’s facilities in Cambridge, Massachusetts, with the first meeting to be held at a location to be agreed by the Parties.

(c) Each Party will use all reasonable efforts to cause its JDC representatives to attend the meetings, and if a Party’s representative is unable to attend a meeting, such Party will designate an alternate representative to attend in place of the absent representative by prior written notice to the other Party.

(d) Each Party will be responsible for all of its own expenses of participating in the JDC, including all costs of travel, food and lodging for a Party’s representatives attending an in-person meeting.

(e) The JDC Chair will be responsible for calling meetings (including as reasonably requested by Millennium) providing notice of all meetings to the members of the JDC, leading the meetings and (unless the Parties’ representatives on the JDC agree upon a person to act as secretary of the meeting of the JDC) appointing a representative of the JDC to act as secretary of each meeting. Notice of meetings will be given to all JDC members at least *** in advance for in-person meetings and at least *** in advance for audio or video teleconferences.

(f) A quorum for a meeting of the JDC will be *** of each Party.
The secretary of each meeting will prepare, and the JDC Chair will distribute to all members of the JDC, minutes of each JDC meeting within [***] following the date of the meeting. Such minutes will provide a description in reasonable detail of the discussions held at the meeting and a list of any actions, decisions or determinations approved by the JDC. Minutes of each meeting will be approved or revised as necessary at the next meeting. Such minutes will be effective only after being approved by the JDC representatives of both Parties who are in attendance at the JDC meeting at which the minutes are considered for approval. The approved minutes of each meeting will be distributed to the representatives of the JDC by the JDC Chair within [***] of such approval.

3.3 Decision Making

(a) At all times, the representatives of each Party on the JDC will take into consideration the view of the representatives of the other Party regarding the matters under consideration by the JDC, and the objective of the JDC will be to reach agreement by [***] on matters after reasonable and open discussion. Each Party, but not each representative of a Party, will have [***] vote on all matters coming before the JDC. In the event the JDC cannot reach agreement on a matter by [***] within [***] after such matter is first discussed at a JDC meeting (and other than in the case of a determination of whether a Tumor Study has achieved Successful Completion under Section 5.3(c)), the matter will be referred promptly to the Senior Executives of the Parties for resolution through [***] negotiations. In the event that the Senior Executives cannot reach agreement on a matter within [***] of such matter being referred to them by the JDC, Shattuck may, in its discretion and subject to Section 3.3(b) and (c), cast a deciding vote with respect to any matter, and such deciding vote will then be deemed the final decision of the JDC.

(b) Notwithstanding anything to the contrary in Section 3.3(a), the following matters will not be subject to a deciding vote of Shattuck: (i) a proposed material amendment to the Development Plan and/or Budget (including with respect to [***]), in which case both Parties’ representatives must reach [***] on such material amendment; (ii) whether a Tumor Study has achieved Successful Completion under Section 5.3(c), in which case both Parties’ representatives must reach [***] on whether Successful Completion has been achieved; and (iii) selection of the initial SM2 from the Designated ARC Molecules, in which case Millennium will have the right, in its sole discretion, to cast a deciding vote, and such deciding vote will then be deemed the final decision of the JDC.

(c) Shattuck may not exercise its right to finally resolve a matter pursuant to Section 3.3(a): (i) in a manner that is inconsistent with the terms of this Agreement (including in a manner that excuses Shattuck from any of its obligations, or negates any rights granted to Millennium, under this Agreement); (ii) that is stated in this Agreement to require the mutual agreement of the Parties; or (iii) in a manner that would require Millennium to perform any act that it reasonably believes to be inconsistent with any Applicable Law or any approval, order, policy or guidelines of any Regulatory Authority.
3.4 Responsibilities

Notwithstanding anything to the contrary in this Article 3, each Party will have and retain the rights, powers and discretion granted to it under this Agreement, and the JDC will not be vested with any right, power or discretion except as expressly provided in this Agreement and will not have the power to amend or modify this Agreement, which may only be amended or modified as provided in Section 11.16.

ARTICLE 4
EXCLUSIVE OPTION; [***] ROFN

4.1 Exclusive Option to Enter Licenses

(a) In exchange for the corresponding DM Option Fees set forth in Section 5.1, on a Development Molecule-by-Development Molecule basis, Millennium will have the exclusive option (the “DM Exclusive Option”), exercisable in its sole discretion, to be granted an exclusive license to each Development Molecule as set forth in Schedule C (the “DM Exclusive License”) in accordance with the procedures set forth in this Section 4.1. In exchange for the corresponding SM Option Fees set forth in Section 5.1, on a Selected Molecule-by-Selected Molecule basis, Millennium will have the exclusive option (the “SM Exclusive Option”), exercisable in its sole discretion, to be granted an exclusive license to each Selected Molecule as set forth in Schedule F (the “SM Exclusive License”) in accordance with the procedures set forth in this Section 4.1.

(b) In the event that Millennium is considering exercising the DM Exclusive Option or the SM Exclusive Option, as applicable, Millennium will provide written notice to Shattuck that it is considering exercising the applicable option, in each case at any time after the Effective Date and prior to the end of the Development Term for the applicable Molecule. Such written notice will specify the Development Molecule or Selected Molecule as to which Millennium is considering exercising the DM Exclusive Option or SM Exclusive Option, as applicable (each, an “Option Notice”). For clarity, on a Molecule-by-Molecule basis, the term of Millennium’s DM Exclusive Option (the “DM Option Term”) or SM Exclusive Option (the “SM Option Term”), as applicable, is co-extensive with the Development Term for such Molecule. If Millennium does not deliver an Option Notice in accordance with this Section 4.1(b) prior to the expiration of the DM Option Term for each Development Molecule, or the SM Option Term for each Selected Molecule, Millennium’s DM Exclusive Option or SM Exclusive Option, as applicable, will expire for the applicable Molecule, and Millennium will have no further rights or obligations under this Agreement with respect to the applicable Molecule (including (i) no further funding obligations and (ii) no right to exercise the DM Exclusive Option or SM Exclusive Option, as applicable, with respect to such Molecule). For the avoidance of doubt, in the event Millennium delivers an Option Notice during the DM Option Term or SM Option Term, as applicable, Millennium will continue to have the right to exercise the DM Exclusive Option or SM Exclusive Option, as the case may be, in accordance with the procedures set forth in this Section 4.1, after
the end of the DM Option Term or SM Option Term, as applicable. The Parties’ expectation is that no DM Option Term or SM Option Term will extend past the [***] of the Effective Date; provided that, for clarity, this sentence will not (y) limit the duration of any DM Option Term or SM Option Term in the event that such DM Option Term or SM Option, as applicable, extends past the [***] of the Effective Date in accordance with the terms of this Agreement or (z) otherwise limit the rights of the Parties hereunder.

(c) Determination of License Fee

(i) For [***] following Shattuck’s receipt of an Option Notice (the “Option Fee Negotiation Period”), the Parties will negotiate [***] to determine a mutually acceptable upfront fee (the “License Fee”) to be paid by Millennium for the exclusive license to the applicable Molecule. If the Parties mutually agree on the amount of the License Fee through such negotiations (or otherwise at any time during the arbitration process described below), the Parties will enter into a written agreement reflecting such agreement and such amount will be inserted into the applicable License Agreement in accordance with Section 4.1(e) below.

(ii) If the Parties do not reach agreement on the amount of the License Fee within the Option Fee Negotiation Period, Millennium will have [***] (beginning on the first day following the end of the Option Fee Negotiation Period) to submit a written request for arbitration to the American Arbitration Association (“AAA”) in accordance with the Commercial Arbitration Rules to determine the amount of the License Fee; provided that if Millennium does not provide such request for arbitration to AAA within such [***] period, Millennium’s right to exercise the DM Exclusive Option or the SM Exclusive Option, as applicable, will lapse with respect to the applicable Molecule, Millennium will have no further rights or obligations with respect to such Molecule, and, for clarity, Shattuck will be free to enter into discussions and negotiations with Third Parties regarding the Development, Commercialization and other Exploitation of such Development Molecule or Selected Molecule, as the case may be.

(iii) Any arbitration that is conducted to determine the amount of a License Fee will take place in New York, NY, and will be conducted in English. Such License Fee arbitration will be conducted by a panel of three (3) arbitrators, unless the Parties agree otherwise. The arbitrators may engage one or more experts who are independent from, and not an Affiliate of, Shattuck or Millennium or any of their respective Affiliates, to assist the arbitrators in rendering a decision, and the expenses of such experts will be included in the expenses of the arbitration and paid or shared by the Parties as specified in Section 4.1(c)(vi) below.
(iv) Within [***] of Millennium’s submission of the written request for arbitration, each Party will select one independent arbitrator, and the two Party-appointed arbitrators will, within thirty (30) days of the appointment of the second arbitrator, select a third independent arbitrator, who will act as the president. Any arbitrator(s) not selected within these time periods will be appointed in accordance with relevant AAA rules. Within [***] after the appointment of the president arbitrator, each Party will submit to the arbitrators and the other Party a written report setting forth its position with respect to the proposed Fair Market Value of the License Fee; provided that, in no event may either Party submit a report that proposes a License Fee of less than [***] with respect to a Development Molecule or less than [***] with respect to a Selected Molecule. Each Party may submit a revised report and position to the arbitrators within [***] of receiving the other Party’s report. If so requested by the arbitrators, each Party will make oral and/or other written submissions to the arbitrators in accordance with procedures to be established by the arbitrators; provided that the other Party will be provided copies of any such written submissions and will have the right to be present during any oral submissions.

(v) The arbitrators will confer and select one of the Party’s positions that the arbitrators feel most closely reflects the Fair Market Value of the License Fee for the applicable exclusive license (taking into account the other financial terms associated with such exclusive license under the applicable License Agreement), and will not have the authority to render any substantive decision other than to so elect one of the Party’s positions as set forth in their respective written reports (as initially submitted, or as revised in accordance with the foregoing, as applicable). The arbitrators will issue a written decision setting the amount of the applicable License Fee (“Arbitrators’ Decision”) that will be provided to both Parties. For clarity, it is the Parties’ intent that the arbitration process set forth in this Section 4.1(c) will be a baseball-style arbitration, and the arbitrators may (subject to the foregoing) fashion such detailed procedures as the arbitrators consider appropriate to implement this intent.

(vi) Each Party will bear (A) its own costs, expenses and attorneys’ fees incurred connection with the arbitration and (B) an equal share of the arbitrators’ fees and any administrative fees or other expenses of arbitration (including all fees payable to AAA); provided, however, that, if following receipt of the Arbitrators’ Decision, Millennium does not provide an Exercise Notice in accordance with Section 4.1(d), delivers written notice to Shattuck rescinding its Option Notice, or otherwise elects not to enter into a License Agreement consistent with the Arbitrators’ Decision, [***]. The Parties agree that the arbitration decision will be final and binding on the Parties and their Affiliates. The Parties hereby waive the right to contest the arbitration decision in any court or other forum. Except to the extent necessary to confirm or enforce an award or as may be required by Applicable Law, neither a Party, nor its Affiliates, nor an arbitrator may disclose the existence, content or results of an arbitration without the prior written consent of both Parties.
(vii) In any arbitration under this Section 4.1(c), the arbitrators and the Parties will use [***] to set the amount of the applicable License Fee within [***] following the date of delivery of Millennium’s written request for arbitration sent pursuant to Section 4.1(c)(i).

(d) Millennium will have a period of (i) [***] following its receipt of the Arbitrators’ Decision or (ii) [***] after the Parties enter into a written agreement reflecting the Parties’ agreed-upon License Fee if the Parties agree on the License Fee outside of arbitration in accordance with Section 4.1(c)(i) (such relevant period under clause (i) or (ii), the “Exercise Period”) to exercise the DM Exclusive Option or SM Exclusive Option, as applicable, by providing written notice of such exercise to Shattuck (“Exercise Notice”). In the event that Millennium does not provide an Exercise Notice to Shattuck prior to the expiration of the Exercise Period or delivers written notice to Shattuck rescinding its Option Notice, the DM Exclusive Option or SM Exclusive Option, as applicable, with respect to such Molecule will lapse, Millennium will have no further rights or obligations under this Agreement with respect to the applicable Molecule (including (A) no further funding obligations and (B) no right to exercise the DM Exclusive Option or SM Exclusive Option, as applicable, with respect to such Molecule), and, for clarity, Shattuck will be free to enter into discussions and negotiations with Third Parties regarding the Development, Commercialization and other Exploitation of such Development Molecule or Selected Molecule, as the case may be.

(e) In the event Millennium delivers an Exercise Notice to Shattuck within the Exercise Period, Shattuck will deliver to Millennium, within [***] following its receipt of the Exercise Notice, a DM License Agreement or SM License Agreement, as applicable, executed on behalf of Shattuck in which Shattuck has inserted (i) the name of the applicable Molecule, (ii) the Licensed Target Pair (as defined therein) and (iii) the effective date of the DM License Agreement or SM License Agreement (which effective date will be the date of receipt by Shattuck of the applicable Exercise Notice (the “License Effective Date”)), as applicable, and (iv) the amount of the License Fee for such exclusive license as determined in accordance with this Section 4.1. Within [***] following its receipt of the DM License Agreement or SM License Agreement, as applicable, from Shattuck, Millennium will return to Shattuck such License Agreement executed on behalf of Millennium. Neither Shattuck nor Millennium will make any changes to the form of DM License Agreement attached hereto as Schedule C or SM License Agreement attached hereto as Schedule F, as applicable, except (A) as provided in the foregoing sentence, (B) as otherwise agreed in writing by the Parties, and (C) upon mutual agreement, the Parties may update schedules and exhibits, as necessary, and either Party may update disclosure schedules related to the representations, warranties, and covenants made by such Party in the applicable License Agreement. For the avoidance of doubt, in the event of any failure by Shattuck or Millennium to deliver a copy of the applicable DM License Agreement or SM License Agreement as described above, the non-executing Party will be deemed to have granted to the executing Party the rights with respect to the applicable Molecule consistent with the terms of the DM License Agreement or SM License Agreement, as applicable, as of the License Effective Date without any further action by the non-executing Party. Each Party will use its [***] to cause each DM License Agreement or SM License Agreement to be executed by such Party as promptly as practicable following the applicable License Effective Date.
(f) For the avoidance of doubt, (i) Millennium will have no obligation to exercise its exclusive option to be granted an exclusive license to any Molecule, to enter into a DM License Agreement or SM License Agreement with respect to such Molecule, or to pay any License Fee (including, in each case, on account of delivering an Option Notice, negotiating the amount of the applicable License Fee with Shattuck pursuant to Section 4.1(c)(i) or participating in the arbitration process described in Section 4.1(c)(ii) - (vii)) unless and until Millennium delivers to Shattuck an Exercise Notice with respect to such Molecule in accordance with Section 4.1(d) and (ii) Millennium will have the right to reject the amount of the License Fee set forth in the Arbitrators’ Decision and to elect (A) not to deliver an Exercise Notice and (B) not to exercise the applicable exclusive option after receiving the Arbitrators’ Decision.

(g) Notwithstanding the foregoing, the Parties will use [***] to obtain any approvals from any Governmental Entity that are required before effectiveness of any DM Exclusive License or SM Exclusive License, as applicable. In the event approval is required under the HSR Act, the Parties will use such efforts to file the notification and report forms required under the HSR Act as soon as practicable following determination of the License Fee pursuant to Section 4.1(c), but in no event later than [***] thereafter, and will respond as promptly as practicable to all requests or inquiries received from the applicable Governmental Authority for additional documentation or information. Millennium will pay all filing fees (including the filing fee in connection with the HSR Act filing) paid to any Governmental Entity in connection with any required consent of any Governmental Entity. Millennium will use [***] to avoid or eliminate each and every impediment under any antitrust, merger control, competition or trade regulation or other Applicable Law (including the HSR Act) that may be asserted by any Governmental Entity with respect to the transactions contemplated by this Agreement so as to enable effectiveness of the DM Exclusive License or SM Exclusive License as soon as reasonably possible; it being understood that: (i) neither Party or any of its Affiliates will be obligated to contest any final action or decision taken or made by a Governmental Entity challenging the DM Exclusive License or the SM Exclusive License and the other agreements contemplated hereby and (ii) in no event will either Party or any of its Affiliates be required to: (A) sell or otherwise dispose of (including by sale, license, transfer, assignment or lease), hold separate or agree to sell or dispose of (including by sale, license, transfer, assignment or lease), any material assets, categories of assets or businesses of such Party or any of such Party’s Affiliates, (B) modify or terminate any material existing relationships, contractual rights or obligations or enter into any material contracts or other commercial relationships with any Third Parties, (C) amend or terminate existing material licenses or other material Intellectual Property agreements or enter into new licenses or other Intellectual Property agreements, or
(D) agree to any material limitation or alteration in the manner in which such Party or any of such Party’s Affiliates conduct their businesses in the future, in each case (A) through (D), to avoid, prevent or terminate any action by a Governmental Entity that would restrain, enjoin or otherwise prevent the consummation of the transactions contemplated by this Agreement and the other agreements contemplated hereby. Notwithstanding anything in this Agreement to the contrary, all obligations that have not accrued and time limits under this Agreement applicable to either Party (except those specifically set forth in this Section 4.1(g)) will be tolled for the duration of the Governmental Entity’s review necessary to allow the exercise of Millennium’s DM Exclusive Option or SM Exclusive Option hereunder, including the duration of the Exercise Period and the time period in which Millennium must deliver the Exercise Notice in order to exercise the DM Exclusive Option or SM Exclusive Option, as applicable.

4.2 [***] Right of First Negotiation

(a) Until the later of (i) [***] and [***] after the Effective Date and (ii) expiration of the Development Term for DM1 (the “ROFN Term”), Millennium will have a right of first negotiation (“ROFN”) to enter into a license agreement for the Development, Commercialization and other Exploitation with respect to any molecule Covered by the ARC Technology IP that [***] and is under Development by Shattuck and Controlled by Shattuck (other than [***] and [***]) (each a “[***] Molecule”).

(b) During the ROFN Term, if Shattuck [***], (i) out-license or otherwise grant any rights to any [***] Molecule to any Third Party or (ii) enter into substantive discussions or negotiations with any Third Party regarding the out-license or other grant of rights to any [***] Molecule, then prior to entering into any substantive discussions or negotiations with a Third Party, Shattuck will provide to Millennium written notice of such determination. Such written notice will include a description of the [***] Molecule ([***]), the status of its Development, the status of any discussions with Regulatory Authorities and the territory to which the contemplated out-license or other grant of rights would apply (such written notice is referred to as the “[***] Notice”). Millennium will have [***] following its receipt of the [***] Notice (the “Opt-In Period”) to provide written notice to Shattuck that it desires to negotiate a license for the [***] Molecule described in the [***] Notice (“Opt-In Notice”).

(c) If Millennium delivers the Opt-In Notice within the Opt-In Period, Shattuck will provide additional detailed information (including Confidential Information) about the [***] Molecule (but only to the extent such additional detailed information exists at the time of Shattuck’s receipt of the Opt-In Notice or during the Exclusivity Period, and provided that Shattuck will not be obligated to disclose to Millennium the name of any Third Party with which Shattuck proposes to enter into substantive negotiations regarding the applicable [***] Molecule(s)). Following Shattuck’s receipt of the Opt-In Notice, the Parties will engage in [***] negotiations for a period of up to [***] (“Exclusivity Period”) to agree upon the material terms of a license (or such other transaction that the Parties may mutually agree) in an executed and binding memorandum of understanding (“Binding MOU”).
(d) If the Parties enter into a Binding MOU during the Exclusivity Period, the Parties will engage in exclusive [***] negotiations for up to an additional period of [***] beginning on the last day of the Exclusivity Period (the “**Negotiation Period**”) to enter into a definitive agreement.

(e) If (i) Millennium does not deliver an Opt-In Notice prior to the end of the Opt-In Period, (ii) the Parties do not enter into a Binding MOU prior to the end of the Exclusivity Period, or (iii) the Parties do not execute a definitive agreement prior to the end of the Negotiation Period, Shattuck will be entitled to negotiate and enter into a definitive agreement with a Third Party with respect to the applicable [***] Molecule(s); provided that the terms of such out-license with any Third Party will not: (A) include a [***] being discussed between Shattuck and Millennium; or (B) include terms that are, when taken [***] (such terms to be considered will include, among others and in each case to the extent applicable: [***]).

(f) If Shattuck does not enter into a definitive agreement with a Third Party with respect to such out-license or other grant of rights within [***] following the last day of (as applicable): (i) the Opt-In Period (in the event Millennium failed to deliver an Opt-In Notice during the Opt-In Period), (ii) the Exclusivity Period (in the event the Parties failed to enter into a Binding MOU during the Exclusivity Period) or (iii) the Negotiation Period (in the event the Parties failed to execute a definitive agreement during the Negotiation Period) (such applicable last day is referred to herein as the “**Termination Date**”), Shattuck will be required to comply with the procedures of the ROFN again if it desires to enter into negotiations with a Third Party again for the same [***] Molecule. Notwithstanding the foregoing, in the event that (A) Shattuck has complied in full with the ROFN procedures set forth above for the same [***] Molecule [***], (B) the Parties have not entered into a definitive agreement with respect to such [***] Molecule, and (C) the Termination Dates of such ROFN procedures are separated by a period of at least [***], then Millennium will have no further ROFN rights with respect to such [***] Molecule, and Shattuck will be free, in its sole discretion, to out-license or grant other rights to such [***] Molecule to any Third Party at any time.

(g) For the avoidance of doubt, the ROFN will apply on a [***] Molecule-by-[***] Molecule basis, and the failure of the Parties to enter into a definitive agreement with respect to any [***] Molecule will relieve Shattuck of its ROFN obligations (to the extent set forth above) with respect to that [***] Molecule only. In the event that Millennium does not exercise its ROFN rights with respect to a single [***] Molecule, the ROFN obligations set forth herein will continue to apply with respect to all other [***] Molecules for the remainder of the ROFN Term. In addition, in the event that Millennium does not exercise its ROFN rights with respect to a [***] Molecule in a given territory (other than [***]), and Shattuck enters into a binding agreement with a Third Party relating to such [***] Molecule in such territory, Millennium will continue to have ROFN rights with respect to such [***] Molecule for the remaining territories in the world.
(h) For clarity, the ROFN granted to Millennium under this Section 4.2 will not apply to or be triggered by any transaction or series of transactions entered into by Shattuck that constitute a Change of Control Event, provided that any such transaction would at all times be subject to the Parties’ continuing rights and obligations under this Agreement.

ARTICLE 5
PAYMENTS

5.1 Upfront Payments

In consideration of the rights granted to Millennium under this Agreement, Millennium will make the following one-time payments to Shattuck, in each case within [***] following the Effective Date:

(a) DM Option Fees.
   (i) [***] as consideration for the exclusive option to obtain an exclusive license to DM1;
   (ii) [***] as consideration for the exclusive option to obtain an exclusive license to DM2;

(b) SM Option Fees.
   (i) [***] as consideration for the exclusive option to obtain an exclusive license to SM1;
   (ii) [***] as consideration for the exclusive option to obtain an exclusive license to [***];
   (iii) [***] as consideration for the exclusive option to obtain an exclusive license to [***];
   (iv) [***] as consideration for the exclusive option to obtain an exclusive license to [***];

(c) ROFN Payment. [***] as consideration for the rights and privileges granted to Millennium pursuant to the ROFN.

29
5.2 Development Funding

(a) Funding for Development Molecules. During the Development Term for the applicable Molecule, Millennium will make payments to Shattuck for Shattuck’s costs and expenses in connection with the Development of the Development Molecules. Millennium will pay to Shattuck (i) [***] to fund the Development of DM1 and [***] to fund the Development of DM2 during the period beginning April 1, 2018 and ending October 31, 2018 (with respect to each of DM1 and DM2, such payment is referred to as the “First Development Funding Payment”); and (ii) [***] to fund the Development of DM1 and [***] to fund the Development of DM2 during the period beginning April 1, 2019 and ending October 31, 2019 (each [***] payment pursuant to the foregoing clauses (i) and (ii) is referred to as a “Development Funding Payment”). To initiate each Development Funding Payment, Shattuck will submit an invoice to Millennium for such Development Funding Payment, and Millennium will pay such Development Funding Payment to Shattuck within [***] of Millennium’s receipt of such invoice. For the avoidance of doubt, Millennium will have no obligation to make any Development Funding Payment with respect to any Molecule with respect to which the Development Term has ended. Notwithstanding anything to the contrary in this Agreement, Millennium will not be required to make the First Development Funding Payment prior to October 1, 2018 with respect to any Development Molecule with respect to which Shattuck has not, prior to such date, completed the In Vitro Efficacy Studies and provided the results thereof to Millennium.

(b) Funding for Selected Molecules and Designated ARC Molecules.

(i) During the applicable Development Term for each Selected Molecule and each Designated ARC Molecule, Millennium will reimburse Shattuck, on a Calendar-Quarter basis in arrears, for up to [***]. For clarity, Millennium will reimburse Shattuck for up to an aggregate total of [***] pursuant to this Section 5.2(b). Within [***] following the last day of each Calendar Quarter during the Development Period, Shattuck will send a detailed invoice of [***] to Millennium, and within [***] following receipt of such invoice, Millennium will pay to Shattuck the amount due as reimbursement for [***] in accordance with Section 5.6 hereof. For the avoidance of doubt, Millennium will have no obligation to reimburse [***] that are incurred by Shattuck after the end of the Development Term for the applicable Selected Molecule or Designated ARC Molecule.

(ii) In accordance with Section 2.8(a), on a Designated ARC Molecule-by-Designated ARC Molecule basis, to the extent that during the Development Term of a Designated ARC Molecule (A) Shattuck incurs [***] as part of the Development of such Designated ARC Molecule in accordance with the Development Plan following the designation of SM2 and (B) Shattuck has exhausted the funding for such Designated ARC Molecule provided by Millennium pursuant to Section 5.2(b)(i), Millennium will reimburse Shattuck for [***] incurred by Shattuck and its Affiliates in conducting Development activities in accordance with the Development Plan with respect to such Designated ARC Molecule following designation of SM2 that are not otherwise reimbursed by Millennium pursuant to Section 5.2(b)(i). For the avoidance of doubt, Millennium will have no obligation to reimburse [***] that are incurred by Shattuck after the end of the Development Term for the applicable Designated ARC Molecule.
5.3 In Vivo Tumor Studies of Selected Molecules

(a) During the Development Term for each of SM1 and the three (3) Designated ARC Molecules (including SM2), Shattuck will conduct a Tumor Study with respect to such Molecule. Shattuck will provide written notice to Millennium no later than [***] prior to commencing each Tumor Study (each, a "Tumor Study Notice"). Within [***] following completion of a Tumor Study, Shattuck will provide to Millennium a written report describing such Tumor Study and the results thereof (the "Tumor Study Report").

(b) In the event a Molecule achieves Successful Completion (as defined below) in a Tumor Study, within [***] following receipt by Millennium of the Tumor Study Report, the Parties will enter into an appropriate license agreement [***] pursuant to which Shattuck will transfer to Millennium such materials and grant to Millennium such licenses as are necessary to enable Millennium (either directly or through appropriate contract manufacturing organizations and contract research organizations) to manufacture materials and conduct a [***] study of the applicable Molecule in [***]. In connection with each such license agreement, Millennium will pay to Shattuck a license fee of [***] (each, an "Agreement Fee") pursuant to the terms thereof. For clarity, the Parties may potentially enter into separate license agreements for up to four (4) Molecules (each of SM1 and the three (3) Designated ARC Molecules), and Millennium may pay up to an aggregate total of [***] in Agreement Fees to Shattuck pursuant to this Section 5.3.

(c) For purposes of this Agreement, "Successful Completion" means completion of a Tumor Study:

(i) in which: (A) animals treated with the applicable Molecule demonstrate a [***]; (B) animals treated with the applicable Molecule [***]; (C) no animal treated with the applicable Molecule [***]; and (D) at least [***]; or

(ii) that is deemed to have been a Successful Completion by Millennium in a written notice is delivered by Millennium to Shattuck no later than [***] following the day on which Millennium receives the Tumor Study Report.

The determination of Successful Completion under Section 5.3(c) will require a [***] of the JDC (and such matter will not be referred to the Senior Executives in accordance with Section 3.3(a), subject to a deciding vote of either Party or subject to the dispute resolution mechanisms set forth in ARTICLE 11). In the event the JDC is unable to reach a [***] that a Tumor Study has achieved Successful Completion under Section 5.3(c), the requirements of Section 5.3(c) will be deemed not to have been satisfied with respect to such Tumor Study.
5.4 **Tax Matters**

Any withholding or other taxes that a paying Party is required by Applicable Law to pay or withhold from any payments payable to a receiving Party under this Agreement will be deducted from the amount of such payments due, and promptly paid or remitted as appropriate, to the appropriate Governmental Entity by the paying Party. Any such tax required by Applicable Law to be paid or withheld will be an expense of, and borne solely by, the receiving Party. The paying Party will furnish the receiving Party with the best available evidence of such payment or amount withheld as soon as practicable after such payment is made or such amount is withheld. The receiving Party will furnish the paying Party with appropriate documents supporting application of the most favorable rate of withholding or other tax available, or exemption from such taxes, under Applicable Law and/or tax treaties. For each payment, the Parties will each devote all reasonable efforts to ensuring that (a) the payment is exempt from such taxes or (b) all such taxes are paid or remitted, as appropriate, at the most favorable rate(s) proposed and adequately supported by the receiving Party. The Parties will reasonably cooperate in completing and filing documents required or advisable under the provisions of any applicable tax laws or any other Applicable Law in connection with the making of (i) any required tax payment or withholding payment, (ii) a claim of exemption from, or entitlement to a reduced rate of, withholding, or (iii) any claim to a refund of or credit for any such payment.

5.5 **Late Payments**

Any payments that are not paid on or before the date such payments are due under this Agreement will bear interest from the date due until paid in full at a rate per annum equal to [***]. Interest will not be compounded. With respect to any payments that are disputed [***], no interest will accrue until such dispute is resolved.

5.6 **Bank Account**

All payments required to be made to Shattuck under this Agreement will be made in Dollars by bank wire transfer in immediately available funds to the account listed below (or such other account as Shattuck will from time to time advise Millennium in writing at least [***] before such payment is due):

[***]

5.7 **No Set-Off**

All payments required to be made by each Party to the other pursuant to this Agreement will be made without any set-off or deduction against any other payments due under this Agreement.
5.8 Record Retention

Shattuck will keep for at least [***] from the end of the Calendar Year to which they pertain complete and accurate records of the [***] incurred by Shattuck that are to be borne or reimbursed by Millennium pursuant to Section 5.2 in sufficient detail to allow the accuracy of the amounts charged to Millennium to be confirmed.

5.9 Audit

At the request of Millennium, upon at least [***] prior written notice, but no more often than [***] (unless a previous audit discovered a variation or error resulting in Shattuck having to bear the costs of such audit, in which event audits may occur [***]) and not more frequently than [***] with respect to records covering any specific period of time, and at Millennium’s sole expense (except as otherwise provided herein), Shattuck will permit an internationally recognized independent accounting firm [***], to inspect (during regular business hours) the relevant records required to be maintained by Shattuck under Section 5.8 for the sole purpose of verifying the accuracy of the invoices provided by Shattuck to Millennium for [***]. At Millennium’s request, the independent accounting firm will be entitled to audit the then-preceding [***] of Shattuck’s records solely for purposes of verifying Shattuck’s calculation of the [***] and any other costs and expenses of Shattuck or any of its Affiliates that are to be borne or reimbursed by Millennium pursuant to this Article 5. If any such audit reveals an inaccuracy in the calculation of [***] during the period covered by the review resulting in any overpayment by Millennium, Shattuck will refund the amount of any such overpayment, and if such overpayment is by [***] or more of the amount due, Shattuck will pay the reasonable costs and expenses of the audit. If any audit reveals an inaccuracy in the calculation of [***] during the period covered by the review resulting in an underpayment by Millennium, Shattuck may invoice Millennium for such underpayment, and Millennium will pay such amount within [***] from the date of Millennium’s receipt of such invoice.

ARTICLE 6
INTELLECTUAL PROPERTY

6.1 Ownership of Intellectual Property

(a) The determination of whether Intellectual Property is conceived, discovered, developed, or otherwise made by a Party or its Affiliates for the purpose of allocating proprietary rights therein (including inventorship of Patent Rights), will, for purposes of this Agreement be determined in accordance with the Applicable Law of the U.S. as such law exists as of the Effective Date irrespective of where such conception, discovery, development or making occurs.

(b) Subject to the terms and conditions set forth in this Agreement:

(i) as between the Parties, Shattuck will own and retain all right, title and interest in and to any and all (A) ARC Technology IP, (B) Development Molecule IP and (C) Selected Molecule IP (such Intellectual Property is collectively referred to as "Shattuck IP"), in each case that are developed by or on behalf of either Party or their respective Affiliates in the course of performing their obligations under this Agreement (including under the Development Plan);
(ii) as between the Parties, Millennium will own and retain all right, title and interest in and to any and all Millennium Technology IP developed by or on behalf of either Party or their respective Affiliates in the course of performing their obligations under this Agreement (including under the Development Plan);

(iii) for any other Intellectual Property that is not Millennium Technology IP or Shattuck IP, that is developed by either Party or their respective Affiliates in the course of performing their obligations under this Agreement (including under the Development Plan) (“Other IP”), ownership will follow inventorship; and

(iv) Millennium will promptly disclose to Shattuck in writing the development, making, conception or reduction to practice of any Shattuck IP or Other IP. Shattuck will promptly disclose to Millennium in writing the development, making, conception or reduction to practice of any Millennium Technology IP or Other IP. The Parties will cooperate with each other to effectuate ownership of any such Intellectual Property as set forth in this Agreement, including executing such papers and instruments, requiring employees or others to execute such papers or instruments, and recording such papers or instruments, to effectuate the ownership of such Patent Rights, and to enable the Patent Prosecution thereof in any country or region. Millennium agrees to assign, and hereby assigns, to Shattuck all Shattuck IP that is conceived or reduced to practice by Millennium or its Affiliates during the Term. Shattuck agrees to assign, and hereby assigns, to Millennium all Millennium Technology IP that is conceived or reduced to practice by Shattuck or its Affiliates during the Term.

6.2 Research License

Millennium hereby grants to Shattuck and its Affiliates a non-exclusive, royalty-free, fully paid-up, worldwide license, with the right to sublicense, to and under the Millennium Technology IP for the limited purpose of allowing Shattuck and its Affiliates to conduct Development activities pursuant to this Agreement and the Development Plan. Each Party hereby grants to the other Party and its Affiliates a non-exclusive, royalty-free, fully paid-up, worldwide license, with the right to sublicense, to and under the Other IP for all purposes.

6.3 Patent Prosecution

(a) During the Term, Shattuck will have the right and final authority, but not the obligation, to prepare, file, prosecute, maintain and control Patent Rights covering Shattuck IP, with patent counsel of its choice and at Shattuck’s sole cost, including initiating interferences, re-examinations, reissues, oppositions, revocation actions and the like, and gaining patent term adjustments or restorations, supplemental protection certificates or their equivalents, and patent term extensions with respect thereto (“Patent Prosecution”); provided, however, that with respect to Development Molecule IP and Selected Molecule IP, Shattuck will retain outside counsel that is acceptable to Millennium.
(b) Shattuck will keep Millennium informed, through the JPC, of all material matters with regard to the Patent Prosecution of the Patent Rights within the Development Molecule IP and Selected Molecule IP, as applicable, including by using [***] to provide Millennium with prior written notice a reasonable time prior to taking or failing to take any action that would affect the scope or validity of any such filing (including the substantial narrowing, cancellation or abandonment of any claim(s) without retaining the right to pursue such subject matter in a separate application, or the failure to file or perfect the filing of any claim(s) in any country for which the JPC has recommended pursuing patent protection for such claim), so that Millennium has a reasonable opportunity to review and comment. Shattuck will consider any comments received from Millennium [***].

(c) Within [***] following the Effective Date, the Parties will establish a Joint Patent Committee (“Joint Patent Committee” or “JPC”) which will be responsible for keeping each Party reasonably informed of all inventions arising under the Development Program, sharing material information and coordinating strategy for the Patent Prosecution of Patent Rights of ARC Technology IP, Development Molecule IP and Selected Molecule IP.

(i) The JPC will be comprised of [***] of representatives of each Party, with each Party having at least [***] on the JPC at all times. JPC members will have expertise appropriate for the function and purpose of the JPC. Each Party may replace its representative(s) on the JPC from time to time in its discretion with prior written notice to the other Party. Shattuck will select one of the Shattuck representatives of the JPC to be responsible for coordinating meetings of the JPC and preparing an agenda for each meeting (the “JPC Chair”).

(ii) The JPC will have no decision-making authority. It will serve only as a forum for the Parties to discuss and collaborate with respect to Patent Prosecution matters applicable to the Development Molecules and Selected Molecules, including: overseeing and coordinating the activities of the mutually acceptable outside counsel; facilitating the Parties’ discussions regarding which claims of the Shattuck IP existing as of the Effective Date fall within the ARC Technology IP, which claims fall within the Development Molecule IP and which claims fall within the Selected Molecule IP (and keeping a written record of such discussions) and filing continuations and/or divisional applications as necessary to segregate the claims into separate Patent Rights Covering each category, to the extent possible; discussing new patent filing strategy, and claims strategy with the goal of continuing to segregate Patent Rights Covering Development Molecule IP and Selected Molecule IP, respectively, from Patent Rights.
Covering ARC Technology IP, to the extent possible; and coordinating with each other to reasonably avoid creating potential issues in Patent Prosecution of patent applications. The JPC will be dissolved upon expiration of the Development Period (and in the event the Parties enter into a DM License Agreement and/or SM License Agreement, the relevant functions of the JPC will be conducted by the joint patent committee created pursuant to such agreement(s)).

d) To the extent Shattuck desires to include any unpublished Know-How pertaining to a Development Molecule or a Selected Molecule in a patent application Covering ARC Technology IP, or submit any unpublished Know-How pertaining to a Development Molecule or a Selected Molecule to a patent office in furtherance of Prosecution of ARC Technology IP, Shattuck will inform Millennium no less than [***] in advance of the intended filing or submission date and provide Millennium with an opportunity to review and comment on such filing or submission. Shattuck will consider Millennium’s comments [***]. Shattuck agrees that, without the prior written consent of Millennium, neither Shattuck nor any of its Affiliates will disclose any unpublished Know-How solely pertaining to Selected Molecule IP or Development Molecule IP in any patent application Covering ARC Technology IP, or Prosecution thereof, in a manner that would reasonably be expected to prejudice the ability to patent any Know-How Covering Development Molecule IP or Selected Molecule IP.

6.4 Abandonment
During the Term, Shattuck will not finally abandon or allow to lapse, or otherwise cease Patent Prosecution of any of the Patent Rights under the ARC Technology IP, Development Molecule IP or Selected Molecule IP, unless the JPC has [***] recommended such action.

6.5 Cooperation
Each Party will give notice to the other Party of any actual or suspected infringement by a Third Party of any Patent Rights Covering Molecules (and Controlled by either Party), and the Parties will work together [***] to determine an appropriate strategy for asserting such Patent Rights, provided that the Party Controlling such Patent Rights will have final decision-making authority with respect to any such assertion.

ARTICLE 7
CONFIDENTIALITY

7.1 Confidential Information
Each Party agrees that, during the Term of this Agreement and for a period of [***] thereafter, or with respect to Confidential Information which is a Trade Secret, for so long as such information is maintained by disclosing Party as a trade secret, a Party (the “Receiving Party”) receiving Confidential Information of the other Party (“Disclosing Party”) (or that has received any such Confidential Information from the other Party prior to the Effective Date) will (a) maintain in confidence such Confidential Information using not less than the efforts such Receiving Party uses
to maintain in confidence its own proprietary information of similar kind and value, but in no event less than a reasonable degree of efforts, (b) not disclose such Confidential Information to any Third Party without the prior written consent of the Disclosing Party, except for disclosures expressly permitted in Section 7.2, and (c) not use such Confidential Information for any purpose except to perform its obligations or exercise its rights under this Agreement (including under the Development Plan).

7.2 Authorized Disclosure

(a) The provisions of Section 7.1 will not preclude the Receiving Party from disclosing Confidential Information of the Disclosing Party to the extent (and only to the extent) such disclosure is reasonably necessary in the following instances:

(i) to the extent disclosure of such Confidential Information is reasonably necessary for Patent Prosecution activities or to prosecute or defend litigation relating to Patent Rights;

(ii) disclosure to the Receiving Party’s Affiliates and its respective employees, consultants and Permitted Subcontractors to enable the Receiving Party to exercise its rights or to carry out its obligations under this Agreement (provided that such disclosure will be made only to persons who are bound by confidentiality obligations at least as stringent as those described in this Article 7);

(iii) disclosure by Shattuck to Third Parties of Intellectual Property rights developed under this Agreement and that relate to the ARC Platform generally, provided that, for clarity, this Section 7.2(a)(iii) will not authorize Shattuck to disclose any Know-How that is specific to a Molecule (including any Know-How that is specific to the Target Pair that is Targeted by such Molecule) unless such disclosure is otherwise authorized under this Agreement;

(iv) if required to be disclosed by Applicable Law or court order, provided that notice is promptly delivered to the Disclosing Party in order to provide an opportunity to challenge or limit the disclosure obligations; or

(v) disclosures expressly permitted by this Agreement (including in connection with the arbitration process described in Section 4.1(c)).

(b) Specific information will not be deemed to be within any of the foregoing exclusions merely because it is embraced by more general information falling within these exclusions.

37
7.3 Certain Authorized Disclosures

(a) Following execution of this Agreement, the Parties agree to issue a joint press release announcing the existence of this Agreement, as set forth in Schedule H, and the timing of issuance of such joint press release will be subject to both Party’s written approval. Subject to Section 7.3(b), each Party agrees not to issue any other press release or other public statement disclosing additional information with respect to this Agreement, or using the name or trademark of the other Party or any of its employees, in either case, without the prior written consent of the other Party.

(b) Without limiting the generality of Section 7.3(a), if either Party proposes to file with the SEC or the securities regulators of any state or other jurisdiction a registration statement or any other disclosure document that describes or refers to the terms and conditions of this Agreement under the Securities Act of 1933, as amended, the Securities Exchange Act of 1934, as amended, or any other applicable securities law, such Party will notify the other Party of such intention and will provide the other Party with a copy of relevant portions of the proposed filing a reasonable time (but at least [***]) prior to such filing (and any material revisions to such portions of the proposed filing a reasonable time (but at least [***]) prior to the filing thereof), including any exhibits thereto disclosing terms or conditions of this Agreement, and will use [***] to obtain confidential treatment of the terms and conditions of this Agreement that such other Party requests be kept confidential, and will only disclose such terms and conditions of this Agreement that it is advised by counsel are legally required to be disclosed. No such notice will be required under this Section 7.3(b) if the description of or reference to this Agreement contained in the proposed filing has been included in any previous filing made by the other Party hereunder or otherwise approved by the other Party.

(c) A Party may disclose this Agreement and the terms hereof to its existing directors, officers and investors, and Shattuck may disclose this Agreement to Heat, provided that such Persons agree to be bound by written confidentiality agreements with terms at least as restrictive as those set forth in this Article 7.

(d) Shattuck may disclose this Agreement and the terms hereof to Permitted Third Party Subcontractors in accordance with Section 2.4 (including the restriction in Section 2.4(e)).

(e) Subject to compliance with the terms and procedures set forth in this Section 7.3(e), a Party may disclose this Agreement and the terms hereof to bona fide prospective investors, grant-making institutions, merger partners, strategic partners or acquirers and their respective professional advisors (collectively, “Prospective Investors”) in connection with the negotiation, entry into and/or performance of a business transaction between such parties, including the conduct of due diligence involved in such transaction, provided that in each case such Persons agree to be bound by (i) written confidentiality agreements at least as restrictive as those set forth in this Article 7 or (ii) with respect to attorneys, applicable ethical obligations. With respect to Prospective Investors that are engaged in due diligence prior to such Prospective Investors reaching mutual agreement with the disclosing Party on all material terms of a transaction in a term sheet or letter of intent, the disclosing Party may disclose to the Prospective Investor a redacted version of this Agreement, which the Parties will agree to [***] within [***] following the Effective Date; provided that such redacted version of this Agreement will not divulge or otherwise
make available: (A) either Target in the Target Pair of any Molecule (except for [***], as applicable), (B) the identity of the non-disclosing Party or any of its Affiliates or (C) any of the specific financial terms hereof, except, in each case, to the extent such information has been previously publicly disclosed or the non-disclosing Party consents in writing to such disclosure. With respect to Prospective Investors that are involved in final due diligence at a status in the negotiations at which the disclosing Party reasonably believes [***] that the signing of a definitive agreement governing the transaction is reasonably likely to occur within [***] of such disclosure, the disclosing Party may disclose an unredacted version of this Agreement to such Prospective Investor.

7.4 Publications and Presentations

The Parties acknowledge that scientific publications and presentations must be strictly monitored to prevent any adverse effect from premature publication or dissemination of results of the activities hereunder. Each Party agrees that, except as required by Applicable Law, it will not publish or present, or permit to be published or presented, the results of the Development Program to the extent such results refer to or derive from the Shattuck IP, Millennium Technology IP or Other IP or otherwise constitute Confidential Information of the other Party (the “Covered Results”) without the prior written approval of the other Party, which approval will not be unreasonably withheld, conditioned or delayed; provided, that it will not be deemed unreasonable for Millennium to withhold its consent to any request by Shattuck to publish or present any Covered Results relating to the Selected Molecules or Designated ARC Molecules. Subject to the foregoing, each Party will provide the other Party with the opportunity to review each of the submitting Party’s proposed abstracts, manuscripts or presentations (including information to be presented verbally) that relate to the Covered Results at least [***] prior to its intended presentation or submission for publication, and such submitting Party agrees, upon written request from the other Party given within such [***] period, not to submit such abstract or manuscript for publication or to make such presentation until the other Party is given up to [***] (or such other period as the Parties may mutually agree) from the date of such written request to seek appropriate patent protection for any unpatented technology disclosed in such publication or presentation that it reasonably believes may be patentable. The publishing Party will take into account the reasonable comments or changes proposed by the other Party on any publication or presentation. Once such abstracts, manuscripts or presentations have been reviewed and, where applicable, approved by each Party, the same abstracts, manuscripts or presentations do not have to be provided again to the other Party for review for a later submission for publication. Each Party also will have the right to require that any of its Confidential Information that is disclosed in any such proposed publication or presentation be deleted prior to such publication or presentation. In any permitted publication or presentation by a Party, the other Party’s contribution will be duly recognized, and co-authorship will be determined in accordance with customary industry standards.
ARTICLE 8
TERM AND TERMINATION

8.1 Term
The term of this Agreement (the “Term”) will commence on the Effective Date and, unless earlier terminated pursuant to the provisions of this Article 8, will continue until the later of the end of (a) [***] or (b) [***].

8.2 Termination by the Parties
This Agreement may be terminated by either Party in its entirety or on a Molecule-by-Molecule basis, in the event of:

(a) an unremedied material breach by the other Party or the other Party’s Affiliates, in accordance with the provisions of Section 8.3;
(b) a mutual written agreement between the Parties to terminate; or
(c) upon the bankruptcy or insolvency of, or the filing of an action to commence insolvency proceedings against, the other Party, or the making or seeking to make or arrange an assignment for the benefit of creditors of the other Party, or the initiation of proceedings in voluntary or involuntary bankruptcy, or the appointment of a receiver or trustee of such Party’s property, in each case that is not discharged within [***] of the filing thereof. In connection therewith, all rights and licenses granted under this Agreement are, and will be deemed to be, for purposes of Section 365(n) of the U.S. Bankruptcy Code, licenses of rights to “intellectual property” as defined under Section 101(56) of the U.S. Bankruptcy Code.

8.3 Termination for Breach
(a) Upon a material breach of a representation, warranty or a material obligation of this Agreement by a Party or its Affiliates (in such capacity, the “Breaching Party”), the other Party (in such capacity, the “Non-Breaching Party”) may provide written notice (a “Breach Notice”) to the Breaching Party specifying the material breach in sufficient detail to put the Breaching Party on notice and clearly stating the Non-Breaching Party’s intent to terminate this Agreement if such material breach is not cured. For clarity, any failure of Millennium to make a required payment or payments under this Agreement will be considered a material breach of this Agreement if the aggregate total of such unpaid amount(s) is equal to or greater than [***].
(b) If:
   (i) the Breaching Party fails to cure such material breach during a [***] period (or, if such material breach, by its nature, is a curable breach that the Parties agree is not curable within such [***] period, then within such longer period as would be reasonably necessary for a diligent party to cure such material breach) following the date on which the Non-Breaching Party receives the Breach Notice; or
(ii) such material breach, by its nature, is incurable;

then the Agreement will terminate, at the option of the Non-Breaching Party, in its entirety or on a Molecule-by-Molecule basis, upon written notice to the Breaching Party with immediate effect.

8.4 Other Termination by Millennium

This Agreement may be terminated by Millennium, on a Molecule-by-Molecule basis, in the following circumstances:

(a) With respect to each Development Molecule, Millennium may terminate this Agreement if the In Vitro Efficacy Studies are unsuccessful (according to predetermined criteria that will be mutually agreed upon by the Parties and set forth in the Development Plan) by providing written notice of such termination to Shattuck prior to the date on which Millennium makes the first Development Funding Payment pursuant to Section 5.2(a) with respect to such Development Molecule. In the event the Parties disagree as to whether the In Vitro Efficacy Studies are unsuccessful in accordance with the foregoing sentence, Millennium will have the right, in its sole discretion, to make such determination, and such determination will be deemed final for purposes of this Section 8.4.

(b) With respect to each Selected Molecule and Designated ARC Molecule, Millennium may terminate this Agreement with respect to such Selected Molecule or Designated ARC Molecule by providing written notice of such termination to Shattuck if the in vitro studies conducted prior to such time with respect to such Molecule are unsuccessful (according to pre-determined criteria that will be mutually agreed upon by the Parties and set forth in the Development Plan). In the event the Parties disagree as to whether such in vitro studies are unsuccessful in accordance with the foregoing sentence, Millennium will have the right, in its sole discretion, to make such determination, and such determination will be deemed final for purposes of this Section 8.4.

Any written notice of termination delivered by Millennium pursuant to this Section 8.4 is referred to as a “Termination Notice.”

8.5 Consequences of Expiration or Termination

Upon expiration or earlier termination of this Agreement, the following provisions will apply:

(a) If this Agreement expires in accordance with its terms or is earlier terminated in its entirety by Shattuck under Section 8.2(a) or (c) or by the Parties’ mutual written agreement under Section 8.2(b) (unless the Parties otherwise provide in such written agreement), then, without limiting any other rights of the Parties hereunder:
(i) the license granted by Millennium under Section 6.2 will immediately terminate;

(ii) all unexercised DM Exclusive Options and SM Exclusive Options granted by Shattuck pursuant to Section 4.1(a) will immediately terminate; and

(iii) each Party will promptly return or destroy all Confidential Information of the other Party, provided that each Party may retain, subject to Article 7, (A) one (1) copy of the Confidential Information of the other Party in its archives solely for the purpose of establishing the contents thereof and ensuring compliance with its obligations hereunder, (B) any Confidential Information of the other Party contained in its laboratory notebooks or databases, (C) any computer records or files containing such Confidential Information that have been created solely by its automatic archiving and back-up procedures, to the extent created and retained in a manner consistent with its standard archiving and back-up procedures, but not for any other uses or purposes and (D) any Confidential Information of the other Party to the extent reasonably required to exercise its rights and perform its obligations under any outstanding License Agreements. Notwithstanding the foregoing, no exclusive license granted pursuant to Article 4, nor any related License Agreement, will be affected by any termination of this Agreement.

(b) If this Agreement is terminated on a Molecule-by-Molecule basis by Shattuck under Section 8.2(a) or (c), by the Parties’ mutual written agreement under Section 8.2(b) (unless the Parties otherwise provide in such written agreement), or by Millennium under Section 8.4, then, without limiting any other rights of the Parties hereunder:

(i) The license granted by Millennium under Section 6.2 will immediately terminate as to the Molecule which is the subject of the applicable Termination Notice or other notice of termination (the “Terminated Molecule”);

(ii) The Development Term for the Terminated Molecule will immediately terminate, and any unexercised option related to such Terminated Molecule (the DM Exclusive Option or SM Exclusive Option, as applicable) granted by Shattuck pursuant to Section 4.1(a) will immediately terminate (for clarity, if the Terminated Molecule is a Designated ARC Molecule, such Designated ARC Molecule will no longer be subject to the SM Exclusive Option); and
(iii) The Specified Confidential Information relating to the Terminated Molecule will be deemed the Confidential Information of Shattuck and each Party will promptly return or destroy all Confidential Information of the other Party solely related to such Terminated Molecule (the “Terminated Molecule CI”), provided that each Party may retain, subject to Article 7, (A) one (1) copy of the Terminated Molecule CI of the other Party in its archives solely for the purpose of establishing the contents thereof and ensuring compliance with its obligations hereunder, (B) any Terminated Molecule CI of the other Party contained in its laboratory notebooks or databases, and (C) any computer records or files containing such Terminated Molecule CI that have been created solely by its automatic archiving and back-up procedures, to the extent created and retained in a manner consistent with its standard archiving and back-up procedures, but not for any other uses or purposes.

(c) If this Agreement is terminated in its entirety by Millennium under Section 8.2(a) or (c), then, without limiting any other rights of the Parties hereunder:

(i) Shattuck will grant to Millennium a royalty-free, fully-paid-up, worldwide license, with the right to grant sublicenses, to and under the Shattuck IP and Other IP Controlled by Shattuck for the limited purpose of performing any and all activities associated with the conduct of the Development Program (which, for clarity, need not be conducted pursuant to the Development Plan) that would otherwise have been performed by Shattuck under this Agreement had it not been terminated, and such license will survive until the earlier of (A) the *** of the Effective Date or (B) the date on which Millennium has exercised its option to be granted an exclusive license to each of DMI, DM2, SM1 and SM2 (or affirmatively declined (in a written notice provided to Shattuck) to exercise such options). The foregoing license will be exclusive as to the Development Molecule IP, Selected Molecule IP and the ARC Technology IP (but in the case of the ARC Technology IP, it will be exclusive only with respect to the Target Pairs that are Targeted by the Molecules with respect to which Millennium is continuing Development, and it will otherwise be non-exclusive) and non-exclusive as to the Other IP.

(ii) If Millennium elects to continue Development of any Development Molecule, Selected Molecule, or Designated ARC Molecule, then Millennium’s right to exercise each DM Exclusive Option and SM Exclusive Option, as applicable, will, subject to the terms and conditions of Section 4.1 hereof, survive for each Molecule for which it elects to continue Development until the earlier of (A) *** following Millennium’s completion of all activities set forth in the Development Plan for such Molecule, or (B) the *** of the Effective Date; provided that if Millennium fails to use *** to Develop a Molecule during the period set forth above, then the applicable DM Exclusive Option or SM Exclusive Option, as applicable, and the license granted to Millennium in Section 8.5(c)(i) with respect to such Molecule, will terminate.
(iii) Shattuck will provide the Technical Transfer Materials to Millennium for the purpose of assisting Millennium to exercise its rights set forth in clauses (i) and (ii) of this Section 8.5(b).

(iv) During the period set forth in Section 8.5(c)(ii), Millennium will provide written updates to Shattuck [***] summarizing Millennium’s activities under the Development Plan for each Molecule for which it elects to continue Development.

(v) Millennium’s rights and Shattuck’s obligations under Section 4.2 will survive for the periods set forth therein.

(vi) Shattuck’s obligations under Section 2.9(a) will continue on a Molecule-by-Molecule basis until such time as Millennium is no longer continuing Development of such Molecule.

(vii) Shattuck will promptly return or destroy all Confidential Information of Millennium, provided that Shattuck may retain, subject to Article 7 hereof, (A) one (1) copy of the Confidential Information of Millennium in its archives for the purpose of establishing the contents thereof and ensuring compliance with its obligations hereunder, (B) any Confidential Information of Millennium contained in its Laboratory Notebooks or databases, (C) any computer records or files containing such Confidential Information that have been created solely by its automatic archiving and back-up procedures, to the extent created and maintained in a manner consistent with its standard archiving and back-up procedures, but not for any other uses or purposes, and (D) any Confidential Information of Millennium to the extent reasonably required to exercise its rights and perform its obligations under any exclusive license granted pursuant to Article 4 and any related License Agreement. Notwithstanding the foregoing and subject to Article 7 hereof, Millennium may retain and use Shattuck’s Confidential Information in connection with the exercise of its rights set forth in clauses (i), (ii), (iii), (iv), and (v) of this Section 8.5(b).

Notwithstanding the foregoing, no exclusive license granted pursuant to Article 4, nor any related License Agreement, will be affected by any termination of this Agreement.

8.6 Ongoing Obligations

Except where explicitly provided elsewhere within this Agreement, termination of this Agreement for any reason, or expiration of this Agreement, will not affect any undisputed payment obligations accruing hereunder prior to the date of termination. Notwithstanding anything herein to the contrary, the following provisions will survive termination or expiration of this Agreement: Article 1 (to the extent necessary to give effect to the other Sections listed in this Section 8.6), Section 2.9(a) (to the extent applicable by operation of Section 8.5(c)(vi)), Article 4 (to the extent applicable by operation of Section 8.5(b)), Sections 5.4, 5.5, 5.6, 5.7, 5.8, and 5.9 (in the case of Section 5.9, for a period of one (1) year following the termination date), Section 6.1, 6.2 (last sentence only), Article 7 (for the duration stated therein), Sections 8.5 and 8.6, Section 9.5, Article 10 (with respect to Section 10.3, for the term stated therein), and Sections 11.2, 11.4, 11.5, 11.7, 11.9, 11.10, 11.11, 11.12, 11.14 and 11.15.
ARTICLE 9
REPRESENTATIONS, WARRANTIES AND COVENANTS

9.1 Mutual Representation of Authority; Consents

(a) Each Party represents and warrants to the other that:

(i) it is duly incorporated and organized, validly existing and in good standing under the laws of its jurisdiction of incorporation;

(ii) it has full right, corporate power and authority to enter into this Agreement and to perform its obligations under this Agreement;

(iii) this Agreement has been duly executed and delivered by such Party and constitutes a legal, valid and binding obligation of such Party, enforceable in accordance with the terms hereof, subject to the effect of (A) applicable bankruptcy, insolvency, reorganization, moratorium or similar laws relating to the rights of creditors generally and (B) rules of law and equity governing specific performance, injunctive relief and other equitable remedies;

(iv) the execution, delivery and performance of this Agreement by such Party has been duly authorized by all necessary corporate action of such Party and does not and will not during the Term: (A) violate any Applicable Law; (B) conflict with or constitute a breach or default under any agreement, instrument or understanding, oral or written, to which it or any of its Affiliates is a party or by which it or such Affiliates may be bound; or (C) conflict with or violate such Party’s corporate charter or bylaws;

(v) no consents, approvals or authorizations under Applicable Law or from Third Parties (including Governmental Entities) are required to be obtained in connection with the execution, delivery and performance of this Agreement; and

(vi) each Party’s (and each Party’s Affiliates’) employees and consultants have assigned, or will assign, to such Party all of their right, title, and interest in any Intellectual Property arising from activities conducted under this Agreement.
9.2 Additional Representations and Warranties of the Parties

(a) Shattuck hereby represents and warrants to Millennium, as of the Effective Date and during the Term, that, except as disclosed to Millennium prior to the Effective Date in a writing specifically referring to this Section 9.2(a):

(i) Shattuck has the rights and authority to grant the rights and licenses as provided herein;

(ii) Shattuck owns or has an enforceable right to use, all Shattuck IP existing as of the Effective Date;

(iii) there is no pending or, to the knowledge of Shattuck, threatened Action that alleges that the Shattuck IP is invalid or unenforceable;

(iv) there is no pending or, to the knowledge of Shattuck, threatened Action that alleges that Shattuck has infringed or misappropriated any Intellectual Property rights of any Third Party;

(v) to the knowledge of Shattuck, there are no activities by Third Parties anywhere in the world that would constitute infringement of Patent Rights within the Shattuck IP;

(vi) to the knowledge of Shattuck, Shattuck has complied in all material respects with all Applicable Law with respect to the filing, Patent Prosecution and maintenance of those Patent Rights within the Shattuck IP as of the Effective Date and for which Shattuck has control of such filing, Patent Prosecution and maintenance;

(vii) the Heat License Agreement is valid and binding, in full force and effect and enforceable against Shattuck and the other parties thereto. Except as set forth in Disclosure Schedule 9.2(a)(vii), there is no material violation, breach or default under the Heat License Agreement by Shattuck, or, to Shattuck’s knowledge, by any other party thereto, and to the knowledge of Shattuck, no event has occurred or condition exists that with the lapse of time or the giving of notice or both would constitute a default in the performance or payment of the Heat License Agreement on the part of Shattuck or, to Shattuck’s knowledge, any other party thereto;

(viii) Shattuck has not employed or, to its knowledge, used a contractor or consultant that has employed, any individual or entity (A) debarred by the FDA (or subject to a similar sanction of any other applicable Regulatory Authority), (B) who is the subject of an FDA debarment investigation or proceeding (or similar proceeding of any other applicable Regulatory Authority), or (C) who has been charged or convicted under Applicable Law for conduct relating to the development or approval, or otherwise relating to the regulation, of any product under the Generic Drug Enforcement Act of 1992;
the Development of the ARC Platform which has been conducted by Shattuck and its Affiliates and its and their subcontractors has been conducted in compliance with Applicable Law. Neither Shattuck, nor any of its Affiliates, nor any of their respective officers, employees or agents, has made an untrue statement of material fact or fraudulent statement to any Regulatory Authority or failed to disclose a material fact required to be disclosed to any Regulatory Authority;  
Shattuck’s performance of its obligations and activities under the Development Plan will not, to the knowledge of Shattuck, misappropriate or infringe any Intellectual Property rights of any Third Party; and  
each current or former employee of Shattuck and each current or former independent contractor of Shattuck has executed a valid and binding written agreement expressly assigning to Shattuck all right, title and interest in any Know-How or Patent Rights developed by such Person in the performance of services for Shattuck.

Millennium hereby represents and warrants to Shattuck, as of the Effective Date and during the Term, that, except as disclosed to Shattuck prior to the Effective Date in a writing specifically referring to this Section 9.2(b):

(i) Millennium has the rights and authority to grant the rights and licenses as provided herein;
(ii) Millennium owns, or has an enforceable right to use, all Millennium Technology IP existing as of the Effective Date; and
(iii) to the knowledge of Millennium, there are no activities by Third Parties anywhere in the world that would constitute infringement of Millennium’s Patent Rights within the Millennium Technology IP.

9.3 Mutual Covenant
Each Party hereby covenants to the other Party that it will perform its obligations and exercise its rights hereunder in compliance in all material respects with applicable Laws.

9.4 Additional Covenants of Shattuck
Shattuck hereby covenants to Millennium that:

(a) it will perform its activities pursuant to the Development Plan in compliance [***] with Applicable Law (including the Applicable Law of the country and the state and local government wherein such activities are conducted), and, with respect to the care, handling and use in Development activities hereunder of any non-human animals by or on behalf of such Party, will at all times comply [***] (and will use [***] to require such compliance by any of its Permitted Subcontractors) with all Applicable Law;
(b) it will not employ (and [***] will not use any contractor or consultant that employs) any individual or entity (A) debarred by the FDA (or subject to a similar sanction of any other applicable Regulatory Authority), (B) who is the subject of an FDA debarment investigation or proceeding (or similar proceeding of any other applicable Regulatory Authority), or (C) who has been charged or convicted under U.S. Law for conduct relating to the development or approval, or otherwise relating to the regulation, of any product under the Generic Drug Enforcement Act of 1992, in each case, in the conduct of its activities under this Agreement; and

(c) Shattuck will use [***] to fulfill, and not to breach, its obligations under the Heat License Agreement, to the extent that to do so would materially and adversely affect Millennium or its rights hereunder.

9.5 Disclaimer of Warranty

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, EACH PARTY EXPRESSLY DISCLAIMS, WAIVES, RELEASES, AND RENOUNCES ANY WARRANTY, EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE, INCLUDING ANY WARRANTY OF MERCHANTABILITY, DURABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OR VALIDITY OF ANY PATENTS ISSUED OR PENDING, AND WARRANTIES ARISING FROM USAGE OF TRADE OR COURSE OF DEALING, RELATING TO ANY MOLECULE, DATA, RESULTS, OR OTHER MATERIALS OR INFORMATION, OR ANY SERVICE PROVIDED BY EITHER PARTY TO THE OTHER HEREUNDER.

ARTICLE 10
INDEMNIFICATION

10.1 Indemnity by Millennium

Millennium agrees to defend Shattuck and its and its Affiliates’, directors, officers, employees and agents (collectively, the “Shattuck Indemnified Parties”), at Millennium’s cost and expense, and will indemnify and hold the Shattuck Indemnified Parties harmless from and against any liabilities, losses, costs, damages, fees or expenses (including reasonable legal fees and disbursements) (collectively, “Losses”) arising out of any and all suits, proceedings, claims or demands of Third Parties (collectively, “Third Party Claims”), to the extent arising out of or relating to, directly or indirectly:

(a) any breach by Millennium of any of its representations, warranties, covenants or obligations set forth in this Agreement; or

(b) the negligence, recklessness, or willful misconduct of Millennium, or any of its or its Affiliates’, directors, officers, employees or agents.

except in any case under clauses (a) and (b) to the extent that Shattuck is obligated to provide indemnification for such Losses pursuant to Section 10.2.
In the event of any Third Party Claim against the Shattuck Indemnified Parties, Shattuck will promptly notify Millennium in writing of the claim (it being understood and agreed that the failure by Shattuck to give such notice will not relieve Millennium of its indemnification obligations under this Agreement except and only to the extent that Millennium is actually prejudiced as a result of the failure to give notice), and Millennium will manage and control, at its sole expense, the defense of the claim and its settlement, keeping Shattuck reasonably advised of the status of the defense and/or settlement. No settlement will be finalized without obtaining Shattuck’s prior written consent, which will not be unreasonably withheld, except that, in the case of a settlement that does not require an admission or impose any obligation on the part of a Shattuck Indemnified Party or otherwise have an adverse effect on rights or interests of a Shattuck Indemnified Party, Shattuck’s consent will not be required so long all Shattuck Indemnified Parties involved in the claim are unconditionally released from all liability in such settlement. The Shattuck Indemnified Parties will reasonably cooperate with Millennium and may, at their option and expense, be represented by their own separate counsel in any such action or proceeding; provided that if representation of the Shattuck Indemnified Parties by the counsel retained by Millennium would be inappropriate due to actual or potential conflict of interests between the Shattuck Indemnified Parties and Millennium, the Shattuck Indemnified Parties will have the right to retain their own counsel with the fees and expenses of such counsel to be paid by Millennium; provided further that Millennium will not be obligated to pay the fees and expenses of more than one (1) counsel retained by all Shattuck Indemnified Parties. Millennium will not otherwise be liable for any litigation costs or expenses incurred by the Shattuck Indemnified Parties without Millennium’s prior written authorization, unless Millennium is in breach of any of its obligations pursuant to this Section 10.1. In connection with the defense of a Third Party Claim, the Shattuck Indemnified Parties will reasonably cooperate with Millennium at Millennium’s reasonable request and expense and will make available to Millennium all pertinent information under the control of the Shattuck Indemnified Parties, which information will be subject to Article 7.

10.2 Indemnity by Shattuck

Shattuck agrees to defend Millennium and its Affiliates’, directors, officers, employees and agents (collectively, the “Millennium Indemnified Parties”) at Shattuck’s cost and expense, and will indemnify and hold the Millennium Indemnified Parties harmless from and against any Losses arising out of any Third Party Claims to the extent arising out of or relating to, directly or indirectly:

(a) any breach by Shattuck of any of its representations, warranties, covenants, or obligations set forth in this Agreement;

(b) the negligence, recklessness or willful misconduct of Shattuck, or any of its or its Affiliates’, directors, officers, employees or agents;

(c) the conduct of the Development Program or any other activities under this Agreement by Shattuck or any of its Affiliates or agents; or

(d) [***].
except in any case under clauses (a) through (d) to the extent that Millennium is obligated to provide indemnification for such Losses pursuant to Section 10.1.

In the event of any Third Party Claim against the Millennium Indemnified Parties, Millennium will promptly notify Shattuck in writing of the claim (it being understood and agreed that the failure by Millennium to give such notice will not relieve Shattuck of its indemnification obligations under this Agreement except and only to the extent that Shattuck is actually prejudiced as a result of the failure to give notice), and Shattuck will manage and control, at its sole expense, the defense of the claim and its settlement, keeping Millennium reasonably advised of the status of the defense and/or settlement. No settlement will be finalized without obtaining Millennium’s prior written consent, which will not be unreasonably withheld, except that in the case of a settlement that does not require an admission or impose any obligation on the part of a Millennium Indemnified Party or otherwise have an adverse effect on rights or interests of a Millennium Indemnified Party, Millennium’s consent will not be required so long all Millennium Indemnified Parties involved in the claim are unconditionally released from all liability in such settlement. The Millennium Indemnified Parties will reasonably cooperate with Shattuck and may, at their option and expense, be represented by their own separate counsel in any such action or proceeding; provided that if representation of the Millennium Indemnified Parties by the counsel retained by Shattuck would be inappropriate due to actual or potential conflict of interests between the Millennium Indemnified Parties and Shattuck, the Millennium Indemnified Parties will have the right to retain their own counsel with the fees and expenses of such counsel to be paid by Shattuck; provided further that Shattuck will not be obligated to pay the fees and expenses of more than one (1) counsel retained by all Millennium Indemnified Parties. Shattuck will not otherwise be liable for any litigation costs or expenses incurred by the Millennium Indemnified Parties without Shattuck’s prior written authorization, unless Shattuck is in breach of any of its obligations pursuant to this Section 10.2. In connection with the defense of a Third Party Claim, the Millennium Indemnified Parties will reasonably cooperate with Shattuck at Shattuck’s reasonable request and expense and will make available to Shattuck all pertinent information under the control of the Millennium Indemnified Parties, which information will be subject to Article 7.

10.3 Insurance

During the Term and thereafter for the period of time required below, each Party will maintain on an ongoing basis comprehensive general liability insurance in the minimum amount of $[***] per occurrence and $[***] annual aggregate combined single limit for bodily injury and property damage liability and any other insurance required by Applicable Law. All of such insurance coverage may be maintained through a self-insurance plan that substantially complies with the foregoing limits and requirements. Thereafter, each Party will maintain such insurance coverage without interruption during the Term and for a period of at least [***] thereafter. Each Party will [***] to provide the other Party at least [***] prior written notice of any cancellation to or material change in its insurance coverage below the amounts and types described above. Each such insurance policy will contain a waiver of subrogation by the insurer or self-insurer, as applicable, against Shattuck or Millennium, as the case may be.
10.4 Limitation of Liability

EXCEPT FOR FRAUD, GROSS NEGLIGENCE OR INTENTIONAL MISCONDUCT, AND EITHER PARTY’S BREACH OF ARTICLE 7
HEREOF, IN NO EVENT WILL EITHER PARTY (OR ANY OF ITS AFFILIATES) BE LIABLE TO THE OTHER PARTY OR ANY OF ITS
AFFILIATES FOR ANY CONSEQUENTIAL, INCIDENTAL, INDIRECT, SPECIAL, PUNITIVE, AGGRAVATED OR EXEMPLARY DAMAGES
(INCLUDING LOST PROFITS, BUSINESS OR GOODWILL) SUFFERED OR INCURRED BY SUCH OTHER PARTY OR ITS AFFILIATES,
WHETHER BASED UPON A CLAIM OR CAUSE OF ACTION OF CONTRACT, WARRANTY, NEGLIGENCE, STRICT LIABILITY OR OTHER
TORT, OR OTHERWISE, ARISING OUT OF THIS AGREEMENT. THE FOREGOING SENTENCE WILL NOT LIMIT THE OBLIGATIONS OF
EITHER PARTY TO INDEMNIFY AN INDEMNIFIED PARTY FROM AND AGAINST THIRD PARTY CLAIMS UNDER THIS ARTICLE 10.

For the avoidance of doubt, a Party’s monetary liability under a Third Party Claim for such Third Party’s consequential, incidental, indirect, special, punitive, aggravated or exemplary damages payable to such Third Party in connection with such Third Party Claim will be deemed to be the direct damages of such Party for purposes of this Section 10.4.

ARTICLE 11
GENERAL

11.1 Assignment and Change of Control

This Agreement will not be assignable or otherwise transferred, nor may any rights or obligations hereunder be assigned or transferred, by either Party to any Third Party without the prior written consent of the other Party; except that either Party may assign or otherwise transfer this Agreement without the consent of the other Party to (a) any of its Affiliates, provided that the assigning Party notifies the other Party in writing within [***] after such assignment and the assignee agrees in writing to assume responsibility for and be bound by all of the terms of this Agreement in addition to the assigning Party (which will continue to be bound by such terms); or (b) to a Person that acquires all or substantially all of the business or assets of the assigning Party relating to the subject matter of this Agreement, whether by merger, acquisition or otherwise (a “Change of Control Event”), provided that the acquiring Person agrees in writing to assume responsibility for and to be bound by all of the terms of this Agreement, and provided further that if Shattuck undergoes a Change of Control Event, it will provide written notice of such Change of Control Event to Millennium no less than [***] prior to Shattuck signing a definitive agreement for a Change of Control Event. If Millennium undergoes a Change of Control Event, Millennium or its successor or permitted assignee (as applicable) will provide written notice to Shattuck within [***] following such Change of Control Event. [***].

11.2 Governing Law

This Agreement and all questions regarding the existence, validity, interpretation, breach or performance of this Agreement, will be governed by, and construed in accordance with, the laws of the State of New York, U.S., without reference to its conflicts of law principles.
11.3 Referral of Disputes to Senior Executives

The Parties will attempt initially to resolve any dispute, claim or controversy arising under, out of or in connection with this Agreement (a “Dispute”) by conducting [***] negotiations. Any Dispute which cannot be resolved by [***] negotiation will be referred, by written notice from either Party to the other, to the Senior Executives of the Parties. Such Senior Executives will endeavor to resolve such Dispute through [***] discussions for a period of [***] following such written notice.

11.4 Jurisdiction and Venue

Each Party (a) irrevocably consents to the exclusive jurisdiction and venue in any federal court of the U.S. located in the Southern District of New York, or, if any such court of the U.S. located in the Southern District of New York declines to accept jurisdiction over a particular matter, any state court located in New York, NY) in connection with any matter based upon or arising out of this Agreement or the transactions contemplated hereby, (b) agrees that process may be served upon such Party in the manner set forth in Section 11.7, and that service in such manner will constitute valid and sufficient service of process and (c) agrees not to commence any legal proceedings relating to or arising out of this Agreement or the transactions contemplated hereby in any jurisdiction or courts other than as provided herein. Each Party waives and covenants not to assert or plead any objection that such Party might otherwise have to such jurisdiction, venue or process.

11.5 Interim Relief

Notwithstanding anything in Section 11.3 to the contrary, each Party will have the right to apply at any time to any court of competent jurisdiction for a temporary restraining order, preliminary injunction or other similar interim or conservatory relief, as necessary to protect the rights or property of such Party.

11.6 Business Day

In the event that an obligation to be performed under this Agreement falls due on a day that is not a Business Day, the obligation will be deemed due on the next Business Day thereafter.

11.7 Notices

Notices, invoices, communications, and payments hereunder will be deemed made and given [***] after sending if sent by registered or certified envelope, postage prepaid, and [***] after sending if sent by courier or by facsimile transmission, and addressed to the Party to receive such notice, invoice, or communication at the address given below, or such other address as may hereafter be designated by notice in writing by one Party to the other Party from time to time:

To Shattuck: Shattuck Labs, Inc.
3317 Bowman Avenue
Austin, Texas 78703
Attention: CEO
To Millennium:  
Millennium Pharmaceuticals, Inc.  
40 Landsdowne Street  
Cambridge, MA 02139  
Attention: Office of the General Counsel

11.8 Force Majeure

No failure or omission by either Party in the performance of any obligation of this Agreement will be deemed a breach of this Agreement or create any liability if the same arises from any cause or causes beyond the reasonable control of such Party, including the following: acts of God, fire, storm, flood, earthquake, acts of war, rebellion, insurrection, riot, terrorism and civil unrest; provided that the affected Party promptly notifies the other Party in writing and further provided that the affected Party will [***] (as applicable) to avoid or remove such causes of non-performance and to mitigate the effect of such occurrence, and will continue performance with the utmost dispatch whenever such causes are removed.

11.9 Independent Contractors

It is understood and agreed that the relationship between the Parties is that of independent contractors and that nothing in this Agreement will be construed as authorization for either Shattuck or Millennium to act as agent for the other.

11.10 No Strict Construction

This Agreement has been prepared jointly and will not be strictly construed against either Party.

11.11 No Implied Waivers; Rights Cumulative

No failure on the part of Shattuck or Millennium to exercise, and no delay in exercising, any right, power, remedy or privilege under this Agreement, or provided by statute or at law or in equity or otherwise, will impair, prejudice or constitute a waiver of any such right, power, remedy or privilege or be construed as a waiver of any breach of this Agreement or as an acquiescence therein, nor will any single or partial exercise of any such right, power, remedy or privilege preclude any other or further exercise thereof or the exercise of any other right, power, remedy or privilege.

11.12 Severability

If any one or more of the provisions of this Agreement is held to be invalid or unenforceable, the provision will be considered severed from this Agreement and will not serve to invalidate any remaining provisions hereof, unless the invalid or unenforceable provision is of such essential importance to this Agreement that it is to be reasonably assumed that the Parties would not have entered into this Agreement without the invalid or unenforceable provision. The Parties will make a [***] effort to replace any invalid or unenforceable provision with a valid and enforceable one such that the objectives contemplated by the Parties when entering this Agreement may be realized.

53
11.13 Execution in Counterparts
This Agreement may be executed in counterparts, each of which counterparts, when so executed and delivered, will be deemed to be an original, and all of which counterparts, taken together, will constitute one and the same instrument. For purposes of execution, a copy of this Agreement or any amendment hereto will be deemed an original (including a printed copy of a PDF file delivered via email or a facsimile transmitted telephonically via a fax machine).

11.14 No Third Party Beneficiaries or Obligors
Except as set forth in Article 10, no Person other than Millennium, Shattuck and their respective Affiliates, permitted successors and assigns hereunder will be deemed an intended beneficiary hereunder, nor have any right to enforce any obligation of any Party to this Agreement, nor will any Person other than Millennium and Shattuck and their respective Affiliates, permitted successors and assigns have any obligations to any Party under this Agreement.

11.15 Entire Agreement
This Agreement and each Ancillary Agreement (if any) constitute the entire agreement of the Parties with respect to the matters referred to herein and supersede and merge all prior and contemporaneous negotiations, representations and understandings regarding the same.

11.16 Amendment
This Agreement, including the Schedules, may only be amended by a written document duly executed by authorized signatories of each of the Parties.

11.17 Compliance
The Parties will comply fully with all Applicable Law in connection with their respective activities under this Agreement.

[Remainder of Page Intentionally Left Blank.]
IN WITNESS WHEREOF, the Parties have executed this Agreement as of the Effective Date.

SHATTUCK LABS, INC.

By: /s/ Josiah Hornblower
Name: Josiah C Hornblower
Title: CEO

MILLENIUM PHARMACEUTICALS, INC.

By: /s/ Christophe Bianchi
Name: Christophe Bianchi
Title: President

[Signature Page to Collaboration Agreement]
AMENDMENT NO. 1 TO COLLABORATION AGREEMENT

THIS AMENDMENT NO. 1 TO COLLABORATION AGREEMENT (this “Amendment”), is effective this 25th day of April, 2018 (“Amendment Effective Date”), by and between Millennium Pharmaceuticals, Inc., a Delaware corporation having its principal place of business at 40 Landsdowne Street, Cambridge, MA 02139 (“Millennium”), and Shattuck Labs, Inc., a Delaware corporation having its principal place of business at 3317 Bowman Avenue, Austin, TX 78703 (“Shattuck”). Millennium and Shattuck are each sometimes referred to in this Amendment as a “Party” and collectively as the “Parties.”

Background

WHEREAS, the Parties entered into that certain Collaboration Agreement, effective as of August 8, 2017 (the “Agreement”); and

WHEREAS, the Parties desire to amend the Agreement as set forth herein.

NOW, THEREFORE, for and in consideration of the foregoing and the respective covenants and agreements set forth below, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

1. Definitions and Cross References. Unless otherwise specified herein, each capitalized term shall have the meaning assigned to it in the Agreement and each reference to a Section or Article shall refer to the corresponding Section or Article in the Agreement.

2. Amendments.

2.1 Section 1.1 Additions. Section 1.1 of the Agreement is hereby amended by adding the following definitions thereto, in the appropriate alphabetical location:

- “Additional Option Fee” has the meaning set out in Section 5.1(d).
- “Amendment No. 1 Effective Date” means the effective date of Amendment No. 1 to this Agreement.
- “Combination” means one or more compositions, formulations, or articles of manufacture that collectively contain at least (a) a Molecule and (b) an additional therapeutic agent. For clarity, the composition(s), formulation(s), or article(s) of manufacture that contain the Combination may be used concurrently or consecutively. For further clarity, in a Combination comprising two or more Molecules, a Molecule may be an additional therapeutic agent.
“Combination IP” means all Know-How and Patent Rights: (a) developed by or on behalf of either Party during the Term pursuant to the Development Plan, (b) developed by or on behalf of Shattuck in the course of conducting Development activities arising from access to one or more Millennium Molecules, (c) that comes under Shattuck’s or its Affiliates’ Control during the Term and is solely related to a Molecule, or (d) developed by or on behalf of Millennium during the Term as a direct result of Millennium’s access to one or more Molecules, in the case of (a)-(d) only to the extent such Know-How or Patent Rights Covers a Combination, including compositions of matter, methods of making, methods of using, methods of manufacture, methods of selling and Exploiting a Combination. For clarity, a Patent Right may describe or claim ARC Technology IP, Development Molecule IP, Selected Molecule IP and Combination IP, and the determination of what constitutes ARC Technology IP, Development Molecule IP, Selected Molecule IP or Combination IP (including Millennium Combination IP or other Combination IP) will be made on a claim-by-claim basis.

“Millennium Molecule” means a proprietary molecule Controlled by Millennium or its Affiliates which is identified as a “Millennium Molecule” pursuant to this paragraph. For each proprietary molecule Controlled by Millennium or its Affiliates that Millennium would like to evaluate in combination with a Molecule, Millennium will provide prior written notice to Shattuck of the proposed evaluation, along with a description of such proprietary molecule, and the Parties will work together to mutually agree in writing (A) if such evaluation should be conducted and how it will be conducted, and (B) the definition and description of the proposed Millennium Molecule, which will be based, in part, on Patent Rights Controlled by Millennium or its Affiliates with respect to such proprietary molecule. For clarity, such definition and description may include.

“Millennium Combination IP” means Combination IP where the additional therapeutic agent is specifically a Millennium Molecule. For the avoidance of doubt, Combination IP that Covers a class or genus of molecules which may include a Millennium Molecule will not necessarily be considered Millennium Combination IP simply by virtue of inclusion of the Millennium Molecule within the class or genus.

Section 1.1 Deletions. Section 1.1 of the Agreement is hereby further amended by deleting the following definitions therefrom: “AAA,” “Arbitrators’ Decision,” “Exercise Period,” “Fair Market Value,” “Option Fee Negotiation Period” and “Option Notice.”

Section 1.1 Amendments. Section 1.1 of the Agreement is hereby further amended by amending the following definitions:

• “ARC Technology IP” – the definition of “ARC Technology IP” is hereby amended by deleting the existing definition in its entirety and replacing it with: “means all Know-How and Patent Rights (a) Controlled by Shattuck or its Affiliates prior to the Effective Date, (b) that comes under Shattuck’s Control at any time during the Term, or (c) that are developed by or on behalf of either Party or its Affiliates as a result of such Party’s activities.
under this Agreement or as a result of such Party's access to Shattuck Confidential Information; each of (a) – (c), to the extent such Know-How or Patent Rights (i) Cover the ARC Platform, which includes, for clarity, processes for making ARC Molecules; analytical methods for [***], and (ii) are not Development Molecule IP, Selected Molecule IP or Combination IP. For clarity, a Patent Right may describe or claim ARC Technology IP, Development Molecule IP, Selected Molecule IP and Combination IP, and the determination of what constitutes ARC Technology IP, Development Molecule IP, Selected Molecule IP or Combination IP will be made on a claim-by-claim basis.”

• “Confidential Information” – the definition of “Confidential Information” is hereby amended by deleting the following parentheticals therefrom: “(or, if applicable, until the end of the Exercise Period)” (lines 19-20) and “(or, if applicable, the Exercise Period))” (line 23).

• “Development Molecule IP” – the definition of “Development Molecule IP” is hereby amended by deleting the existing definition in its entirety and replacing it with: “means all Know-How and Patent Rights (a) Controlled by Shattuck prior to the Effective Date, (b) that come under Shattuck’s Control at any time during the Term, or (c) developed by either Party or its Affiliates during the Term as a result of such Party’s activities under this Agreement or as a result of such Party’s access to Shattuck’s Confidential Information; in each case that solely Cover a Development Molecule, including compositions of matter, methods of making, methods of using and methods of manufacture that solely relate to or solely Cover a Development Molecule. For clarity, a Patent Right may describe or claim ARC Technology IP, Development Molecule IP, Selected Molecule IP and Combination IP, and the determination of what constitutes ARC Technology IP, Selected Molecule IP, Development Molecule IP or Combination IP will be made on a claim-by-claim basis. For clarity, Development Molecule IP excludes Combination IP.”

• “Exercise Notice” – the definition of “Exercise Notice” is hereby amended by deleting the reference therein to “Section 4.1(d)” and replacing it with a reference to “Section 4.1(b).”

• “License Effective Date” – the definition of “License Effective Date” is hereby amended by deleting the reference therein to “Section 4.1(e)” and replacing it with a reference to “Section 4.1(d).”

• “License Fee” – the definition of “License Fee” is hereby amended by deleting the reference therein to “Section 4.1(c)(i)” and replacing it with a reference to “Section 4.1(c).”

• “Millennium Technology IP” – the definition of “Millennium Technology IP” is hereby amended by adding the following sentence at the end thereof: “For clarity, Millennium Technology IP excludes Combination IP.”
• “Selected Molecule IP” – the definition of “Selected Molecule IP” is hereby amended by deleting the existing definition in its entirety and replacing it with: “means all Know-How and Patent Rights (a) Controlled by Shattuck or its Affiliates prior to the Effective Date, (b) that comes under Shattuck’s or its Affiliates’ Control at any time during the Term, or (c) developed by either Party or its Affiliates during the Term as a result of such Party’s activities under this Agreement or as a result of such Party’s access to Shattuck’s Confidential Information; in each case that solely Covers a Selected Molecule or a Designated ARC Molecule, including compositions of matter, methods of making, methods of using and methods of manufacture that solely relate to or solely Cover a Selected Molecule or a Designated ARC Molecule. For clarity, (i) a Patent Right may describe or claim ARC Technology IP, Development Molecule IP, Selected Molecule IP and Combination IP, and the determination of what constitutes ARC Technology IP, Development Molecule IP, Selected Molecule IP or Combination IP will be made on a claim-by-claim basis, and (ii) Selected Molecule IP will not include any Know-How or Patent Rights that solely relate to or solely Cover a Former SM2 Molecule. For clarity, Selected Molecule IP excludes Combination IP.”

• “Specified Confidential Information” – the definition of “Specified Confidential Information” is hereby amended by deleting the existing definition in its entirety and replacing it with “means, on a Molecule-by-Molecule basis, all non-public data, results or other Know-How solely related to such Molecule and that constitute Development Molecule IP, Selected Molecule IP or Combination IP, generated prior to the Effective Date or pursuant to the activities conducted under the Development Plan.”

2.4 Section 2.9. Section 2.9 of the Agreement is hereby amended by deleting the first sentence of the second paragraph of Section 2.9 in its entirety and replacing it with the following:

“For clarity, Shattuck may conduct Development, Commercialization or other Exploitation activities with respect to a compound, molecule or product (A) that Targets any Target Pairs that are different from the Target Pairs that are Targeted by any Molecule; (B) that Targets the same Target Pairs that are Targeted by a Molecule after expiration of the Development Term for such Molecule, provided, that Millennium has not delivered an Exercise Notice with respect to such Molecule; or (C) that Targets the same Target Pairs that are Targeted by any Former SM2 Molecule.”

2.5 Section 4.1. Section 4.1 of the Agreement is hereby deleted in its entirety and replaced with the following:
4.1 Exclusive Option to Enter Licenses

(a) In exchange for the corresponding DM Option Fees and applicable portion of the Additional Option Fee set forth in Section 5.1, on a Development Molecule-by-Development Molecule basis, Millennium will have the exclusive option (the “DM Exclusive Option”), exercisable in its sole discretion, to be granted an exclusive license to each Development Molecule, including Combinations that include Development Molecules, as set forth in Schedule C (the “DM Exclusive License”) in accordance with the procedures set forth in this Section 4.1. In exchange for the corresponding SM Option Fees and applicable portion of the Additional Option Fee set forth in Section 5.1, on a Selected Molecule-by-Selected Molecule basis, Millennium will have the exclusive option (the “SM Exclusive Option”), exercisable in its sole discretion, to be granted an exclusive license to each Selected Molecule, including Combinations that include Selected Molecules, as set forth in Schedule F (the “SM Exclusive License”) in accordance with the procedures set forth in this Section 4.1.

(b) In the event that Millennium desires to exercise the DM Exclusive Option or the SM Exclusive Option, as applicable, Millennium will provide written notice to Shattuck that it is exercising the applicable option, in each case at any time after the Effective Date and prior to the end of the Development Term for the applicable Molecule. Such written notice will specify the Development Molecule or Selected Molecule as to which Millennium is exercising the DM Exclusive Option or SM Exclusive Option, as applicable (each, an “Exercise Notice”). For clarity, on a Molecule-by-Molecule basis, the term of Millennium’s DM Exclusive Option (the “DM Option Term”) or SM Exclusive Option (the “SM Option Term”), as applicable, is co-extensive with the Development Term for such Molecule. If Millennium does not deliver an Exercise Notice in accordance with this Section 4.1(b) prior to the expiration of the DM Option Term for each Development Molecule, or the SM Option Term for each Selected Molecule, Millennium’s DM Exclusive Option or SM Exclusive Option, as applicable, will expire for the applicable Molecule, and Millennium will have no further rights or obligations under this Agreement with respect to the applicable Molecule (including (i) no further funding obligations and (ii) no right to exercise the DM Exclusive Option or SM Exclusive Option, as applicable, with respect to such Molecule). The Parties’ expectation is that no DM Option Term or SM Option Term will extend past the [***] of the Effective Date; provided that, for clarity, this sentence will not (y) limit the duration of any DM Option Term or SM Option Term in the event that such DM Option Term or SM Option, as applicable, extends past the [***] of the Effective Date in accordance with the terms of this Agreement or (z) otherwise limit the rights of the Parties hereunder.

(c) The amount of the upfront fee (the “License Fee”) to be paid by Millennium for the exclusive license to the applicable Molecule will be as follows:

- DM1 – [***]
- DM2 – [***]
- SM1 – [***]
- SM2 – [***]
(d) In the event Millennium delivers an Exercise Notice to Shattuck within the applicable Option Term, Shattuck will deliver to Millennium, within [***] following its receipt of the Exercise Notice, a DM License Agreement or SM License Agreement, as applicable, executed on behalf of Shattuck in which Shattuck has inserted (i) the name of the applicable Molecule, (ii) the Licensed Target Pair (as defined therein) and (iii) the effective date of the DM License Agreement or SM License Agreement (which effective date will be the date of receipt by Shattuck of the applicable Exercise Notice (the "License Effective Date")), as applicable, and (iv) the amount of the License Fee for such exclusive license. Within [***] following its receipt of the DM License Agreement or SM License Agreement, as applicable, from Shattuck, Millennium will return to Shattuck such License Agreement executed on behalf of Millennium. Neither Shattuck nor Millennium will make any changes to the form of DM License Agreement attached hereto as Schedule C or SM License Agreement attached hereto as Schedule F, as applicable, except (A) as provided in the foregoing sentence, (B) as otherwise agreed in writing by the Parties, and (C) upon mutual agreement, the Parties may update schedules and exhibits, as necessary, and either Party may update disclosure schedules related to the representations, warranties, and covenants made by such Party in the applicable License Agreement. For the avoidance of doubt, in the event of any failure by Shattuck or Millennium to deliver a copy of the applicable DM License Agreement or SM License Agreement as described above, the non-executing Party will be deemed to have granted to the executing Party the rights with respect to the applicable Molecule consistent with the terms of the DM License Agreement or SM License Agreement, as applicable, as of the License Effective Date without any further action by the non-executing Party. Each Party will use its [***] to cause each DM License Agreement or SM License Agreement to be executed by such Party as promptly as practicable following the applicable License Effective Date.

(e) For the avoidance of doubt, Millennium will have no obligation to exercise its exclusive option to be granted an exclusive license to any Molecule, to enter into a DM License Agreement or SM License Agreement with respect to such Molecule, or to pay any License Fee unless and until Millennium delivers to Shattuck an Exercise Notice with respect to such Molecule in accordance with Section 4.1(b).”

2.6 Section 5.1(d). Section 5.1 of the Agreement is hereby amended by adding the following subsection (d) thereto:

“(d) Additional Option Fee. Millennium shall make the following additional payments to Shattuck, in each case within [***] following the Amendment No. 1 Effective Date:

(i) [***] as further consideration for the exclusive option to obtain an exclusive license to DM1;

(ii) [***] as further consideration for the exclusive option to obtain an exclusive license to DM2;
(iii) [***] as further consideration for the exclusive option to obtain an exclusive license to SM1;
(iv) [***] as further consideration for the exclusive option to obtain an exclusive license to [***];
(v) [***] as further consideration for the exclusive option to obtain an exclusive license to [***]; and
(vi) [***] as further consideration for the exclusive option to obtain an exclusive license to [***].

The payments described in Section 5.1(d)(i)-(vi) are collectively referred to as the “Additional Option Fee.”

2.7 Section 6.1(b)(i), (iii) and (iv). Section 6.1(b) of the Agreement is hereby amended by deleting subsection (i) therefrom and replacing it with subsection (i) below and deleting subsections (iii) and (iv) therefrom and replacing them with subsections (iii), (iv) and (v) below:

“(i) as between the Parties, Shattuck will own and retain all right, title and interest in and to any and all (A) ARC Technology IP, (B) Development Molecule IP, (C) Selected Molecule IP and (D) Combination IP other than Millennium Combination IP (such Intellectual Property is collectively referred to as “Shattuck IP”), in each case that are developed by or on behalf of either Party or their respective Affiliates in the course of performing their obligations under this Agreement (including under the Development Plan);

(iii) Millennium Combination IP will be jointly owned by Shattuck and Millennium;

(iv) for any other Intellectual Property that is not Combination IP, Millennium Technology IP or Shattuck IP, that is developed by either Party or their respective Affiliates in the course of performing their obligations under this Agreement (including under the Development Plan) (“Other IP”), ownership will follow inventorship; and

(v) Millennium will promptly disclose to Shattuck in writing the development, making, conception or reduction to practice of any Shattuck IP, Combination IP or Other IP. Shattuck will promptly disclose to Millennium in writing the development, making, conception or reduction to practice of any Millennium Technology IP, Combination IP or Other IP. The Parties will cooperate with each other to effectuate ownership of any such Intellectual Property as set forth in this Agreement, including executing such papers and instruments, requiring employees or others to execute such papers or instruments, and recording such papers or instruments, to effectuate the ownership of such Patent Rights, and to enable the Patent Prosecution thereof in any country or region. Millennium agrees to assign, and hereby assigns, to Shattuck all Shattuck IP that is conceived or reduced
to practice by Millennium or its Affiliates during the Term. Shattuck agrees to assign, and hereby assigns, to Millennium all Millennium Technology IP that is conceived or reduced to practice by Shattuck or its Affiliates during the Term.”

2.8 **Section 6.2.** Section 6.2 of the Agreement is hereby amended by deleting the first sentence thereof in its entirety and replacing with the following:

“Millennium hereby grants to Shattuck and its Affiliates a non-exclusive, royalty-free, fully paid-up, worldwide license, with the right to sublicense, to and under the Millennium Technology IP and Millennium’s interest in Millennium Combination IP for the limited purpose of allowing Shattuck and its Affiliates to conduct Development activities pursuant to this Agreement and the Development Plan.”

2.9 **Section 6.3.** Subsections (a) – (e) of Section 6.3 of the Agreement are hereby deleted in their entirety and replaced with the following:

“(a) During the Term, Shattuck will have the right and final authority, but not the obligation, to prepare, file, prosecute, maintain and control Patent Rights covering Shattuck IP, with patent counsel of its choice and at Shattuck’s sole cost, including initiating interferences, re-examinations, reissues, oppositions, revocation actions and the like, and gaining patent term adjustments or restorations, supplemental protection certificates or their equivalents, and patent term extensions with respect thereto (“Patent Prosecution”); provided, however, that with respect to Development Molecule IP, Selected Molecule IP and Combination IP (including Millennium Combination IP only where, following Section 6.3(c), the Parties have agreed that Shattuck will control prosecution of Millennium Combination IP), Shattuck will retain outside counsel that is acceptable to Millennium.

(b) Shattuck will keep Millennium informed, through the JPC, of all material matters with regard to the Patent Prosecution of the Patent Rights within the Development Molecule IP, Selected Molecule IP and Combination IP, as applicable, including by [***] to provide Millennium with prior written notice a reasonable time prior to taking or failing to take any action that would affect the scope or validity of any such filing (including the substantial narrowing, cancellation or abandonment of any claim(s) without retaining the right to pursue such subject matter in a separate application, or the failure to file or perfect the filing of any claim(s) in any country for which the JPC has recommended pursuing patent protection for such claim), so that Millennium has a reasonable opportunity to review and comment. Shattuck will consider any comments received from Millennium [***].

(c) Unless the Parties otherwise agree in writing, on a Molecule-by-Molecule basis, prior to exercise by Millennium of the DM Exclusive Option or SM Exclusive Option, as applicable, for the Molecule pursuant to Section 4.1, the Parties will not prepare, file, or prosecute Patent Rights Covering any Millennium Combination IP.
Within [***] following the Effective Date, the Parties will establish a Joint Patent Committee ("Joint Patent Committee" or "JPC") which will be responsible for keeping each Party reasonably informed of all inventions arising under the Development Program, sharing material information and coordinating strategy for the Patent Prosecution of Patent Rights of ARC Technology IP, Development Molecule IP, Selected Molecule IP and Combination IP.

(i) The JPC will be comprised of an [***] of representatives of each Party, with each Party having at least [***] on the JPC at all times. JPC members will have expertise appropriate for the function and purpose of the JPC. Each Party may replace its representative(s) on the JPC from time to time in its discretion with prior written notice to the other Party. Shattuck will select one of the Shattuck representatives of the JPC to be responsible for coordinating meetings of the JPC and preparing an agenda for each meeting (the "JPC Chair").

(ii) The JPC will have no decision-making authority. It will serve only as a forum for the Parties to discuss and collaborate with respect to Patent Prosecution matters applicable to the Development Molecules, Selected Molecules and Combinations, including: overseeing and coordinating the activities of the mutually acceptable outside counsel; facilitating the Parties’ discussions regarding which claims of the Shattuck IP existing as of the Effective Date fall within the ARC Technology IP, which claims fall within the Development Molecule IP which claims fall within the Selected Molecule IP, which claims fall within the Combination IP (including Millennium Combination IP) (and keeping a written record of such discussions) and filing continuations and/or divisional applications as necessary to segregate the claims into separate Patent Rights Covering each category, to the extent possible; discussing new patent filing strategy, and claims strategy with the goal of continuing to segregate Patent Rights Covering Development Molecule IP, Selected Molecule IP, Combination IP and ARC Technology IP, respectively, to the extent possible; and coordinating with each other to reasonably avoid creating potential issues in Patent Prosecution of patent applications. The JPC will be dissolved upon expiration of the Development Period (and in the event the Parties enter into a DM License Agreement and/or SM License Agreement, the relevant functions of the JPC will be conducted by the joint patent committee created pursuant to such agreement(s)).

(c) To the extent Shattuck desires to include any unpublished Know-How pertaining to a Development Molecule, a Selected Molecule or a Combination in a patent application Covering ARC Technology IP, or submit any unpublished Know-How pertaining to a Development Molecule, a Selected Molecule or a Combination to a patent office in furtherance of Prosecution of ARC Technology IP, Shattuck will inform Millennium no less than [***] in advance of the intended filing or submission date and
provide Millennium with an opportunity to review and comment on such filing or submission. Shattuck will consider Millennium’s comments [***]. Shattuck agrees that, without the prior written consent of Millennium, neither Shattuck nor any of its Affiliates will disclose any unpublished Know-How solely pertaining to Selected Molecule IP, Development Molecule IP or Combination IP in any patent application Covering ARC Technology IP, or Prosecution thereof, in a manner that would reasonably be expected to prejudice the ability to patent any Know-How Covering Development Molecule IP, Selected Molecule IP or Combination IP.”

2.10 **Section 6.4.** Section 6.4 of the Agreement is deleted in its entirety and replaced with the following:

“During the Term, Shattuck will not finally abandon or allow to lapse, or otherwise cease Patent Prosecution of any of the Patent Rights under the ARC Technology IP, Development Molecule IP, Selected Molecule IP or Combination IP (whether such Combination IP is Millennium Combination IP, where the Parties agreed under Section 6.3(c) to file and that Shattuck would control Patent Prosecution, or other Combination IP), unless the JPC has [***] recommended such action.”

2.11 **Section 7.2(a)(v).** Section 7.2(a)(v) of the Agreement is hereby amended by deleting the following parenthetical therefrom “(including in connection with the arbitration process described in Section 4.1(c)).”

2.12 **Section 7.4.** Section 7.4 of the Agreement is hereby deleted in its entirety and replaced with the following:

“The Parties acknowledge that scientific publications and presentations must be strictly monitored to prevent any adverse effect from premature publication or dissemination of results of the activities hereunder.

(a) The Parties agree that Shattuck may, at its discretion, publish or present, or permit to be published or presented, the results of the Development Program as they relate to the Development Molecules or the ARC Platform (the “Development Molecule Results”); provided, however, that Shattuck will provide to Millennium all proposed abstracts, manuscripts or presentations (including information to be presented verbally) that relate to the Development Molecule Results at least [***] prior to its intended presentation or submission for publication, and Shattuck agrees, upon written request from Millennium given within such [***] period, not to submit such abstract or manuscript for publication or to make such presentation until Millennium is given up to [***] (or such other period as the Parties may mutually agree) from the date of such written request to seek appropriate patent protection for any unpatented technology disclosed in such publication or presentation that it reasonably believes may be patentable. Shattuck will take into account the reasonable comments or changes proposed by Millennium on any publication or presentation. Once such abstracts, manuscripts or presentations have been reviewed and, where applicable, approved by Millennium, the same abstracts, manuscripts or presentations do not have to be provided again to Millennium for review for
a later submission for publication. Millennium also will have the right to require that any Confidential Information solely related to
Millennium that is disclosed in any such proposed publication or presentation be deleted prior to such publication or presentation. In
any permitted publication or presentation by Shattuck, Millennium’s contribution will be duly recognized, and co-authorship will be
determined in accordance with customary industry standards.

(b) Subject to Shattuck’s right to publish the Development Molecule Results set forth in Section 7.4(a), each Party agrees that, except as
required by Applicable Law, it will not publish or present, or permit to be published or presented, the results of the Development
Program to the extent such results refer to or derive from the Selected Molecule IP, Millennium Technology IP, Millennium
Combination IP, Combination IP Covering a Selected Molecule, or Other IP or otherwise constitute Confidential Information of the
other Party (other than the Development Molecule Results) (collectively, the “Covered Results”) without the prior written approval
of the other Party, which approval will not be unreasonably withheld, conditioned or delayed; provided, that it will not be deemed
unreasonable for Millennium to withhold its consent to any request by Shattuck to publish or present any Covered Results relating to
the Selected Molecules or Designated ARC Molecules (including Combinations that include a Selected Molecule and/or Designated
ARC Molecule). Subject to the foregoing, each Party will provide the other Party with the opportunity to review each of the
submitting Party’s proposed abstracts, manuscripts or presentations (including information to be presented verbally) that relate to the
Covered Results at least [***] prior to its intended presentation or submission for publication, and such submitting Party agrees,
upon written request from the other Party given within such [***] period, not to submit such abstract or manuscript for publication
or to make such presentation until the other Party is given up to [***] (or such other period as the Parties may mutually agree) from
the date of such written request to seek appropriate patent protection for any unpatented technology disclosed in such publication or
presentation that it reasonably believes may be patentable. The publishing Party will take into account the reasonable comments or
changes proposed by the other Party on any publication or presentation. Once such abstracts, manuscripts or presentations have been
reviewed and, where applicable, approved by each Party, the same abstracts, manuscripts or presentations do not have to be provided
again to the other Party for review for a later submission for publication. Each Party also will have the right to require that any of its
Confidential Information that is disclosed in any such proposed publication or presentation be deleted prior to such publication or
presentation. In any permitted publication or presentation by a Party, the other Party’s contribution will be duly recognized, and
co-authorship will be determined in accordance with customary industry standards.”
2.13 **Section 8.5(a).** Section 8.5(a) of the Agreement is hereby amended by deleting the first sentence and replacing it with the following:

“If the Term of this Agreement expires in accordance with Section 8.1 or is earlier terminated in its entirety by Shattuck under Section 8.2(a) or (c) or by the Parties’ mutual written agreement under Section 8.2(b) (unless the Parties otherwise provide in such written agreement), then, without limiting any other rights of the Parties hereunder:”

Section 8.5(a) is further amended by deleting the “and” at the end of subsection (ii), replacing the “.” at the end of subsection (iii) with “;” and adding the following subsection (iv) thereto:

“(iv) any Patent Rights Covering Millennium Combination IP will be abandoned by the Party controlling prosecution, unless the Parties otherwise agree in writing. Shattuck will not pursue Claims to any Millennium Combination IP, unless the Parties otherwise agree in writing.”

2.14 **Section 8.5(b).** Section 8.5(b) of the Agreement is hereby amended by deleting the “and” at the end of subsection (ii), replacing the “.” at the end of subsection (iii) with “;” and adding the following subsection (iv) thereto:

“(iv) with respect to Combination IP that Covers the Terminated Molecule, any applicable Patent Rights Covering such Combination IP that is also Millennium Combination IP will be abandoned by the Party controlling prosecution. Shattuck will not pursue Claims to any Millennium Combination IP which include the Terminated Molecule.”

2.15 **Section 8.5(c)(i).** Section 8.5(c)(i) of the Agreement is hereby deleted in its entirety and replaced with the following:

“Shattuck will grant to Millennium a royalty-free, fully-paid-up, worldwide license, with the right to grant sublicenses, to and under the Shattuck IP, Other IP Controlled by Shattuck and Shattuck’s interest in Combination IP for the limited purpose of performing any and all activities associated with the conduct of the Development Program (which, for clarity, need not be conducted pursuant to the Development Plan) that would otherwise have been performed by Shattuck under this Agreement had it not been terminated, and such license will survive until the earlier of (a) the [***] of the Effective Date or (b) the date on which Millennium has exercised its option to be granted an exclusive license to each of DM1, DM2, SM1 and SM2 (or affirmatively declined (in a written notice provided to Shattuck) to exercise such options). The foregoing license will be exclusive as to the Development Molecule IP, Selected Molecule IP, Combination IP and the ARC Technology IP (but in the case of ARC Technology IP, it will be exclusive only with respect to the Target Pairs that are Targeted by the Molecules with respect to which Millennium is continuing Development, and it will otherwise be non-exclusive) and non-exclusive as to the Other IP.”
2.16 **Section 8.5(c)(ii).** Section 8.5(c)(ii) of the Agreement is hereby deleted in its entirety and replaced with the following:

“If Millennium elects to continue Development of any Development Molecule, Selected Molecule, or Designated ARC Molecule, then Millennium’s right to exercise each DM Exclusive Option and SM Exclusive Option, as applicable, will, subject to the terms and conditions of Section 4.1 hereof, survive for each Molecule for which it elects to continue Development until the earlier of (A) following Millennium’s completion of all activities set forth in the Development Plan for such Molecule, or (B) the of the Effective Date; provided that in such circumstances the amount of the applicable License Fee shall be reduced to an amount equal to of the amount of the License Fee for the applicable Molecule set forth in Section 4.1(c); and provided further that if Millennium fails to to Develop a Molecule during the period set forth above, then the applicable DM Exclusive Option or SM Exclusive Option, as applicable, and the license granted to Millennium in Section 8.5(c)(i) with respect to such Molecule, will terminate.”

3. **Expiration of Termination Right Pursuant to Sections 8.4(a) and (b).** The Parties agree that Millennium’s termination rights pursuant to Section 8.4(a) and (b) have expired and no longer have any force or effect as of the Amendment Effective Date.

4. **Schedules C and D.** Schedules C and D to the Agreement are hereby deleted and replaced with Exhibits 1 and 2, respectively, to this Amendment.

5. **Development Plan Amendment.** Each Party will cause its JDC representatives to approve, at the first JDC meeting following the Amendment Effective Date, an amendment to the Development Plan to incorporate the studies set forth on Exhibit 3 to this Amendment.

6. **Continuing Effect of Agreement.** Except as otherwise expressly modified by this Amendment, no other portion of the Agreement is amended hereby.

7. **Counterparts.** This Amendment may be executed in counterparts, each of which counterparts, when so executed and delivered, will be deemed to be an original, and all of which counterparts, taken together, will constitute one and the same instrument. For purposes of execution, a copy of this Amendment or any amendment hereto will be deemed an original (including a printed copy of a PDF file delivered via email or a facsimile transmitted telephonically via a fax machine).

8. **Governing Law.** This Amendment and all questions regarding the existence, validity, interpretation, breach or performance of this Amendment, will be governed by, and construed and enforced in accordance with, the laws of the State of New York, U.S., without reference to its conflicts of law principles.

9. **Effectiveness.** This Amendment shall be effective upon execution by Millennium and Shattuck.

[Remainder of page intentionally left blank.]
IN WITNESS WHEREOF, the Parties have executed this Amendment as of the Effective Date.

SHATTUCK LABS, INC.

By: /s/ Josiah Hornblower
Name: Josiah Hornblower
Title: President and CEO

MILLENIUM PHARMACEUTICALS, INC.

By: /s/ Christophe Bianchi
Name: Christophe Bianchi
Title: President

[Signature Page to Amendment No. 1 to Collaboration Agreement]
AMENDMENT NO. 2

to

COLLABORATION AGREEMENT

THIS AMENDMENT NO. 2 TO COLLABORATION AGREEMENT (this “Amendment”), is effective this 30th day of October, 2018, by and between Millennium Pharmaceuticals, Inc., a Delaware corporation having its principal place of business at 40 Landsdowne Street, Cambridge, MA 02139 (“Millennium”), and Shattuck Labs, Inc., a Delaware corporation having its principal place of business at 3317 Bowman Avenue, Austin, TX 78703 (“Shattuck”). Millennium and Shattuck are each sometimes referred to in this Amendment as a “Party” and collectively as the “Parties.”

Background

WHEREAS, the Parties entered into that certain Collaboration Agreement, effective as of August 8, 2017 and amended by Amendment No. 1 thereto as of April 25, 2018 (as amended, the “Agreement”);

WHEREAS, the Parties desire to amend the Agreement further to transfer responsibility for conducting a [***] study of SM1 and the three Designated ARC Molecules from Millennium to Shattuck, and to address certain other matters as further set forth herein.

NOW, THEREFORE, for and in consideration of the foregoing and the respective covenants and agreements set forth below, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

1. Definitions and Cross References. Unless otherwise specified herein, each capitalized term shall have the meaning assigned to it in the Agreement and each reference to a Section or Article shall refer to the corresponding Section or Article in the Agreement.

2. Amendments

2.1 Section 1.1 Additions. Section 1.1 of the Agreement is hereby amended by adding the following definitions thereto, each in the appropriate alphabetical location:

• “Amendment No. 2 Effective Date” means October 30, 2018.
• “Co PI” has the meaning set out in Section 5.3(d).
• “Excess [***] Study Costs” has the meaning set out in Section 5.3(e).
• “HSR Clearance Date” means the earliest date on which the Parties have actual knowledge that all applicable waiting periods under the HSR Act with respect to the transactions contemplated by the applicable DM Exclusive License or SM Exclusive License have expired or been terminated.

1
• “Implementation Date” means the later of (a) the date of receipt by Shattuck of the applicable Exercise Notice pursuant to Section 4.1(d), (b) if a determination is made that a notification of this Agreement is not required to be made under the HSR Act, the date of such determination or (c) if notification of this Agreement is required to be made under the HSR Act, the HSR Clearance Date.

• “[***] Study” has the meaning set out in Section 5.3(d).

• “[***] Study Budget” has the meaning set out in Section 5.3(d).

• “[***] Study Costs” has the meaning set out in Section 5.3(e).

• “[***] Study Plan” has the meaning set out in Section 5.3(d).

• “[***] Study Report” has the meaning set out in Section 5.3(d).

• “Tumor Study Milestone” has the meaning set out in Section 5.3(b).

2.2 Section 1.1 Deletions. Section 1.1 of the Agreement is hereby further amended by deleting the following definitions therefrom: “Agreement Fee,” “Former SM2 Molecule,” “Replacement” and “Right of Replacement.”

2.3 Section 1.1 Amendments. Section 1.1 of the Agreement is hereby further amended by amending the following definitions:

• “Development Term” – the definition of “Development Term” is hereby deleted in its entirety and replaced with the following: “means, on a Molecule-by-Molecule basis, the period of time commencing on the Effective Date and continuing: (a) for SM1 until the earlier of (i) the [***] following delivery by Shattuck to Millennium of the [***] Study Report, (ii) delivery by Millennium of an Exercise Notice with respect to SM1, or (iii) failure of Millennium to pay the Tumor Study Milestone with respect to SM1 in accordance with Section 5.3(b); (b) for each Development Molecule until the earlier of (i) the ninetieth (90th) day following delivery by Shattuck to Millennium of a report detailing the results of the Final Phase I Clinical Trial for such Development Molecule, or (ii) delivery by Millennium of an Exercise Notice with respect to such Development Molecule; and (c) for each Designated ARC Molecule (including any Designated ARC Molecule that is designated by Millennium as SM2) until the earlier of (i) the [***] following delivery by Shattuck of the [***] Study Report, (ii) delivery by Millennium of an Exercise Notice with respect to any Designated ARC Molecule (including any Designated ARC Molecule that is designated as SM2 by Millennium) or (iii) failure by Millennium to pay the Tumor Study Milestone with respect to such Designated ARC Molecule in accordance with to Section 5.3(b).”
• “HSR Act” – the definition of “HSR Act” is hereby deleted in its entirety and replaced with the following: “means the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, and the rules and regulations promulgated thereunder.”

• “Selected Molecule IP” – the definition of “Selected Molecule IP” is hereby amended by deleting the penultimate sentence thereof and replacing it with the following: “For clarity, a Patent Right may describe or claim ARC Technology IP, Development Molecule IP, Selected Molecule IP and Combination IP, and the determination of what constitutes ARC Technology IP, Development Molecule IP, Selected Molecule IP or Combination IP will be made on a claim-by-claim basis.”

• “SM2” – the definition of “SM2” is hereby deleted in its entirety and replaced with the following: “means the Designated ARC Molecule that is designated by Millennium as SM2 pursuant to Section 5.3(e).”

• “Tumor Study” and “Tumor Studies” – the definition of “Tumor Study” and “Tumor Studies” is hereby amended by deleting the reference therein to “Section 2.8(a)” and replacing it with a reference to “Section 2.8.”

2.4 Section 2.8. Section 2.8 of the Agreement is hereby deleted in its entirety and replaced with the following:

“2.8 Development of Designated ARC Molecules

Shattuck will initially Develop the three (3) Designated ARC Molecules in accordance with the Development Plan through completion of specified early stage activities, including in each case an in vivo tumor study (in a mouse or other animal model, as agreed upon by the JDC and further described in the Development Plan) (each, a “Tumor Study” and collectively, the “Tumor Studies”).”

2.5 Section 2.9(a). The first sentence of the second paragraph of Section 2.9(a) of the Agreement is hereby deleted in its entirety and replaced with the following:

“For clarity, Shattuck may conduct Development, Commercialization or other Exploitation activities with respect to a compound, molecule or product (A) that Targets any Target Pairs that are different from the Target Pairs that are Targeted by any Molecule; or (B) that Targets the same Target Pairs that are Targeted by a Molecule after expiration of the Development Term for such Molecule, provided, that Millennium has not delivered an Exercise Notice with respect to such Molecule.”

2.6 Section 3.1(a). Section 3.1(a) of the Agreement is hereby amended by deleting subsection (vi) therefrom and renumbering the remaining subsections accordingly.

2.7 Section 3.3(b). Section 3.3(b) of the Agreement is hereby amended by deleting the text of clause (iii) thereof and replacing it with the following “a proposed amendment to the [***] Study Plan or the [***] Study Budget in which case both Parties’ representatives must reach [***] on such proposed amendment.”
2.8 **Section 4.1(d).** Section 4.1(d) is hereby deleted in its entirety and replaced with the following:

“(d) In the event Millennium delivers an Exercise Notice to Shattuck within the applicable Development Term, Shattuck will deliver to Millennium, within [***] following its receipt of the Exercise Notice, a DM License Agreement or SM License Agreement, as applicable, executed on behalf of Shattuck in which Shattuck has inserted (i) the name of the applicable Molecule, (ii) the Licensed Target Pair (as defined therein) and (iii) the effective date of the DM License Agreement or SM License Agreement (which effective date will be the Implementation Date (the “License Effective Date”)), as applicable. Within [***] following its receipt of the DM License Agreement or SM License Agreement, as applicable, from Shattuck, Millennium will return to Shattuck such License Agreement executed on behalf of Millennium. For clarity, the Parties acknowledge that the License Effective Date will not occur until the Implementation Date pursuant to Section 4.1(f), but notwithstanding any delay in the occurrence of the Implementation Date, the Parties will be obligated to execute such DM License Agreement or SM License Agreement, as applicable, in accordance with the foregoing sentence. Neither Shattuck nor Millennium will make any changes to the form of DM License Agreement attached hereto as Schedule C or SM License Agreement attached hereto as Schedule F, as applicable, except (A) as provided in the first sentence of this Section 4.1(d), (B) as otherwise agreed in writing by the Parties, and (C) upon mutual agreement, the Parties may update schedules and exhibits, as necessary, and either Party may update disclosure schedules related to the representations, warranties, and covenants made by such Party in the applicable License Agreement. For the avoidance of doubt, in the event of any failure by Shattuck or Millennium to deliver a copy of the applicable DM License Agreement or SM License Agreement as described above, the non-executing Party will be deemed to have granted to the executing Party the rights with respect to the applicable Molecule consistent with the terms of the DM License Agreement or SM License Agreement, as applicable, as of the License Effective Date without any further action by the non-executing Party.”

2.9 **Section 4.1(f).** Section 4.1 of the Agreement is hereby amended by adding the following subsection (f) thereto:

“(f) Notwithstanding the foregoing, the Parties will use [***] to obtain any approvals from any Governmental Entity that are required before effectiveness of any DM Exclusive License or SM Exclusive License, as applicable. In the event approval is required under the HSR Act, the Parties will use such efforts to file the notification and report forms required under the HSR Act as soon as practicable following delivery by Millennium of the applicable Exercise Notice, but in no event later than [***] thereafter, and will respond as promptly as practicable to all requests.
or inquiries received from the applicable Governmental Entity for additional documentation or information. Millennium will pay all filing fees (including the filing fee in connection with the HSR Act filing) paid to any Governmental Entity in connection with any required consent of any Governmental Entity. The Parties will use [***] to avoid or eliminate each and every impediment under any antitrust, merger control, competition or trade regulation or other Applicable Law (including the HSR Act) that may be asserted by any Governmental Entity with respect to the transactions contemplated by this Agreement so as to enable effectiveness of the DM Exclusive License or SM Exclusive License as soon as reasonably possible; it being understood that: (i) neither Party or any of its Affiliates will be obligated to contest any final action or decision taken or made by a Governmental Entity challenging the DM Exclusive License or the SM Exclusive License and the other agreements contemplated hereby and (ii) in no event will either Party or any of its Affiliates be required to: (A) sell or otherwise dispose of (including by sale, license, transfer, assignment or lease), hold separate or agree to sell or dispose of (including by sale, license, transfer, assignment or lease), any material assets, categories of assets or businesses of such Party or any of such Party’s Affiliates, (B) modify or terminate any material existing relationships, contractual rights or obligations or enter into any material contracts or other commercial relationships with any Third Parties, (C) amend or terminate existing material licenses or other material Intellectual Property agreements or enter into new licenses or other Intellectual Property agreements, or (D) agree to any material limitation or alteration in the manner in which such Party or any of such Party’s Affiliates conduct their businesses in the future, in each case (A) through (D), to avoid, prevent or terminate any action by a Governmental Entity that would restrain, enjoin or otherwise prevent the consummation of the transactions contemplated by this Agreement and the other agreements contemplated hereby. Notwithstanding anything in this Agreement to the contrary, none of the terms and conditions contained in a DM Exclusive License or SM Exclusive License, as applicable, shall be effective until the Implementation Date, and in no event shall the License Effective Date occur prior to the Implementation Date."

2.10 Section 5.2(b). Section 5.2(b) of the Agreement is hereby amended by deleting subsection (ii) therefrom and eliminating subsection (i) such that the text in subsection (i) becomes part of Section 5.2(b).

2.11 Section 5.3(b). Section 5.3(b) of the Agreement is hereby deleting in its entirety and replaced with the following:

“Within [***] following the Amendment No. 2 Effective Date, Millennium will pay to Shattuck a milestone (each, a “Tumor Study Milestone”) in the amount of [***] for each Molecule that achieves Successful Completion (defined below) in its respective Tumor Study (up to a maximum of $[***] in aggregate Tumor Study Milestones). For clarity, the Development Term for any Molecule with respect to which Millennium does not pay a Tumor Study Milestone in accordance with this Section 5.3(b) will end and such Molecule will, beginning on the [***] following the Amendment No. 2 Effective Date, be treated as a Terminated Molecule under Section 8.5(b) for all purposes hereunder.”

5
2.12 **Section 5.3(d).** Section 5.3(d) is hereby deleted in its entirety and replaced with the following:

(d) **[***] Study.** “Shattuck will manufacture materials and conduct a [***] study in [***] that will include each Molecule as to which Millennium pays a Tumor Study Milestone (the “[***] Study”). Millennium will have equal decision-making rights with Shattuck on all matters relating to the [***] Study, including study design and execution, and Shattuck and Millennium will each have the right to select one principal investigator (each such principal investigator is referred to as a “Co PI”) for the [***] Study; provided that, with respect to decisions that need to be made during the in-life portion of the [***] Study, if Shattuck makes reasonable efforts to consult with the Millennium-designated Co PI, but the Millennium-designated Co PI is not available to participate in a decision within the relevant timeframe needed for such decision, the Shattuck-designated Co PI will be authorized to make such decision unilaterally. The [***] Study will be conducted in accordance with the study plan (“[***] Study Plan”), which is hereby incorporated into the Development Plan and attached hereto as Schedule I, and the budget attached hereto as Schedule II (“[***] Study Budget”). Promptly following its receipt of the final written report (which is signed by the study director at the applicable contract research organization) detailing the results of the [***] Study (the “[***] Study Report”), Shattuck will forward a copy of the [***] Study Report to Millennium.”

2.13 **Section 5.3(e).** Section 5.3 of the Agreement is hereby amended by adding the following subsection (e) thereto:

“(e) **[***] Study Costs.** The [***] of the [***] Study (“[***] Study Costs”) incurred in accordance with the [***] Study Budget will be allocated as follows: (i) first, Shattuck may submit to Millennium [***] Study Costs for reimbursement pursuant to Section 5.2(b) up to the remaining amount (if any) of the $[***] in total reimbursement available under Section 5.2(b), (ii) second, Shattuck will be responsible for the next $[***] of [***] Study Costs, and (iii) third, Millennium will reimburse Shattuck for any remaining [***] Study Costs. Shattuck will have the right to revise the [***] Study Budget [***]. Any amendment to the [***] Study Budget that would result in [***] Study Costs (alone or in the aggregate with prior amendments to the [***] Study Budget) in an amount not to exceed [***] of the [***] Study Costs reflected in the original [***] Study Budget can be made unilaterally by Shattuck. Any amendment to the [***] Study Budget that would result in [***] Study Costs (alone or in the aggregate with prior amendments to the [***] Study Budget) in excess of [***] of the Non-GLP Tox Study Costs reflected in the original [***] Study Budget (“Excess [***] Study Costs”) will only be effective upon a [***] of the JDC approving such amendment. If the JDC is unable to reach a [***] on whether to approve such an amendment within [***] after such
matter is first presented to the JDC, the matter will be referred promptly to the Senior Executives of the Parties for [***] negotiations. If the Senior Executives cannot reach agreement within [***] of such amendment being first referred to them by the JDC: (A) Shattuck will be solely responsible for the Excess [***] Study Costs reflected in such amendment in the event that Millennium exercises at least one SM Exclusive Option pursuant to Section 4.1 and (B) Millennium will be solely responsible for the Excess [***] Study Costs reflected in such amendment in the event that Millennium does not exercise at least one SM Exclusive Option.

For the avoidance of doubt, Excess [***] Study Costs shall consist only of excess [***] incurred in conducting the [***] Study in accordance with the [***] Study Plan as approved on the Amendment No. 2 Effective Date. In the event that, following the Amendment No. 2 Effective Date, either Party desires to amend the [***] Study Plan (e.g., changes to the protocol, including number of animals treated, number of doses administered, dose ranges administered, and number and type of analytical tests conducted), such amendment will only be effective upon a [***] vote of the JDC approving such amendment. If such an amendment requires Shattuck to incur additional [***] (beyond those [***] reflected in the original [***] Study Budget), the Party that proposed such amendment to the JDC shall be solely responsible for such additional [***].

Within [***] following the last day of each Calendar Quarter in which [***] Study Costs are incurred for which Millennium is responsible in accordance with this Section 5.3(e) (or, in the event Millennium does not exercise at least one SM Exclusive Option, within [***] following the last-to-expire Development Term for the Designated ARC Molecules and SM1), Shattuck will send a detailed invoice of such costs to Millennium, and within [***] following receipt of such invoice, Millennium will pay to Shattuck the amount due as reimbursement for such [***] Study Costs in accordance with Section 5.6 hereof.

2.14 Section 5.3(f). Section 5.3 of the Agreement is hereby amended by adding the following subsection (f) thereto:

“(f) Millennium will have the right, at any time prior to the end of the Development Term for the Designated ARC Molecules, to designate any one of the Designated ARC Molecules as SM2 by providing written notice to Shattuck of such designation. For clarity, Millennium must designate one of the Designated ARC Molecules as SM2 in order to exercise the SM Exclusive Option with respect to such Designated ARC Molecule, but such designation may be included in the applicable Exercise Notice (and in such case the Exercise Notice would constitute a written notice of designation as SM2 for purposes of this Section 5.3(f)).”
2.15 **Section 6.3(d)(ii).** Section 6.3(d)(ii) of the Agreement is hereby amended by deleting the second sentence thereof and replacing it with the following:

“It will serve only as a forum for the Parties to discuss and collaborate with respect to Patent Prosecution matters applicable to the Development Molecules, Selected Molecules, Designated ARC Molecules and Combinations, including: overseeing and coordinating the activities of the mutually acceptable outside counsel; facilitating the Parties’ discussions regarding which claims of the Shattuck IP existing as of the Effective Date fall within the ARC Technology IP, which claims fall within the Development Molecule IP, which claims fall within the Combination IP (including Millennium Combination IP) (and keeping a written record of such discussions) and filing continuations and/or divisional applications as necessary to segregate the claims into separate Patent Rights Covering each category, to the extent possible; discussing new patent filing strategy, and claims strategy with the goal of continuing to segregate Patent Rights Covering Development Molecule IP, Selected Molecule IP, Combination IP and ARC Technology IP, respectively, to the extent possible; and coordinating with each other to reasonably avoid creating potential issues in Patent Prosecution of patent applications.”

2.16 **Section 6.3(e).** Section 6.3(e) of the Agreement is hereby amended by deleting the first sentence thereof and replacing it with the following:

“To the extent Shattuck desires to include any unpublished Know-How pertaining to a Development Molecule, Selected Molecule, Designated ARC Molecule or Combination in a patent application Covering ARC Technology IP, or submit any unpublished Know-How pertaining to a Development Molecule, a Selected Molecule, Designated ARC Molecule or a Combination to a patent office in furtherance of Prosecution of ARC Technology IP, Shattuck will inform Millennium no less than [***] in advance of the intended filing or submission date and provide Millennium with an opportunity to review and comment on such filing or submission.”

3. **Determination of Successful Completion.** The Parties acknowledge and agree that on June 26, 2018, the JDC [***] determined that SM1 and the Designated ARC Molecules had each achieved Successful Completion in its respective Tumor Study.

4. **Schedule F.** Schedule F to the Agreement is hereby amended by replacing the SM2 License Agreement contained therein with Exhibit 1 to this Amendment.

5. **Schedule I.** Exhibit 2 to this Amendment is hereby added as Schedule I to the Agreement.

6. **Schedule J.** Exhibit 3 to this Amendment is hereby added as Schedule J to the Agreement.

7. **Continuing Effect of Agreement.** Except as otherwise expressly modified by this Amendment, no other portion of the Agreement is amended hereby.
8. **Counterparts.** This Amendment may be executed in counterparts, each of which counterparts, when so executed and delivered, will be deemed to be an original, and all of which counterparts, taken together, will constitute one and the same instrument. For purposes of execution, a copy of this Amendment or any amendment hereto will be deemed an original (including a printed copy of a PDF file delivered via email or a facsimile transmitted telephonically via a fax machine).

9. **Governing Law.** This Amendment and all questions regarding the existence, validity, interpretation, breach or performance of this Amendment, will be governed by, and construed and enforced in accordance with, the laws of the State of New York, U.S., without reference to its conflicts of law principles.

10. **Effectiveness.** This Amendment shall be effective upon execution by Millennium and Shattuck.

   [Remainder of page intentionally left blank.]
IN WITNESS WHEREOF, the Parties have executed this Amendment as of the Amendment No. 2 Effective Date.

SHATTUCK LABS, INC.

By: /s/ Josiah Hornblower
Name: Josiah Hornblower
Title: President and CEO

MILLENNIUM PHARMACEUTICALS, INC.

By: /s/ Christophe Bianchi
Name: Christophe Bianchi
Title: President

[Signature Page to Amendment No. 2 to Collaboration Agreement]
EXECUTION VERSION

AMENDMENT NO. 3

to

COLLABORATION AGREEMENT

THIS AMENDMENT NO. 3 TO COLLABORATION AGREEMENT (this “Amendment”), is effective this 31st day of March, 2020, by and between Shattuck Labs, Inc., a Delaware corporation with a place of business at 1018 West 11th Street, Suite 100, Austin, Texas 78703 (“Shattuck”), and Millennium Pharmaceuticals, Inc., a Delaware corporation and a wholly-owned subsidiary of Takeda Pharmaceutical Company Limited, having its principal office at 40 Landsdowne Street, Cambridge, MA 02139 (“Millennium”). Shattuck and Millennium are each sometimes referred to in this Amendment as a “Party” and collectively the “Parties.”

Background

WHEREAS, the Parties entered into that certain Collaboration Agreement, effective as of August 8, 2017, amended by Amendment No. 1 thereto as of April 25, 2018, further amended by Amendment No. 2 thereto as of October 30, 2018, further modified by the February Letter Agreement (as defined herein), further modified by letter agreement dated June 25, 2019 and further modified by letter agreement dated September 5, 2019 (as amended and collectively, the “Agreement”); and

WHEREAS, the Parties desire to further amend the Agreement to (i) provide for a Second Dose Expansion Cohort (as defined herein) for the DM1 Final Phase I Clinical Trial (as defined herein), (ii) facilitate collaboration with respect to process improvements to the DM1 chemistry, manufacturing and controls, (iii) clarify certain transition obligations of the Parties should Millennium exercise a DM Exclusive Option and (iv) address certain other matters as set forth herein.

NOW, THEREFORE, for and in consideration of the foregoing and the respective covenants and agreements set forth below, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

1. Definitions and Cross References. Unless otherwise specified herein, each capitalized term used herein shall have the meaning assigned to it in the Agreement, and each reference to a Section or Article shall refer to the corresponding Section or Article in the Agreement.

2. Amendments.

2.1 Section 1.1 Amendments. Section 1.1 of the Agreement is hereby amended by amending or adding, as applicable, the following definitions thereto in the appropriate alphabetical location:

• “Advanced Manufacturing Services” has the meaning set out in Section 2.10(h).
• “Amendment No. 3 Effective Date” means the effective date of Amendment No. 3 to this Agreement.

• “ARC Technology IP”. The definition of “ARC Technology IP” is hereby amended by deleting the existing definition in its entirety and replacing it with: “means all Know-How and Patent Rights (a) Controlled by Shattuck prior to the Effective Date, (b) that come under Shattuck’s Control at any time during the Term, or (c) developed by or on behalf of either Party or its Affiliates during the Term as a result of such Party’s activities under this Agreement or as a result of such Party’s access to Shattuck’s Confidential Information; each of (a) – (c), to the extent such Know-How or Patent Rights (i) Cover the ARC Platform, which includes, for clarity, processes for making ARC Molecules; analytical methods for [***], and (ii) are not Development Molecule IP, Selected Molecule IP, Combination IP or CMC Collaboration IP. For clarity, a Patent Right may describe or claim ARC Technology IP, Development Molecule IP Selected Molecule IP, Combination IP or CMC Collaboration IP, and the determination of what constitutes ARC Technology IP, Development Molecule IP, Selected Molecule IP, Combination IP or CMC Collaboration IP will be made on a claim-by-claim basis.”

• “CMC” means chemistry, manufacturing and controls.

• “CMC DM1 Activities” means the Millennium CMC DM1 Activities and/or the Shattuck CMC DM1 Activities conducted pursuant to the CMC DM1 Improvement Plan on or after the Amendment No. 3 Effective Date.

• “CMC Collaboration IP” means Know-How and Patent Rights developed by or on behalf of Millennium or its Affiliates during the Term as a result of (a) Millennium CMC DM1 Activities, or (b) those DM Collaboration Activities identified in the scope of work with respect thereto as CMC activities for which Millennium is the sole responsible Party (“Millennium CMC DM Collaboration Activities”), in each case ((a) and (b)) under this Agreement.

• “CMC DM1 Improvement Budget” means the budget included in the CMC DM1 Improvement Plan.

• “CMC DM1 Improvement Plan” means the CMC DM1 Improvement Plan attached to this Agreement as Schedule K. Each row of the CMC DM1 Improvement Plan denotes a separate CMC DM1 Activity.

• “Combination IP”. The definition of “Combination IP” is hereby amended by deleting the existing definition in its entirety and replacing it with: “means all Know-How and Patent Rights: (a) developed by or on behalf of either Party during the Term pursuant to the Development Plan, (b) developed by or on behalf of Shattuck in the course of conducting Development activities arising from access to one or more Millennium Molecules, (c) that comes under Shattuck’s or its Affiliates’ Control during the Term and is solely related to a Molecule, or (d) developed by or
on behalf of Millennium during the Term as a direct result of Millennium’s access to one or more Molecules, in the case of (a)-(d) only to the extent such Know-How or Patent Rights Covers a Combination, including compositions of matter, methods of making, methods of using, methods of manufacture, methods of selling and Exploiting a Combination. For clarity, a Patent Right may describe or claim ARC Technology IP, Development Molecule IP, Selected Molecule IP, Combination IP and CMC Collaboration IP, and the determination of what constitutes ARC Technology IP, Development Molecule IP, Selected Molecule IP, Combination IP (including Millennium Combination IP or other Combination IP) or CMC Collaboration IP will be made on a claim-by-claim basis."

• “Data” means all Know-How, results, conclusions and observations resulting from the performance of the Millennium CMC DM1 Activities, Millennium CMC DM Collaboration Activities, or CMC activities related to DM2 for which Millennium is the sole responsible Party, as applicable.

• “Data Sharing Memo” has the meaning set out in Section 2.6.

• “Development Molecule IP”. The definition of “Development Molecule IP” is hereby amended by deleting the existing definition in its entirety and replacing it with: “means all Know-How and Patent Rights (a) Controlled by Shattuck prior to the Effective Date, (b) that come under Shattuck’s Control at any time during the Term, or (c) developed by or on behalf of either Party or its Affiliates during the Term as a result of such Party’s activities under this Agreement or as a result of such Party’s access to Shattuck’s Confidential Information; in each case that (i) solely Covers a Development Molecule, including compositions of matter, methods of making, methods of using and methods of manufacture (including as a result of CMC DM1 Activities and DM Collaboration Activities) that solely relate to or solely Cover a Development Molecule, and (ii) is not CMC Collaboration IP. For clarity, a Patent Right may describe or claim ARC Technology IP, Development Molecule IP, Selected Molecule IP, Combination IP and CMC Collaboration IP, and the determination of what constitutes ARC Technology IP, Selected Molecule IP, Development Molecule IP, Combination IP or CMC Collaboration IP will be made on a claim-by-claim basis. For clarity, Development Molecule IP excludes Combination IP and CMC Collaboration IP.”

• “Development Term”. The definition of “Development Term” is hereby amended by deleting the existing definition in its entirety and replacing it with: “means, on a Molecule-by-Molecule basis, the period of time commencing on the Effective Date and continuing: (a) for SM1 until the earlier of (i) the [***] following delivery by Shattuck to Millennium of the [***] Study Report, (ii) delivery by Millennium of an Exercise Notice with respect to SM1, or (iii) failure of Millennium to pay the Tumor Study Milestone with respect to SM1 in accordance with Section 5.3(b); (b) for each Development Molecule until the earlier of (i) the ninetieth (90th) day following delivery by Shattuck to Millennium of a report detailing the
results of (1) the DM1 Final Phase I Clinical Trial or (2) the Final Phase I Clinical Trial for DM2, and (ii) delivery by Millennium of an Exercise Notice with respect to such Development Molecule; and (c) for each Designated ARC Molecule (including any Designated ARC Molecule that is designated by Millennium as SM2) until the earlier of (i) the [*] following delivery by Shattuck of the [*] Study Report, (ii) delivery by Millennium of an Exercise Notice with respect any Designated ARC Molecule (including any Designated ARC Molecule that is designated as SM2 by Millennium), or (iii) failure of Millennium to pay the Tumor Study Milestone with respect to such Designated ARC Molecule in accordance with Section 5.3(b).”

- “DM Collaboration Activity” means any activity, not specifically contemplated by the Development Plans for DM1 or DM2, that is [*] by the JDC as to scope of work and Party responsibility (both as to performance and payment) and designated thereby as a “DM Collaboration Activity”. For clarity, the Development Plans for DM1 and DM2, as may be amended from time to time under Section 2.2, exclude any DM Collaboration Activities.
- “DM1 Final Phase I Clinical Trial” means the Clinical Trial conducted pursuant to the Protocol.
- “DM1 [*] Expenses” has the meaning set out in Section 2.10(c).
- “DM2 Supplementary Dose Expansion Cohort” has the meaning set out in Section 5.3(i).
- “DM2 Supplementary Notice” has the meaning set out in Section 5.3(i).
- “Dose Expansion Cohort CTM Costs” has the meaning set out in Section 5.3(h).
- “Excess Second Dose Expansion Cohort Costs” has the meaning set out in Section 5.3(h).
- “Excess Shattuck CMC DM1 Activity Costs” shall have the meaning set out in Section 2.10(c).
- “February Letter Agreement” means that certain letter agreement, dated February 11, 2019, between Millennium and Shattuck.
- “First Dose Expansion Cohort” has the meaning set out in Section 5.3(g).
- “First Dose Expansion Cohort Plan” has the meaning set out in Section 5.3(g).
- “Manufacture”, “manufacture” or variants thereof means activities directed to producing, manufacturing, processing, sourcing of materials, filling, finishing, packaging, labeling, quality assurance testing and release, shipping and storage of a Development Molecule.
• “Manufacturing Notice” has the meaning set out in Section 2.10(h).

• “Materials” has the meaning set out in Section 2.10(d).

• “Millennium CMC DM1 Activities” means those CMC DM1 Activities identified as “Takeda Managed” in the CMC DM1 Improvement Plan.

• “Millennium CMC DM Collaboration Activities” has the meaning set out in the definition of “CMC Collaboration IP”.

• “Millennium Technology IP”. The definition of “Millennium Technology IP” is hereby amended by deleting the existing definition in its entirety and replacing it with the following: “means all Know-How and Patent Rights that (i) are Controlled by Millennium or its Affiliates prior to the Effective Date, (ii) come into Millennium’s or its Affiliates’ Control at any time during the Development Period, or (iii) are developed by or on behalf of either Party or its Affiliates as a result of such Party’s activities under this Agreement, and Covers Targets (individually or in combination as a Target Pair) or binding domains to such Targets (e.g., peptides, polypeptides, proteins, antibodies, nanobodies, single-chain variable fragments and compounds); and (b) are not ARC Technology IP, Development Molecule IP or Selected Molecule IP. For clarity, Millennium Technology IP excludes Combination IP and CMC Collaboration IP.”

• “Non-Refundable [***]” has the meaning set out in Section 5.1(e).

• “Out-of-Scope Results” means any Know-How that is produced from use of any Material for purposes other than the conduct of the CMC DM1 Activities or DM Collaboration Activities, as applicable, or otherwise not in compliance with the terms and conditions of this Agreement, unless otherwise specifically agreed to in writing by the Parties (e.g., under a separate material transfer agreement). For the avoidance of doubt, Out-of-Scope Results shall constitute “Confidential Information” of Shattuck hereunder.

• “Other IP” has the meaning set out in Section 6.1(b)(iv).

• “Phase I Report”. The definition of “Phase I Report” as the meaning of such term is set out in the February Letter Agreement is hereby amended by deleting the existing definition in its entirety and replacing it with: “means the report detailing the results of the DM1 Final Phase I Clinical Trial referred to in the definition of “Development Term”, which triggers the ninety (90)-day clock defining the conclusion of the Development Term for DM1, which will be prepared by Shattuck and delivered to Millennium in accordance with the following guidelines: The Phase I Report for the DM1 Final Phase I Clinical Trial will be based on all data collected through at least the later of (a) the conclusion of the [***] for the final subject enrolled.
in the First Dose Expansion Cohort, and (b) [***] after the first patient is dosed in the Second Dose Expansion Cohort (such period set forth in clause (b), the “[***] Period”). The Phase I Report will include, among other things, (i) a summary of safety, pharmacodynamics (including biopsy data), pharmacokinetics, and anti-tumor activity (to the extent such data exists), (ii) the primary, secondary, and exploratory analysis for the DM1 Final Phase I Clinical Trial based on all data (other than data collected for the Second Dose Expansion Cohort) collected through at least the conclusion of the [***] for the final subject enrolled in the First Dose Expansion Cohort, and (iii) any subset of the primary, secondary, and/or exploratory analysis that can be performed based on available data collected for the Second Dose Expansion Cohort through the [***] Period. The Phase I Report will not be delivered to Millennium until at least after the expiration of the [***] Period, so the report will also include information (to the extent such information is available) related to subject(s) enrolled and dosed in Second Dose Expansion Cohort at the time of delivery of the Phase I Report, which information will be provided to Millennium in a format consistent with subject information for the DM1 Phase I Clinical Trial previously shared by Shattuck with Millennium. The [***] Period will be tolled for the duration of any time period in which enrollment or participation of subjects at all DM1 Final Phase I Clinical Trial sites for the Second Dose Expansion Cohort is placed on hold due to global events beyond Shattuck’s reasonable control.”

• “Protocol” means the protocol for the DM1 Final Phase I Clinical Trial entitled “Phase 1 Dose Escalation and Dose Expansion Study of an Agonist Redirected Checkpoint Fusion Protein, SL-279252 (PD1-Fc-OX40L), in Subjects with Advanced Solid Tumors or Lymphomas” (ClinicalTrials.gov Identifier: NCT03894618), Version Number: v04, dated February 24, 2020, which is attached hereto as Schedule L.

• “Second Dose Expansion Cohort” has the meaning set out in Section 5.3(g).

• “Second Dose Expansion Cohort Costs” has the meaning set out in Section 5.3(h).

• “Second Dose Expansion Cohort Plan” has the meaning set out in Section 5.3(g).

• “Selected Molecule IP”. The definition of “Selected Molecule IP” is hereby amended by deleting the existing definition in its entirety and replacing it with: “means all Know-How and Patent Rights (a) Controlled by Shattuck or its Affiliates prior to the Effective Date, (b) that come under Shattuck’s or its Affiliates’ Control at any time during the Term, or (c) developed by or on behalf of either Party or its Affiliates during the Term as a result of such Party’s activities under this Agreement or as a result of such Party’s access to Shattuck’s Confidential Information; in each case that (i) solely Covers a Selected Molecule or a Designated ARC Molecule, including compositions of matter, methods of making, methods of using and
methods of manufacture that solely relate to or solely Cover a Selected Molecule or a Designated ARC Molecule, and (ii) is not CMC Collaboration IP. For clarity, a Patent Right may describe or claim ARC Technology IP, Development Molecule IP, Selected Molecule IP, Combination IP, and CMC Collaboration IP and the determination of what constitutes ARC Technology IP, Development Molecule IP, Selected Molecule IP, Combination IP or CMC Collaboration IP will be made on a claim-by-claim basis. For clarity, Selected Molecule IP excludes Combination IP and CMC Collaboration IP.”

- “Shattuck CMC DM1 Activities” means those CMC DM1 Activities identified as “Shattuck Managed” in the CMC DM1 Improvement Plan.

- “Shattuck CMC DM1 Activity Costs” shall have the meaning set out in Section 2.10(c).

- “Specified Confidential Information”. The definition of “Specified Confidential Information” is hereby amended by deleting the existing definition in its entirety and replacing it with the following: “means, on a Molecule-by-Molecule basis, all non-public data, results or other Know-How solely related to such Molecule and that constitute Development Molecule IP or Selected Molecule IP, generated prior to the Effective Date or pursuant to the activities conducted under any Development Plan, the CMC DM1 Improvement Plan, or any DM Collaboration Activities.”

- “Subsequent Transaction” shall have the meaning set out in Section 5.3(h).

- “Third Party CMO” has the meaning set out in Section 2.10(i).

2.2 Section 2.6. Section 2.6 of the Agreement is hereby deleted in its entirety and replaced with the following:

“2.6 Reporting

Shattuck will keep Millennium reasonably informed as to the progress and results of its activities under the Development Plan, in each case through meetings of the JDC occurring at least [***] and as otherwise agreed from time to time. Within [***] following the Amendment No. 3 Effective Date, Shattuck will submit to the JDC a data sharing memorandum that includes the primary, secondary, and exploratory analysis to be conducted and shared with Millennium under the Phase I Report (“Data Sharing Memo”). For clarity, delivery of the Phase I Report is not contingent on the existence of a final, locked database for the DM1 Final Phase I Clinical Trial. At the next JDC meeting after submission of the Data Sharing Memo by Shattuck, the JDC will review and reach agreement on the final content of the Data Sharing Memo, provided the JDC will reasonably consider Millennium’s comments regarding the scope of information to be provided under the Phase I Report. For the [***] period preceding the expiration of the Development Term for each Development Molecule, Shattuck further agrees to (a) provide to Millennium reasonable site access, advice and consultation reasonably requested by Millennium and related to the analysis and conclusions set forth in, in the case of DM1, the
Phase I Report, and, in the case of DM2, the report detailing the results of the Final Phase I Clinical Trial for DM2, and (b) promptly, upon receipt by Shattuck of a [***] request from Millennium listing any targeted raw data sets for the DM1 Final Phase I Clinical Trial that Millennium requests access to and transfer of so that Millennium may conduct such analyses as are described in the [***] request, provide to Millennium all [***] requested data (including [***] requested targeted raw data sets), results, conclusions and observations resulting from its activities in connection with the DM1 Final Phase I Clinical Trial and the Final Phase I Clinical Trial for DM2, provided any targeted raw data sets will be shared with Millennium only at Millennium’s cost and expense. [***].”

2.3 **Section 2.10.** Article 2 of the Agreement is hereby amended by adding the following Section 2.10 thereto:

“2.10 CMC DM1 Improvement Plan; Advance Manufacturing

(a) **Shattuck CMC DM1 Activities; Manufacturing Slot Reservation.** From the Amendment No. 3 Effective Date, Shattuck shall promptly commence the Shattuck CMC DM1 Activities in accordance with the CMC DM1 Improvement Plan and this Section 2.10 (provided that Shattuck shall not commence any Shattuck CMC DM1 Activity for which the CMC DM1 Improvement Budget is marked “TBD” opposite such Shattuck CMC DM1 Activity in the CMC DM1 Improvement Plan until Shattuck has presented to Millennium a statement of work and budget in respect of such Shattuck CMC DM1 Activity and Millennium has, in its sole discretion, approved such statement of work and budget in writing, following which such statement of work and budget shall be deemed to amend the CMC DM1 Improvement Plan and Schedule A thereto accordingly) and Shattuck shall use [***] to complete each Shattuck CMC DM1 Activity prior to the expiration of the DM1 DM Option Term; provided that Shattuck will continue to use [***] to complete such Shattuck CMC DM1 Activities after the expiration of the DM1 DM Option Term if Millennium has exercised the DM Exclusive Option with respect to DM1. At any time prior to the expiration of the DM1 DM Option Term, in connection with Millennium’s anticipated request of Shattuck to reserve a Manufacturing slot pursuant to the remainder of this Section 2.10(a), Millennium may deliver forms of Millennium’s standard quality and supply agreements to Shattuck. Shattuck shall provide Millennium feedback on such forms of quality and supply agreements within [***] of such delivery. At any time following such [***] period and prior to the expiration of the DM1 DM Option Term, Millennium may by written notice to Shattuck request Shattuck reserve a Manufacturing slot at a contract manufacturing organization for a phase II Clinical Trial for DM1. Shattuck agrees that in the event Shattuck receives written instructions from Millennium to reserve a Manufacturing slot at a contract manufacturing organization for a phase II Clinical Trial for DM1, Shattuck shall promptly reserve such Manufacturing slot; provided, however, that Shattuck will only reserve such Manufacturing slot if, following Shattuck’s written
notice to Millennium of the out-of-pocket costs and expenses anticipated to be incurred by Shattuck and its Affiliates associated with reserving such Manufacturing slot, including any down-payment fee or deposit required for such reservation and any associated cancelation fees, Millennium agrees in writing to cover [***] such costs and expenses incurred by Shattuck and its Affiliates, provided Millennium will have no obligation to reimburse Shattuck for any costs and expenses that exceed those disclosed in such written notice. Shattuck shall include Millennium in any discussions with such contract manufacturing organization and shall follow Millennium’s instructions with respect to any decision pertaining to Shattuck’s arrangement with such contract manufacturing organization with respect to such Manufacturing slot.

(b) **Millennium CMC DM1 Activities.** From the Amendment No. 3 Effective Date, Millennium shall, at its sole discretion, conduct none, some or all of the Millennium CMC DM1 Activities at its sole cost and expense (regardless of the CMC DM1 Improvement Budget applicable to such Millennium CMC DM1 Activities).

(c) **Shattuck CMC DM1 Activity Costs.** Millennium will reimburse Shattuck for [***] incurred by Shattuck and its Affiliates in the performance of each of the Shattuck CMC DM1 Activities (“DM1 [***] Expenses”) performed by or on behalf of Shattuck (“Shattuck CMC DM1 Activity Costs”), provided Millennium will have no obligation to reimburse Shattuck for any DM1 [***] Expenses that exceed the applicable amounts set forth in the CMC DM1 Improvement Budget by more than [***] with respect to such Shattuck CMC DM1 Activities. In the event the Shattuck CMC DM1 Activity Costs are expected to or will exceed the applicable CMC DM1 Improvement Budget amounts by more than [***] (“Excess Shattuck CMC DM1 Activity Costs”), Shattuck will provide notice of same to Millennium and the Parties agree to discuss the Excess Shattuck CMC DM1 Activity Costs [***]. Millennium will be responsible for such Excess Shattuck CMC DM1 Activity Costs only in the event that Millennium has approved such Excess Shattuck CMC DM1 Activity Costs in writing in advance, in which case Millennium will be solely responsible for such Excess Shattuck CMC DM1 Activity Costs. Millennium hereby agrees to reimburse such pre-approved Excess Shattuck CMC DM1 Activity Costs regardless of whether the DM Option Term in respect of DM1 has expired or Millennium exercised the DM Exclusive Option with respect to DM1 as of the time such Excess Shattuck CMC DM1 Activity Costs were incurred. Shattuck will be solely responsible for any Excess Shattuck CMC DM1 Activity Costs in the event that Millennium has not approved such Excess Shattuck CMC DM1 Activity Costs in writing in advance; provided, however, that Shattuck will have no obligation to incur additional DM1 [***] Expenses in excess of [***] of those reflected in the original CMC DM1 Improvement Budget unless Millennium agrees to reimburse such additional DM1 Out-of-Pocket Expenses.
For the avoidance of doubt, Excess Shattuck CMC DM1 Activity Costs shall consist only of excess DM1 [***] Expenses incurred in conducting the Shattuck CMC DM1 Activities in accordance with the CMC DM1 Improvement Plan as approved on the Amendment No. 3 Effective Date. In the event that, following the Amendment No. 3 Effective Date, either Party desires to amend the CMC DM1 Improvement Plan (e.g., changes to the number or scope of activities to be conducted thereunder), such amendment will only be effective upon a [***] of the JDC approving such amendment and if the JDC cannot reach agreement on any such proposed amendment by [***] after such proposed amendment is first discussed at a JDC meeting, such proposed amendment will be referred promptly to the Senior Executives of the Parties for resolution through [***] negotiations. In the event the Senior Executives cannot reach agreement on such proposed amendment within [***] of such proposed amendment being referred to them by the JDC, the CMC DM1 Improvement Plan shall not be amended. If such a JDC-approved amendment requires Shattuck to incur additional DM1 [***] Expenses (beyond those DM1 [***] Expenses reflected in the original CMC DM1 Improvement Budget), Millennium shall be solely responsible for such additional DM1 [***] Expenses.

Within [***] following the last day of each Calendar Quarter in which Shattuck CMC DM1 Activity Costs are incurred for which Millennium is responsible in accordance with this Section 2.10(c), Shattuck will send a detailed invoice of such costs to Millennium, and within [***] following receipt of such invoice, Millennium will pay to Shattuck the amount due as reimbursement for such Shattuck CMC DM1 Activity Costs in accordance with Section 5.6 hereof.

(d) Materials Transfer. In order to facilitate the activities contemplated under the CMC DM1 Improvement Plan and any scope of work in respect of DM Collaboration Activities either Party may provide to the other Party certain biological materials or chemical compounds Controlled by the supplying Party (collectively, “Materials”) for use by the receiving Party in furtherance of the CMC DM1 Improvement Plan or a DM Collaboration Activity. The supplying Party will provide a list of all Materials provided to the receiving Party under the Agreement, which will be updated by the supplying Party at the beginning of each Calendar Quarter during the Development Term for DM1 or DM2, as applicable. Each supplying Party hereby grants to the receiving Party a worldwide, fully paid-up, royalty-free, time-limited, non-exclusive, non-transferable, non-sublicensable research license to use the supplying Party’s Material solely for the limited purpose of
performing the CMC DM1 Improvement Plan or a DM Collaboration Activity during the applicable Development Term, subject to the receiving Party’s compliance with the terms of this Agreement. Except as provided in the previous sentence, the provision of Material to a receiving Party under this Agreement does not grant to the receiving Party any license to intellectual property owned or controlled by the supplying Party. For clarity, the research license granted to the receiving Party pursuant to this paragraph is not a license to develop, commercialize, market, or otherwise exploit the supplying Party’s Material. Except as expressly set forth in the CMC DM1 Improvement Plan or the scope of work of a DM Collaboration Activity, the receiving Party agrees not to characterize, sequence, analyze or otherwise reverse-engineer any supplying Party’s Material without the written authorization of the supplying Party. Material will not be used in research that is subject to mandatory consulting or licensing obligations of the receiving Party to another individual, receiving Party Affiliate, business entity, or other Third Party unless prior written permission is obtained from the supplying Party.

Except as otherwise provided for under this Agreement, all Materials delivered to a receiving Party will remain the sole property of the supplying Party, will be used only in furtherance of the activities conducted in accordance with the CMC DM1 Improvement Plan or DM Collaboration Activity, will not be used or delivered to or for the benefit of any Third Party (except for Permitted Subcontractors in furtherance of the CMC DM1 Improvement Plan or DM Collaboration Activity), without the prior written consent of the supplying Party, and will be used in compliance with Applicable Law. The Materials supplied under this Agreement must be used with prudence and appropriate caution in any experimental work because not all of their characteristics may be known. The supplying Party will provide the receiving Party the most current material safety data sheet for the Materials upon transfer of any Materials. Except as expressly set forth in this Agreement, EACH PARTY AGREES THAT THE SUPPLYING PARTY’S MATERIALS ARE PROVIDED “AS IS” AND WITHOUT ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY WARRANTY THAT THE USE OF THE MATERIALS WILL NOT INFRINGE OR VIOLATE ANY PATENT OR OTHER PROPRIETARY RIGHTS OF ANY THIRD PARTY.

In the event Millennium does not exercise its DM Exclusive Option with respect to DM1, then within [***] following termination of the DM Option Term with respect to DM1, (i) any Shattuck-supplied Material remaining in Millennium’s possession with respect to a CMC DM1 Activity or a DM Collaboration Activity with respect to
DM1 will be, at Shattuck’s option, either returned to Shattuck or destroyed pursuant to Shattuck’s written instructions and with Shattuck’s written approval, which destruction will be certified in writing to Shattuck, (ii) any Millennium-supplied Material remaining in Shattuck’s possession with respect to a CMC DM1 Activity or a DM Collaboration Activity with respect to DM1 will be, at Millennium’s option, either returned to Millennium or destroyed pursuant to Millennium’s written instructions and with Millennium’s written approval, which destruction will be certified in writing to Millennium, (iii) except for any documents or other tangible objects that apply to Data that do not constitute Out-of-Scope Results, all documents and other tangible objects containing or representing Shattuck Confidential Information or prepared based on Shattuck Confidential Information (in each case with respect to a CMC DM1 Activity or a DM Collaboration Activity with respect to DM1), and all copies thereof, will be promptly delivered by Millennium to Shattuck, provided that Millennium may retain one (1) copy of any such documents for archival purposes and any continuing legal obligations, and (iv) except for any documents or other tangible objects that apply to Data that do not constitute Out-of-Scope Results, all documents and other tangible objects containing or representing Millennium Confidential Information or prepared based on Millennium Confidential Information (in each case with respect to a CMC DM1 Activity or DM Collaboration Activity with respect to DM1), and all copies thereof, will be promptly delivered by Shattuck to Millennium, provided that Shattuck may retain one (1) copy of any such documents for archival purposes and any continuing legal obligations.

In the event Millennium does not exercise its DM Exclusive Option with respect to DM2, then within [***] following termination of the DM Option Term with respect to DM2, (i) any Shattuck-supplied Material remaining in Millennium’s possession with respect to a DM Collaboration Activity with respect to DM2 will be, at Shattuck’s option, either returned to Shattuck or destroyed pursuant to Shattuck’s written instructions and with Shattuck’s written approval, which destruction will be certified in writing to Shattuck, (ii) any Millennium-supplied Material remaining in Shattuck’s possession with respect to a DM Collaboration Activity with respect to DM2 will be, at Millennium’s option, either returned to Millennium or destroyed pursuant to Millennium’s written instructions and with Millennium’s written approval, which destruction will be certified in writing to Millennium, (iii) except for any documents or other tangible objects that apply to Data that do not constitute Out-of-Scope Results, all documents and other tangible objects containing or representing Shattuck Confidential Information or prepared based on Shattuck Confidential Information (in each case with respect to a DM Collaboration Activity with respect to DM2), and all copies thereof, will be promptly delivered
by Millennium to Shattuck, provided that Millennium may retain one (1) copy of any such documents for archival purposes and any continuing legal obligations, and (iv) except for any documents or other tangible objects that apply to Data that do not constitute Out-of-Scope Results, all documents and other tangible objects containing or representing Millennium Confidential Information or prepared based on Millennium Confidential Information (in each case with respect to a DM Collaboration Activity with respect to DM2), and all copies thereof, will be promptly delivered by Shattuck to Millennium, provided that Shattuck may retain one (1) copy of any such documents for archival purposes and any continuing legal obligations. For purposes of clarity, any Data that constitutes Out-of-Scope Results will be subject to the terms and conditions of Section 2.10(e).

(e) Out-of-Scope Results. Should either Party, or any person who is granted access to Material by either Party, use any Material for purposes other than the conduct of the CMC DM1 Activities or DM Collaboration Activities or otherwise not in compliance with the terms and conditions of this Agreement, such Out-of-Scope Results will belong to the Party that supplied such Material. Each Party will promptly disclose all Out-of-Scope Results to the other Party and will assign and hereby assigns all of its and such person’s right, title and interest in and to all Out-of-Scope Results to such other Party. The foregoing will not limit any other remedies available to a Party for any reason by law or in equity.

(f) Updates. During the Development Term for DM1 or DM2, as applicable, Millennium and Shattuck will keep each other promptly informed and up-to-date regarding the progress of their respective CMC DM1 Activities and DM Collaboration Activities. Each Party will supply to the other Party a final written report within the earlier of [***] after the completion of all CMC DM1 Activities or DM Collaboration Activities or [***] after expiration or earlier termination of the DM Option Term in respect of DM1 or DM2, as applicable. Each report will set forth a reasonably detailed description of the activities conducted in support of the CMC DM1 Activities or DM Collaboration Activities, as applicable, by the Party delivering the report. Shattuck and Millennium shall jointly own each such report and all Data generated in each case as a result of the conduct of the Millennium CMC DM1 Activities or Millennium CMC DM Collaboration Activities.

(g) Additional CMC DM1 Activities. Millennium may request, in its sole discretion, that Shattuck agree to conduct certain research activities relating to the Manufacturing of DM1 that are in addition to the Shattuck CMC DM1 Activities. If Millennium so requests, the Parties will discuss such requested assistance and will work [***] to negotiate the scope of, and budget for, such activities, which shall be deemed “Shattuck CMC DM1 Activities” hereunder (and
which shall be incorporated into the “CMC DM1 Improvement Budget”) upon written agreement of the Parties. For the avoidance of doubt, Shattuck will have no obligation under this Agreement to agree to conduct any such additional research activities relating to the Manufacturing of DM1.

(h) **Advanced Manufacturing**. Notwithstanding anything to the contrary contained herein or (if executed) in the DM License Agreement for DM1, if Shattuck reserves a Manufacturing slot as described in Section 2.10(a), Millennium may by written notice to Shattuck (a “Manufacturing Notice”) request Shattuck to timely Manufacture (or have Manufactured) and supply to Millennium an amount of DM1 Manufactured utilizing the Manufacturing slot reserved by Shattuck pursuant to Section 2.10(a) (“Advanced Manufacturing Services”). Shattuck will reasonably consider the request set forth in Millennium’s Manufacturing Notice and will negotiate with Millennium to enter into separate quality and supply agreements with Millennium, which are satisfactory to Shattuck, for the Advanced Manufacturing Services as contemplated below, provided no Advanced Manufacturing Services will commence unless or until the Parties execute such separate quality and supply agreements. Millennium may deliver a Manufacturing Notice at any time during the DM Option Term with respect to DM1 or, in the event that Millennium delivers an Exercise Notice to Shattuck with respect to DM1, after the expiration thereof and prior to the date that is [***] after the effective date of the DM License Agreement for DM1.

Following Shattuck’s reservation of the Manufacturing slot pursuant to Section 2.10(a) and through the date [***] following Shattuck’s receipt of a Manufacturing Notice, the Parties will negotiate and enter into separate quality and supply agreements with respect to the Advanced Manufacturing Services contemplated under this Section 2.10(h), which shall (i) contain supply terms reasonably acceptable to the Parties, including that [***] and (ii) be consistent with the terms of this Section 2.10(h) and Millennium’s policies.

Shattuck shall, during the period in which the Parties negotiate the separate quality and supply agreements referenced in the immediately preceding paragraph and following such period, if the Parties enter into such separate quality and supply agreement, as set forth in such separate quality and supply agreements, provide Millennium with such full access to its (and its Third Party CMO’s) sites, facilities, production, operations, testing, storage, books and records, quality system and any other information as is necessary or useful in order for Millennium to perform to its satisfaction a formal quality assessment and/or quality audit in respect of Shattuck’s Manufacturing and supply obligations for the Advanced Manufacturing Services under this Section 2.10(h). For the avoidance of doubt, no activities conducted under this Section 2.10(h) shall be deemed CMC DM1 Activities hereunder.
(i) **Third Party CMO.** In order to perform its Shattuck CMC DM1 Activities, DM Collaboration Activities under Section 2.10, or Advanced Manufacturing Services under Section 2.10(h), Shattuck may, with the prior written approval of Millennium (such approval only required to the extent Millennium will be reimbursing the costs thereof hereunder, and if such approval is so required, not to be unreasonably withheld, conditioned, or delayed), enter into agreements with one or more Third Party contract manufacturing organizations (each, a "**Third Party CMO**") for the conduct of one or more Shattuck CMC DM1 Activities, DM Collaboration Activities under Section 2.10, or Advanced Manufacturing Services under Section 2.10(h), provided that Shattuck shall include Millennium in any discussions with any Third Party CMO and shall follow Millennium’s instructions with respect to any decision pertaining to Shattuck’s arrangement with such Third Party CMO. Notwithstanding the foregoing, the requirements of this Section 2.10(i) will not apply to any existing agreements entered into prior to the Amendment No. 3 Effective Date by and between (i) Shattuck and KBI Biopharma, Inc. or (ii) Shattuck on the one hand and [***] on the other hand, provided that Shattuck shall include Millennium in any discussions with such Third Party CMOs to the extent such discussions concern Shattuck CMC DM1 Activities, DM Collaboration Activities under Section 2.10 or Advanced Manufacturing Services under Section 2.10(h), in each case for which Millennium will be reimbursing the costs thereof hereunder. For clarity, any and all payments by Shattuck to Third Party CMOs shall, to the extent they otherwise qualify as Shattuck CMC DM1 Activities or Advanced Manufacturing Services under Section 2.10(h), be eligible for reimbursement by Millennium pursuant to this Section 2.10.

(j) **Development Plan.** Neither the CMC DM1 Activities nor any DM Collaboration Activities shall be deemed a part of any Development Plan.”

2.4 **Section 3.1(a).** Section 3.1(a) of the Agreement is hereby amended by deleting the “and” at the end of subsection (x), replacing the “;” at the end of subsection (xi) with “;” and adding the following subsections (xii) through (xvi) thereto:

“(xii) monitoring progress under the CMC DM1 Improvement Plan and discussing and recommending as applicable amendments thereto, including with respect to capacity;

(xiii) monitoring progress of the Manufacturing of Development Molecules used in the Development Program, including discussing any potential supply issues, interruptions, the outcome of any Regulatory Authority inspection of Manufacturing facilities used by or on behalf of Shattuck, and any remedial actions required, if applicable, as a result of such inspection;
2.5 **Section 4.1(c).** The first four lines of Section 4.1(c) of the Agreement is hereby deleted and replaced with the following:

"(c) The amount of the upfront fee (the “License Fee”) to be paid by Millennium for the exclusive license to the applicable Molecule will be as follows:

- DM1 – [***], less the Non-Refundable [***] paid by Millennium to Shattuck in accordance with Section 5.1(e)
- DM2 – [***]"

2.6 **Section 5.1(e).** Section 5.1 of the Agreement is hereby amended by adding the following subsection (e) thereto:

“(e) Non-Refundable [***]. Within [***] of having received an invoice therefor from Shattuck, which invoice Shattuck shall submit to Millennium promptly after the Amendment No. 3 Effective Date, Millennium shall pay to Shattuck the sum of Eleven Million Two Hundred Fifty Thousand Dollars ($11,250,000) as a nonrefundable [***] in respect of DM1 set forth in the first bullet point of Section 4.1(c) (the “Non-Refundable [***]”)."

2.7 **Section 5.3(g).** Section 5.3 of the Agreement is hereby amended by adding the following subsection (g) thereto:

“(g) First Dose Expansion Cohort and Second Dose Expansion Cohort. The Parties acknowledge and agree that, as of the Amendment No. 3 Effective Date, the Protocol includes a first dose expansion cohort in humans (the “First Dose Expansion Cohort”), which will be conducted by Shattuck in accordance with the study plan (the “First Dose Expansion Cohort Plan”) that is hereby incorporated into the Development Plan and attached hereto as Schedule M. The Parties acknowledge and agree that, as of the Amendment No. 3 Effective Date, the Protocol includes a second dose expansion cohort in humans (the “Second Dose Expansion Cohort”), which will be conducted by Shattuck in accordance with the study plan (the “Second Dose Expansion Cohort Plan”) that is hereby incorporated into the Development Plan and attached hereto as Schedule N, subject to the reimbursement provisions related to the Second Dose Expansion Cohort Costs and the Dose Expansion Cohort CTM Costs, as set forth under Section 5.3(h)."
In the event that either Party desires to amend the Second Dose Expansion Cohort Plan, such Party will present any such proposed amendments to the JDC, and take into consideration any feedback or recommendations on such proposed amendment by the other Party, provided the other Party provides such feedback or recommendations within of such presentation to the JDC. Any such proposed amendments shall require of the JDC and if the JDC cannot reach agreement on any such proposed amendments by within after such proposed amendments are first discussed at a JDC meeting, such proposed amendments will be referred promptly to the Senior Executives of the Parties for resolution through negotiations. In the event the Senior Executives cannot reach agreement on such proposed amendments within of such proposed amendments being referred to them by the JDC, the Second Dose Expansion Cohort Plan shall not be amended.

Shattuck hereby agrees that it will (i) , and (ii) . Prior to further expansion at a selected dose level (i.e., ), Shattuck will provide its rationale to support the dose selection and dosing schedule for the First Dose Expansion Cohort and the Second Dose Expansion Cohort for review by the JDC and take into consideration in good faith any feedback or recommendations on such analysis by Millennium, provided that Millennium provides such feedback or recommendations within of such presentation to the JDC. If the JDC cannot reach agreement on a dose or dosing schedule by within after such dose or dosing schedule is first discussed at a JDC meeting, such dose or dosing schedule will be referred promptly to the Senior Executives of the Parties for resolution through negotiations. In the event the Senior Executives cannot reach agreement on such dose or dosing schedule within of such dose or dosing schedule being referred to them by the JDC, Shattuck may, in its discretion cast a deciding vote with respect to such dose or dosing schedule, and such deciding vote will then be deemed the final decision of the JDC.

For clarity, all data, information and results developed as a result of the Second Dose Expansion Cohort will be deemed Development Molecule IP and will be subject to the terms and conditions of this Agreement.

The time necessary to complete the Second Dose Expansion Cohort shall not be deemed to extend the Development Term for DM1, such Development Term to be determined in accordance with the definition of Development Term as set forth in the Agreement; provided that subject to Section 5.3(h), if the Second Dose Expansion Cohort remains ongoing at the end of the Development Term for DM1 and Millennium has exercised its DM Exclusive Option in respect of DM1, Shattuck shall continue to conduct the Second Dose Expansion Cohort Plan past the end of the Development Term for DM1, until (a) the final visit for the final patient for the Second Dose Expansion Cohort is completed, or (b) the study has been
operationally transferred to Millennium (which shall be done only following Millennium’s prior written request, which shall be made by Millennium as soon as practicable without disrupting the conduct of the study and the safety of patients), whichever occurs first.”

**2.8 Section 5.3(h).** Section 5.3 of the Agreement is hereby amended by adding the following subsection (h) thereto:

“(h) **Second Dose Expansion Cohort Costs and First Dose Expansion Cohort CTM Costs.** Subject to the remainder of this Section 5.3(h), (i) Millennium will reimburse Shattuck for all actual and documented out-of-pocket expenses incurred by Shattuck and its Affiliates in the performance of the Second Dose Expansion Cohort ("Second Dose Expansion Cohort Costs"), provided Millennium will have no obligation to reimburse any Second Dose Expansion Cohort Costs that exceed US$3,195,000; and (ii) Millennium will bear fifty percent (50%) and Shattuck will bear fifty percent (50%) of all actual and documented out-of-pocket expenses incurred by Shattuck and its Affiliates to provide the tangible clinical trial materials for the First Dose Expansion Cohort and the Second Dose Expansion Cohort ("Dose Expansion Cohort CTM Costs"), provided that Millennium’s fifty percent (50%) share of the Dose Expansion Cohort CTM Costs shall not exceed US$4,000,000. For clarity, in the event the Second Dose Expansion Cohort Costs exceed US$3,195,000 or the Dose Expansion Cohort CTM Costs exceed US$[***], the Parties agree to discuss such excess Costs [***] as well as each Party’s responsibility for such excess Costs; provided, however, that Shattuck will have no obligation to incur Second Dose Expansion Cohort Costs in excess of US$3,195,000 or Dose Expansion Cohort CTM Costs in excess of US$4,000,000 under this Agreement unless Millennium agrees to reimburse such excess costs. Millennium will be responsible for such Second Dose Expansion Cohort Costs and for fifty percent (50%) of the Dose Expansion Cohort CTM Costs regardless of whether Millennium exercises the DM Exclusive Option with respect to DM1 as of the time such Costs were incurred, provided, notwithstanding anything to the contrary contained herein, if Shattuck enters into a licensing, collaboration, or asset transfer transaction for the Exploitation of DM1 with any party other than Millennium or its Affiliates (a "Subsequent Transaction") at any time on or before the date that is the [***] of the conclusion of the [***] for the final subject enrolled in the Second Dose Expansion Cohort, Shattuck shall (i) be solely responsible for any Second Dose Expansion Cohort Costs incurred on or after Shattuck enters into such Subsequent Transaction, and (ii) reimburse Millennium for all Second Dose Expansion Cohort Costs incurred by Shattuck and reimbursed by Millennium to Shattuck after the date Millennium informs Shattuck in writing of its decision not to exercise the DM Exclusive License in respect of DM1. Shattuck shall provide Millennium with written notice of any such Subsequent Transaction within [***] following execution or the closing date, as applicable, of such Subsequent Transaction.
For the avoidance of doubt, the Second Dose Expansion Cohort Costs and Dose Expansion Cohort CTM Costs that must be reimbursed by Millennium to Shattuck will only include such costs that are incurred under the Second Dose Expansion Cohort Plan. In the event that, following the Amendment No. 3 Effective Date, the scope of the Second Dose Expansion Cohort Plan is expanded in accordance with Section 5.10(g), and such expansion results in excess Second Dose Expansion Cohort Costs and Second Dose Expansion CTM Costs (each such excess, “Excess Second Dose Expansion Cohort Costs”), [***].

Within [***] following the last day of each Calendar Quarter in which Excess Second Dose Expansion Cohort Costs are incurred for which Millennium is responsible in accordance with this Section 5.3(h), Shattuck will send a detailed invoice of such costs to Millennium, and within [***] following receipt of such invoice, Millennium will pay to Shattuck the amount due as reimbursement for such Excess Second Dose Expansion Cohort Costs in accordance with Section 5.6 hereof. Millennium will be responsible for such Excess Second Dose Expansion Cohort Costs regardless of whether Millennium exercises the DM Exclusive Option with respect to DM1 as of the time such Excess Second Dose Expansion Cohort Costs were incurred, provided, notwithstanding anything to the contrary contained herein, if Shattuck enters into a Subsequent Transaction at any time on or before the date that is the [***] of the conclusion of the [***] for the final subject enrolled in the Second Dose Expansion Cohort, Shattuck shall (i) be solely responsible for any Excess Second Dose Expansion Cohort Costs incurred on or after Shattuck enters into such Subsequent Transaction, and (ii) reimburse Millennium for all Excess Second Dose Expansion Cohort Costs incurred by Shattuck and reimbursed by Millennium to Shattuck after the date Millennium informs Shattuck in writing of its decision not to exercise the DM Exclusive License in respect of DM1. Shattuck shall provide Millennium with written notice of any such Subsequent Transaction within [***] following execution or the closing date, as applicable, of such Subsequent Transaction.”

For the avoidance of doubt, Shattuck will be solely responsible for all internal and out-of-pocket expenses and costs incurred by Shattuck and its Affiliates in the performance of the First Dose Expansion Cohort, it being understood that Millennium will bear fifty percent (50%) and Shattuck will bear fifty percent (50%) of all Dose Expansion Cohort CTM Costs (provided that Millennium’s fifty percent (50%) share of the Dose Expansion Cohort CTM Costs shall not exceed US$4,000,000).

2.9 Section 5.3(i). Section 5.3 of the Agreement is hereby amended by adding the following subsection (i) thereto:

“(i) DM2 Supplementary Dose Expansion Cohort. During the Development Term in respect of DM2, Millennium may by written notice to Shattuck request Shattuck (each such written request, a “DM2 Supplementary Notice”) [***] to Manufacture (or have Manufactured) materials sufficient to conduct, and will conduct, any dose expansion cohort study in humans for purposes [***] (each, a “DM2 Supplementary Dose Expansion Cohort”); provided, however, Shattuck may decline to conduct any such
requested dose expansion cohort study at Shattuck’s sole discretion. Within [***] following Shattuck’s receipt of a DM2 Supplementary Notice, the Parties will negotiate [***] a study plan (and associated budget) and an amendment to the Agreement to include terms with respect to such DM2 Supplementary Dose Expansion Cohort, which shall be substantially similar to the terms pursuant to Sections 5.3(g) and (h) in respect of DM1, any such amendment to the Agreement subject to mutual agreement by the Parties.

2.10 **Section 6.1(b)(iii), (iv) and (v).** Section 6.1(b) of the Agreement is hereby further amended by amending subsections (iii), (iv) and (v) and replacing it with subsections (iii), (iv) and (v) below, respectively:

“(iii) Millennium Combination IP and CMC Collaboration IP will be jointly owned by Shattuck and Millennium, with each Party owning an equal and undivided interest in such Intellectual Property with the full right to exploit such jointly owned Intellectual Property without the consent of, or any obligation to account to, the other Party;

(iv) for any other Intellectual Property that is not Combination IP, CMC Collaboration IP, Millennium Technology IP or Shattuck IP, that is developed by either Party or its respective Affiliates in the course of performing their obligations under this Agreement (including under the Development Plan) ("Other IP"), ownership will follow inventorship; and”

“(v) Millennium will promptly disclose to Shattuck in writing the development, making, conception or reduction to practice of any Shattuck IP, Combination IP, CMC Collaboration IP, Data or Other IP. Shattuck will promptly disclose to Millennium in writing the development, making, conception or reduction to practice of any Millennium Technology IP, Combination IP or Other IP. The Parties will cooperate with each other to effectuate ownership of any such Intellectual Property as set forth in this Agreement, including executing such papers and instruments, requiring employees or others to execute such papers or instruments, and recording such papers or instruments, to effectuate the ownership of such Patent Rights, and to enable the Patent Prosecution thereof in any country or region. Millennium agrees to assign, and hereby assigns, to Shattuck all Shattuck IP and an undivided one-half interest in and to any Millennium Combination IP and CMC Collaboration IP that is conceived or reduced to practice by or on behalf of Millennium or its Affiliates during the Term. Shattuck agrees to assign, and hereby assigns, to Millennium Technology IP and an undivided one-half interest in and to any Millennium Combination IP that is conceived or reduced to practice by or on behalf of Shattuck or its Affiliates during the Term.”

2.11 **Section 6.2.** Section 6.2 of the Agreement is hereby deleted in its entirety and replaced with the following:

2.12 “Millennium hereby grants to Shattuck and its Affiliates a non-exclusive, royalty-free, fully paid-up, worldwide license, with the right to sublicense, to and under the Millennium Technology IP for the limited purpose of allowing Shattuck and its Affiliates to conduct Development activities pursuant to this Agreement and the Development Plan.”
2.13 Section 6.3. Subsections 6.3 (a) – (e) of the Agreement are hereby deleted in their entirety and replaced with the following:

“(a) During the Term, Shattuck will have the right and final authority, but not the obligation, to prepare, file, prosecute, maintain and control Patent Rights covering Shattuck IP, with patent counsel of its choice and at Shattuck’s sole cost, including initiating interferences, re-examinations, reissues, oppositions, revocation actions and the like, and gaining patent term adjustments or restorations, supplemental protection certificates or their equivalents, and patent term extensions with respect thereto ("Patent Prosecution"); provided, however, that with respect to Development Molecule IP, Combination IP (including Millennium Combination IP) and CMC Collaboration IP (in the case of Millennium Combination IP and CMC Collaboration IP only where, following Section 6.3(c), the Parties have agreed that Shattuck will control prosecution of Millennium Combination IP or CMC Collaboration IP), Shattuck will retain outside counsel that is acceptable to Millennium.

(b) Shattuck will keep Millennium informed, through the JPC, of all material matters with regard to the Patent Prosecution of the Patent Rights within the Development Molecule IP, Combination IP (including Millennium Combination IP) and CMC Collaboration IP (only where, following Section 6.3(c), the Parties have agreed that Shattuck will control prosecution of Millennium Combination IP and CMC Collaboration IP), as applicable, including by using [***] to provide Millennium with prior written notice a reasonable time prior to taking or failing to take any action that would affect the scope or validity of any such filing (including the substantial narrowing, cancellation or abandonment of any claim(s) without retaining the right to pursue such subject matter in a separate application, or the failure to file or perfect the filing of any claim(s) in any country for which the JPC has recommended pursuing patent protection for such claim), so that Millennium has a reasonable opportunity to review and comment. Shattuck will consider any such comments received from Millennium in good faith. Similarly, to the extent, following Section 6.3(c), the Parties have agreed that Millennium will control prosecution of Millennium Combination IP or CMC Collaboration IP, Millennium will keep Shattuck informed, through the JPC, of all material matters with regard to the Patent Prosecution of the Millennium Combination IP or CMC Collaboration IP, as applicable, including by using [***] to provide Shattuck with prior written notice a reasonable time prior to taking or failing to take any action that would affect the scope or validity of any such filing, so that Shattuck has a reasonable opportunity to review and comment. Millennium will consider any such comments received from Shattuck [***].

(c) Unless the Parties otherwise agree in writing, on a Molecule-by-Molecule basis, prior to exercise by Millennium of the DM Exclusive Option for the Molecule pursuant to Section 4.1, the Parties will not prepare, file, or prosecute Patent Rights Covering any Millennium Combination IP or CMC Collaboration IP. For clarity, should the Parties agree to prepare, file, or prosecute Patent Rights Covering any Millennium Combination IP or
Collaboration IP prior to exercise by Millennium of the DM Exclusive Option for the Molecule pursuant to Section 4.1, the Parties will also designate which Party will control prosecution of such Millennium Combination IP or CMC Collaboration IP.

(d) Within [***] following the Effective Date, the Parties will establish a Joint Patent Committee ("Joint Patent Committee" or "JPC") which will be responsible for keeping each Party reasonably informed of all inventions arising under the Development Program, sharing material information and coordinating strategy for the Patent Prosecution of Patent Rights of ARC Technology IP, Development Molecule IP, Selected Molecule IP, Combination IP and CMC Collaboration IP.

(i) The JPC will be comprised of [***] of representatives of each Party, with each Party having at least [***] representative on the JPC at all times. JPC members will have expertise appropriate for the function and purpose of the JPC. Each Party may replace its representative(s) on the JPC from time to time in its discretion with prior written notice to the other Party. Shattuck will select one of the Shattuck representatives of the JPC to be responsible for coordinating meetings of the JPC and preparing an agenda for each meeting (the "JPC Chair").

(ii) The JPC will have no decision-making authority. It will serve only as a forum for the Parties to discuss and collaborate with respect to Patent Prosecution matters applicable to the Development Molecules, Selected Molecules, Combinations and Patent Rights under the CMC Collaboration IP, including: overseeing and coordinating the activities of the mutually acceptable outside counsel; facilitating the Parties’ discussions regarding which claims of the Shattuck IP existing as of the Effective Date fall within the ARC Technology IP, which claims fall within the Development Molecule IP, which claims fall within the Selected Molecule IP, and which claims fall within the Combination IP (including Millennium Combination IP), and which claims fall within the CMC Collaboration IP (and keeping a written record of such discussions) and filing continuations and/or divisional applications as necessary to segregate the claims into separate Patent Rights Covering each category, to the extent possible; discussing new patent filing strategy, and claims strategy with the goal of continuing to segregate Patent Rights Covering Development Molecule IP, Selected Molecule IP, Combination IP, CMC Collaboration IP and ARC Technology IP, respectively, to the extent possible; and coordinating with each other to reasonably avoid creating potential issues in Patent Prosecution of patent applications. The JPC will be dissolved upon expiration of the Development Period (and in the event the Parties enter into a DM License Agreement and/or SM License Agreement, the relevant functions of the JPC will be conducted by the joint patent committee created pursuant to such agreement(s)).
(e) To the extent Shattuck desires to include any unpublished Know-How pertaining to a Development Molecule, a Selected Molecule, a Combination or CMC Collaboration IP in a patent application Covering ARC Technology IP, or submit any unpublished Know-How pertaining to a Development Molecule, a Selected Molecule, a Combination or CMC Collaboration IP to a patent office in furtherance of Prosecution of ARC Technology IP, Shattuck will inform Millennium no less than [***] in advance of the intended filing or submission date and provide Millennium with an opportunity to review and comment on such filing or submission. Shattuck will consider Millennium’s comments in good faith. Shattuck agrees that, without the prior written consent of Millennium, neither Shattuck nor any of its Affiliates will disclose any unpublished Know-How solely pertaining to Selected Molecule IP, Development Molecule IP, Combination IP or CMC Collaboration IP in any patent application Covering ARC Technology IP, or Prosecution thereof, in a manner that would reasonably be expected to prejudice the ability to patent any Know-How Covering Development Molecule IP, Selected Molecule IP, Combination IP or CMC Collaboration IP.”

2.14 Section 6.4. Section 6.4 of the Agreement is deleted in its entirety and replaced with the following:

“During the Term, Shattuck will not finally abandon or allow to lapse, or otherwise cease Patent Prosecution of any of the Patent Rights under the ARC Technology IP, Development Molecule IP, Combination IP (including Millennium Combination IP) or CMC Collaboration IP (in the case of Millennium Combination IP and CMC Collaboration IP, where the Parties agreed under Section 6.3(c) to file and that Shattuck would control Patent Prosecution of such Millennium Combination IP or CMC Collaboration IP), unless the JPC has [***] recommended such action.”

2.15 Section 8.5(c)(i). Section 8.5(c)(i) of the Agreement is hereby deleted in its entirety and replaced with the following:

“Shattuck will grant to Millennium a royalty-free, fully-paid-up, worldwide license, with the right to grant sublicenses, to and under the Shattuck IP, Other IP Controlled by Shattuck and Shattuck’s interest in Combination IP and CMC Collaboration IP for the limited purpose of performing any and all activities associated with the conduct of the Development Program (which, for clarity, need not be conducted pursuant to the Development Plan) that would otherwise have been performed by Shattuck under this Agreement had it not been terminated, and such license will survive until the earlier of (a) the [***] of the Effective Date or (b) the date on which Millennium has exercised its option to be granted an exclusive license to each of DM1, DM2, SM1 and SM2 (or affirmatively declined (in a written notice provided to Shattuck) to exercise such options). The foregoing license will be exclusive as to the Development Molecule IP, Selected Molecule IP, Combination IP, CMC Collaboration IP and the ARC Technology IP (but in the case of ARC Technology IP and CMC Collaboration IP, it will be exclusive only with respect to the Target Pairs that are Targeted by the Molecules with respect to which Millennium is continuing Development, and it will otherwise be nonexclusive) and non-exclusive as to the Other IP.”
2.16 **Section 8.6.** Section 8.6 of the Agreement is hereby amended by deleting the last sentence thereof in its entirety and replacing with the following:

“Notwithstanding anything herein to the contrary, the following provisions will survive termination or expiration of this Agreement: Article 1 (to the extent necessary to give effect to the other Sections listed in this Section 8.6), Section 2.9(a) (to the extent applicable by operation of Section 8.5(c)(vi)), Section 2.10(a), (c), (d) (solely with respect to each Party’s obligations to return or destroy certain tangible objects and Material pursuant to clause (d)) and (e), Article 4 (to the extent applicable by operation of Section 8.5(b)), Sections 5.3(g), 5.3(h), 5.4, 5.5, 5.6, 5.7, 5.8, and 5.9 (in the case of Section 5.9, for a period of one (1) year following the termination date), Section 6.1, 6.2 (last sentence only), Article 7 (for the duration stated therein), Sections 8.5 and 8.6, Section 9.5, Article 10 (with respect to Section 10.3, for the term stated therein), and Sections 11.2, 11.4, 11.5, 11.7, 11.9, 11.10, 11.11, 11.12, 11.14 and 11.15.”

2.17 **Amendments to the DM License Agreement.** Section 1.1 and Article 3 of the DM License Agreement is hereby amended as further provided in Exhibit 1 to this Amendment.

3 **Schedule K.** Exhibit 2 to this Amendment is hereby added as Schedule K to the Agreement.

4 **Schedule L.** Exhibit 3 to this Amendment is hereby added as Schedule L to the Agreement.

5 **Schedule M.** Exhibit 4 to this Amendment is hereby added as Schedule M to the Agreement.

6 **Schedule N.** Exhibit 5 to this Amendment is hereby added as Schedule N to the Agreement.

7 **Mutual Representation of Authority; Consents.** Each Party represents and warrants to the other that:

(a) it is duly incorporated and organized, validly existing and in good standing under the laws of its jurisdiction of incorporation;

(b) it has full right, corporate power and authority to enter into this Amendment and to perform its obligations under this Amendment;

(c) this Amendment has been duly executed and delivered by such Party and constitutes a legal, valid and binding obligation of such Party, enforceable in accordance with the terms hereof, subject to the effect of applicable bankruptcy, insolvency, reorganization, moratorium or similar laws relating to the rights of creditors generally and rules of law and equity governing specific performance, injunctive relief and other equitable remedies;
the execution, delivery and performance of this Amendment by such Party has been duly authorized by all necessary corporate action of such Party and does not and will not during the Term: violate any Applicable Law; conflict with or constitute a breach or default under any agreement, instrument or understanding, oral or written, to which it or any of its Affiliates is a party or by which it or such Affiliates may be bound; or conflict with or violate such Party’s corporate charter or bylaws;

(e) no consents, approvals or authorizations under Applicable Law or from Third Parties (including Governmental Entities) are required to be obtained in connection with the execution, delivery and performance of this Amendment; and

(f) each Party’s (and each Party’s Affiliates’) employees and consultants have assigned, or will assign, to such Party all of their right, title, and interest in any Intellectual Property arising from activities conducted under this Amendment.

8 **Continuing Effect of Agreement.** Except as otherwise expressly modified by this Amendment, this Amendment shall not by implication or otherwise alter, modify, amend or in any way affect any of the terms, conditions, obligations, covenants or agreements contained in the Agreement, all of which shall continue to be in full force and effect (including, without limitation, Section 4.1(e) thereof).

9 **Counterparts.** This Amendment may be executed in counterparts, each of which counterparts, when so executed and delivered, will be deemed to be an original, and all of which counterparts, taken together, will constitute one and the same instrument. For purposes of execution, a copy of this Amendment or any amendment hereto will be deemed an original (including a printed copy of a PDF file delivered via email (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., www.docusign.com) or a facsimile transmitted telephonically via a fax machine).

10 **Governing Law.** This Amendment and all questions regarding the existence, validity, interpretation, breach or performance of this Amendment, will be governed by, and construed and enforced in accordance with, the laws of the State of New York, U.S., without reference to its conflicts of law principles.

11 **Jurisdiction and Venue.** Each Party irrevocably consents to the exclusive jurisdiction and venue in any federal court of the U.S. located in the Southern District of New York (or, if any such court of the U.S. located in the Southern District of New York declines to accept jurisdiction over a particular matter, any state court located in New York, NY) in connection with any matter based upon or arising out of this Agreement or the transactions contemplated hereby, and agrees not to commence any legal proceedings relating to or arising out of this Agreement or the transactions contemplated hereby in any jurisdiction or courts other than as provided herein. Each Party waives and covenants not to assert or plead any objection that such Party might otherwise have to such jurisdiction, venue or process.

12 **Effectiveness.** This Amendment shall be effective upon execution by Millennium and Shattuck.

[Remainder of page intentionally left blank.]
IN WITNESS WHEREOF, the Parties have executed this Amendment as of the Effective Date.

MILLENNIUM PHARMACEUTICALS, INC.

By: /s/ Teresa Bitetti
Name: Teresa Bitetti
Title: President

[Signature Page to Amendment No. 3 to Collaboration Agreement]
IN WITNESS WHEREOF, the Parties have executed this Amendment as of the Effective Date.

SHATTUCK LABS, INC.

By: /s/ Taylor Schreiber
Name: Taylor Schreiber
Title: CEO

[Signature Page to Amendment No. 3 to Collaboration Agreement]
EXCLUSIVE LICENSE AGREEMENT

By and between

Shattuck Labs, Inc.

and

Heat Biologics, Inc.

Effective as of June 3, 2016
This Exclusive License Agreement (this “Agreement”), effective this 3rd day of June, 2016 (the “Effective Date”), is between Shattuck Labs, Inc., a Delaware corporation (“Shattuck”), and Heat Biologics, Inc., a Delaware corporation (“Heat”). Shattuck and Heat are each a “Party” and collectively the “Parties.”

WHEREAS, Heat owns certain provisional patent applications and know-how related to the use of fusion proteins to potentially treat cancers and other diseases and conditions;

WHEREAS, Heat would like to exclusively license, consistent with the terms and conditions of this Agreement, to Shattuck, and Shattuck would like to accept such exclusive license so as to allow Shattuck to take over the research and development of the Fusion Protein Research (as defined below).

NOW, THEREFORE, in consideration of the foregoing premises and the mutual covenants herein contained, the receipt and sufficiency which are hereby acknowledged, Shattuck and Heat hereby agree as follows.

ARTICLE I
DEFINITIONS

Unless the context otherwise requires, the terms in this Agreement with initial letters capitalized, will have the meanings set forth below, or the meaning as designated in the indicated places throughout this Agreement.

1.1 “Affiliate” of a Party means any Person that, directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with such Party, as the case may be, but for only so long as such control exists. As used in this Section 1.1, “control” will mean (i) direct or indirect beneficial ownership of at least fifty percent (50%) (or such lesser percentage which is the maximum allowed to be owned by a foreign corporation in a particular jurisdiction) of the voting share capital or other equity interest in such Person or (ii) the power to direct the management of such Person by contract or otherwise.

1.2 “Auditor” will have the meaning set forth in Section 4.8.

1.3 “Background Fusion Protein Know-How” means all know-how owned or Controlled by Heat which is used by Heat in the Research Services or otherwise incorporated into the work product and substances resulting from the Research Services. For clarity, Background Fusion Protein Know-How excludes the Provisional Applications, the Research Services IP, and any IP Rights which are not Controlled by Heat.

1.4 “Bankruptcy Laws” means Title 11 of the United States Code, and any foreign counterparts thereto.
1.5 “BLA” mean an application for a biologics license in accordance with the requirements of Title 42 of the United States Code (the Public Health Service Act) and the regulations promulgated thereunder (including all additions, supplements, extensions, and modifications thereto).

1.6 “Business Day” means any day other than a Saturday, Sunday, or banking holiday in Austin, Texas or Durham, North Carolina.

1.7 “Calendar Quarter” means the three (3) month period beginning on January 1, April 1, July 1 or October 1, as the context requires.

1.8 “Calendar Year” means a period of twelve consecutive calendar months beginning on and including January 1 and ending on December 31.

1.9 “Change of Control Event” means an event in which an entity acquires all or substantially all of the business, stock, or assets of a Party relating to the subject matter of this Agreement, whether by merger, acquisition or otherwise.

1.10 “Commercially Reasonable Efforts” means that level of efforts and resources, with respect to the applicable Party, at the relevant point in time, that is consistent with the efforts and resources that such Party, in the exercise of its reasonable scientific and business judgment, would normally devote [***], based on conditions then prevailing and taking into account [***] and other relevant factors, including, comparative technical, legal, scientific, and/or medical factors.

1.11 “Competitive Product” means a pharmaceutical product which is under development, or is marketed, for the same indication and is directed to at least one immunotherapy-related target in common with a Product or a Product candidate which is under development by Shattuck. For clarity, products developed under the Heat Existing Programs will not be considered Competitive Products.

1.12 “Confidential Information” means any confidential or proprietary information or data disclosed by or on behalf of a Party under this Agreement, whether provided in written, oral, graphic, visual, electronic or other form, including any non-public information relating to the Provisional Applications, the Research Services, the Research Services IP, other development efforts, new inventions, sources of materials, cost, pricing and other financial information and Patent information.

1.13 “Control” or “Controlled” means, with respect to any IP Rights, the possession (whether by ownership, license or contract, other than pursuant to this Agreement) by a Party or its Affiliates of the right to grant to another Party access, license, sublicense, or other right as provided herein without violating the terms of any agreement or other arrangement, existing before, on, or after the Effective Date, with any Third Party.

1.14 “Covers” or “Covered” means, with respect to a product and a Patent, that, but for a license granted to a Person under a Valid Claim included in such Patent, such Person’s manufacture, use, sale, import, marketing, offer for sale or commercialization of the product would infringe such Valid Claim.
1.15 “Discloser” means the Party that discloses its own Confidential Information.

1.16 “Disclosure Schedules” means the disclosure schedules attached to this Agreement.

1.17 “FDA” means the United States Food and Drug Administration, including all agencies under its control, and any successor agency thereto.

1.18 “First Commercial Sale” means, with respect to a country, the first commercial sale of a Product to a Third Party for use, consumption or resale in that country after obtaining regulatory approval in that country.

1.19 “Fusion Protein Patent Rights” means all Patents related to Provisional Applications or the Research Services Inventions.

1.20 “Fusion Protein Research” means all ideas and research directly related to the fusion proteins described in the Provisional Applications, and all IP Rights included in, related to, or covering such ideas and research as of the Effective Date.

1.21 “Heat Existing Programs” means Heat’s existing research programs related to the gp96-Ig secreting, cell-based therapy known as “ImPACT” and the secreting, cell-based therapy having a combination of various ligand fusion proteins targeting co-stimulatory receptors (e.g. OX40, ICOS, 4-1BB, and the like) and gp96-Ig known as “ComPACT”.

1.22 “Heat Indemnities” has the meaning ascribed to it in Section 7.2.

1.23 “IND” means an Investigational New Drug application, as defined in 21 Code of Federal Regulations § 312.23, in accordance with the requirements of the United States Food, Drug, and Cosmetic Act of 1938, as amended, and the regulations promulgated thereunder, including all supplements and amendments thereto, filed with the FDA.

1.24 “Indemnitee” has the meaning ascribed to it in Section 7.3.

1.25 “Indemnitor” has the meaning ascribed to it in Section 7.3.

1.26 “Invention” means any and all inventions, discoveries, improvements, processes, know-how and techniques discovered, conceived or reduced to practice in the course of or as a result of activities of the Research Services under this Agreement, whether or not patentable or included in any claim of Patents, together with all IP Rights therein.

1.27 “IP Rights” means all vested, contingent and future intellectual property rights including: (i) all inventions, compounds, compositions, substances, methods, processes, techniques, know-how, technology, data, information, discoveries, and materials including ideas, concepts, formulas, assays, practices, software, devices, procedures, designs, constructs, plans, applications, research, preclinical and clinical data, regulatory information, manufacturing process, scale-up and other technical data, reports, documentation and samples, including biological, chemical, pharmacological, toxicological, pharmaceutical, physical and analytical,
pre-clinical, clinical, safety, manufacturing and quality control data and information, as well as study designs and protocols; assays and biological methodology and other results of any nature whatsoever, and any Patents, trade secrets, confidential information, proprietary processes, or industrial rights directly or indirectly deriving therefrom; (ii) all trademarks, service marks, copyrights, designs, trade styles, logos, trade dress, and corporate names, including all goodwill associated therewith; and (iii) any work of authorship, regardless of copyrightability, all compilations and all copyrights.

1.28 “Labor Funding” will have the meaning ascribed to it in Section 3.2.

1.29 “Lien” means any pledge, security, interest, encumbrance, prior assignment, option, warrant, right to possession, claim, right or restriction of any kind or nature whatsoever, charge or other lien whether arising by contract, agreement or by operation of law or order of a court.

1.30 “Losses” means losses, liabilities, damages, penalties, fines, costs and expenses (including reasonable attorneys’ fees and other expenses of litigation).

1.31 “Milestone Event” will have the meaning ascribed to it in Section 4.3.

1.32 “Milestone Payment” will have the meaning ascribed to it in Section 4.3.

1.33 “Net Sales” means with respect to any Product, the gross amounts invoiced by Shattuck or its Affiliates or its sublicensees to any Third Parties for sales of Products, less the following items, determined in accordance with generally accepted accounting principles:

(a) [***];
(b) [***];
(c) [***]; and
(d) [***].

For purposes of determining Net Sales, a “sale” will not include [***]. Amounts invoiced by Shattuck or its Affiliates or its sublicensees for the sale of Products [***] will not be included in the computation of Net Sales hereunder.

If a Product either (i) is sold in the form of a combination product containing both a therapeutically active pharmaceutical molecule which is Covered by the Fusion Protein Patent Rights and one or more independently therapeutically active pharmaceutical molecules which are not Covered by the Fusion Protein Patent Rights or (ii) is sold in a form that contains (or is sold bundled with) a delivery device therefor (in either case of (i) or (ii), a “Combination Product”), the Net Sales of such Product for the purpose of calculating royalties owed under this Agreement for sales of such Combination Product, will be determined as follows: first, Shattuck will determine the actual Net Sales of such Combination Product (using the above provisions) and then such amount will be multiplied by the fraction A/(A+B), where A is the invoice price of the Product Covered by the Fusion Protein Patent Rights, if sold separately, and B is the total invoice price of any other active product.
pharmaceutical molecule (which is not Covered by the Fusion Protein Patent Rights) or delivery device in the combination if sold separately. If any other active pharmaceutical molecule or delivery device in the combination is not sold separately, Net Sales will be calculated by multiplying actual Net Sales of such Combination Product by a fraction A/C where A is the invoice price of the Product Covered by the Fusion Protein Patent Rights if sold separately, and C is the invoice price of the Combination Product. If neither the Product Covered by the Fusion Protein Patent Rights nor any other active pharmaceutical molecule or delivery device in the Combination Product is sold separately, the adjustment to Net Sales will be determined by the Parties in good faith to reasonably reflect the fair market value of the contribution of the Product Covered by the Fusion Protein Patent Rights in the Combination Product to the total market value of such Combination Product.

1.34 “Patent(s)” means (a) any and all national, regional and international patents, certificates of invention, applications for certificates of invention, priority patent filings and patent applications, including provisional patent applications, and (b) any renewal, divisional, continuation (in whole or in part), or request for continued examination of any of such patents, certificates of invention and patent applications, and any and all patents (including utility models, petty patents and design patents) or certificates of invention issuing thereon, and any and all reissues, reexaminations, extensions, divisions, renewals, substitutions, confirmations, registrations, revalidations, revisions, and additions of or to any of the foregoing.

1.35 “Person” means any individual, corporation, partnership, limited liability company, trust, governmental entity, or other legal entity of any nature whatsoever.

1.36 “Phase 1 Clinical Trial” means a human clinical trial performed in accordance with the applicable laws that provides for the first introduction of a Product into humans for the purpose of determining human toxicity, metabolism, biomarker, absorption, elimination and other pharmacological action.

1.37 “Phase 2 Clinical Trial” means a human clinical trial performed in accordance with the applicable laws in patients with a particular disease or condition which is designed to establish the safety, appropriate dosage, efficacy, and tolerability of a Product given its intended use and to initially explore its efficacy for such disease or condition.

1.38 “Product” means a finished pharmaceutical product which is Covered by a Valid Claim falling within the Fusion Protein Patent Rights.

1.39 “Prosecute” and “Prosecution” means the preparation, filing, prosecution and maintenance of a Patent. As used herein, the responsibilities for the preparation, filing, prosecution and maintenance of a Patent include the responsibility for any interferences, reexaminations, inter partes review, post grant review, reissues, oppositions, revocation actions, declaratory judgment actions, enforcement actions and the like, and gaining patent term restorations, supplemental protection certificates or their equivalents, and patent term extensions related thereto.

1.41 “Publication” means any publication (written or oral) of any non-public scientific, technical information or other Confidential Information (including any and all Inventions) related to the activities of the Parties under the Research Services and/or this Agreement.

1.42 “Purpose” has the meaning ascribed to in in Section 8.1.

1.43 “Recipient” means the Party receiving Confidential Information from another Party.

1.44 “Representatives” means employees, officers, directors, agents, subcontractors, consultants, Affiliates and/or any other Person acting on a Party’s behalf, individually or collectively, and which will be exposed to Confidential Information.

1.45 “Research Funding” will have the meaning ascribed to it in Section 3.2.

1.46 “Research Services” means the research and development services related to developing the Fusion Protein Research as set forth in Exhibit A to this Agreement, and as may be amended from time to time by Shattuck.

1.47 “Research Services IP” means any and all data collected and results generated by or on behalf of Heat as a result of conducting the Research Services, or otherwise in connection with the use of Shattuck’s Confidential Information.

1.48 “Research Services Inventions” means any and all Inventions made, discovered, conceived or reduced to practice by one or more employees or agents of Heat or its Affiliates, or other Persons acting under its authority, whether solely or jointly with Shattuck or others, in the course of or as a result of conducting the Research Services or otherwise in connection with the Research Services IP or as a result of Heat’s access to Shattuck’s Confidential Information, whether or not patentable. For clarity, Research Services Inventions does not include the Provisional Applications.

1.49 “Research Services Liaison” means Dr. Taylor Schreiber, or a similarly-skilled scientist that replaces Dr. Schreiber should he no longer be employed by Heat.

1.50 “Research Term” will have the meaning ascribed to it in Section 3.1(a).

1.51 “Royalty Term” will have the meaning ascribed to it in Section 4.4(b).

1.52 “Shattuck Indemnitees” will have the meaning ascribed to it in Section 7.1.

1.53 “Sublicense Consideration” will have the meaning ascribed to it in Section 4.2.
1.54 **“Successful Completion”** of a clinical trial occurs when all of the pre-defined primary endpoints of such clinical trial are achieved and Shattuck makes the affirmative decision to continue further development of the relevant Product candidate. For clarity, the Parties agree that if a clinical trial is terminated early, it will not be considered to have achieved Successful Completion. By way of example, a clinical trial will be considered successfully completed when Shattuck makes an announcement of such.

1.55 **“Successor”** means any successor to a Party by way of (i) sale of all or substantially all of the assets of a Party, (ii) stock sale or share exchange, or (iii) merger or similar reorganization transaction. For clarity, if Heat undergoes a Change of Control Event, the surviving entity will be deemed to be Heat’s Successor.

1.56 **“Supply Expenses”** will have the meaning ascribed to it in Section 3.2.

1.57 **“Term”** has the meaning ascribed to it in Section 9.1.

1.58 **“Third Party”** means any Person other than Heat, Shattuck or their respective Affiliates.

1.59 **“Third Party Claim”** means any claims, actions, suits or proceedings brought by a Third Party.

1.60 **“Third Party Licenses”** has the meaning ascribed to it in Section 4.4(c).

1.61 **“Valid Claim”** means (a) an unexpired claim of an issued patent which has not been found to be unpatentable, invalid or unenforceable by a court, national or regional patent office, or other appropriate body that has competent jurisdiction in the subject country, from which decision no appeal is taken or can be taken (except for writ of certiorari); or (b) [***].

**ARTICLE 2**

**LICENSE GRANTS**

2.1 **Exclusive License to Shattuck.** Subject to the terms and conditions of this Agreement, Heat hereby grants and causes its Affiliates to grant to Shattuck and its Affiliates an exclusive (even as to Heat and its Affiliates), worldwide license, with the right to sublicense, under the Provisional Applications to research, develop, manufacture, have manufactured, import, export, use, market, sell, have sold, offer for sale, and otherwise commercialize Products.

2.2 **Nonexclusive License to Shattuck.** Subject to the terms and conditions of this Agreement, Heat hereby grants and causes its Affiliates to grant to Shattuck and its Affiliates a nonexclusive, worldwide, irrevocable, perpetual license, with the right to sublicense, under the Background Fusion Protein Know-How to research, develop, manufacture, have manufactured, import, export, use, market, sell, have sold, offer for sale, and otherwise commercialize Products.

2.3 **Diligence.** Shattuck will undertake Commercially Reasonable Efforts to diligently research and develop at least one Product and will file an IND application for at least one Product [***]. Notwithstanding anything to the contrary in this Agreement, the Parties agree that all
decisions regarding the research, development, and commercialization of Products will be at the sole and exclusive discretion of Shattuck, who will have no obligation to confer with Heat regarding any such activities. For clarity, Shattuck may conduct such research, development, and commercialization activities on its own or in conjunction with Third Parties.

2.4 No Conflicts. Heat and its Affiliates will not, individually or with a Third Party, research, develop, make, have made, import, export, license, market, offer to sell, sell, or otherwise commercialize the Fusion Protein Research except in conjunction with Shattuck in accordance with this Agreement. If Heat undergoes a Change of Control Event and the Successor owns or Controls a Competitive Product, and such Successor either (a) divests such Competitive Product within [***] of the closing of the Change of Control Event or (b) assigns the Provisional Applications to Shattuck, then such Successor will not be bound by this Section 2.4. If Heat or Successor assigns the Provisional Applications to Shattuck under this Section 2.4, Shattuck will have no further obligations to Heat or Successor related to Prosecution activities pursuant to Section 5.2(c)(ii). For clarity, and without limitation, Shattuck’s payment obligations under Article 4 and reporting obligations under Article 10, will not be affected by such assignment.

2.5 Heat’s Option Rights. If, within [***] of the Effective Date, Heat enters into a binding letter of intent, binding term sheet, or executed agreement with a Third Party which results, or would result, in a Change of Control Event (in which case, such Third Party is the potential Successor in the case of a binding letter of intent or binding term sheet, or the Successor in the case of an executed agreement), Heat or its potential Successor or Successor will have the option to enter into good faith negotiations with Shattuck to (a) terminate the Parties’ rights and obligations under this Agreement and (b) purchase or license any Research Services IP. To exercise the option, Heat or its potential Successor or Successor will provide written notice of its desire to exercise its option rights to Shattuck within such [***] time period, along with proof of such binding letter of intent, binding term sheet, or executed agreement. Upon receiving such written notice, Shattuck and Heat or the potential Successor or Successor will enter into good faith, exclusive negotiations to enter into such transaction, provided that if the Parties (including the potential Successor or Successor) have not executed such transaction within [***] of Shattuck’s receipt of Heat’s option notice, the Parties and the potential Successor or Successor will have no further obligation to negotiate with each other regarding the Provisional Applications and the Research Services IP.

ARTICLE 3
RESEARCH SERVICES

3.1 The Research Services.

(a) Heat will carry out the Research Services as set forth in Exhibit A during the six-month period following the Effective Date (the “Research Term”). The Research Services will be carried out by the Research Services Liaison and at least two senior research scientists employed by Heat. Heat will conduct all Research Services and will not engage Third Parties to conduct any Research Services without the prior written consent of Shattuck or unless otherwise provided in Exhibit A. The Research Services Liaison will provide to Shattuck written reports, as may be reasonably requested by Shattuck, detailing the data and results of the Research Services, along with
any and all conclusions drawn from such data and result. In addition to such written reports, the Research Services Liaison will provide such additional oral reports as may be reasonably requested by Shattuck. The Parties understand and agree that Exhibit A provides the general outline and goals of research to be conducted by Heat, and further agree that Heat may reasonably modify such Research Services from time to time as needed so long as such modified services do not significantly expand the scope of the Research Services. Any significant amendments to or extensions of the Research Services or the Research Term may only be made upon the mutual written agreement of the Parties. If, following the Research Term, Shattuck requests that Heat perform additional research services in addition to the services described in Exhibit A, the Parties will work together in good faith to determine a mutually acceptable timeline and budget, provided that, for clarity, Heat may elect to decline to perform such additional services.

(b) Early Termination of Research Services. If Heat undergoes a Change of Control Event, either Party may elect to terminate the Research Services upon [***] notice to the other Party.

3.2 Research Funding. As compensation for providing the labor required to conduct the Research Services, Shattuck will make payments to Heat at a rate of [***] per month during the Research Term. Subject to Shattuck’s termination right under Section 3.1(b), Shattuck will make a total of [***] such payments, totaling [***] of funding (the “Labor Funding”). In addition, Shattuck will reimburse Heat at cost for all reagents and other supplies needed to conduct the Research Services, subject to Shattuck’s prior written approval (the “Supply Expenses”, which together with the Labor Funding is the “Research Funding”). However, Shattuck will be responsible for pre-paying any Supply Expenses that exceed [***] unless Heat elects to waive this obligation and seek reimbursement instead. Shattuck may, at its discretion, elect to pay vendors directly for certain reagents or other supplies used in connection with the Research Services. Heat represents and warrants that it has the ability to, and will, conduct all Research Services set forth in Exhibit A within the Research Term and for the Research Funding amounts set forth in this Section 3.2. In no event will Shattuck be obligated to pay any additional amounts for Research Funding beyond the funding amounts set forth in this Section 3.2. If the Research Services are terminated pursuant to Section 3.1(b), (i) Heat will immediately cease all Research Services and will cease incurring Supply Expenses, and (ii) Shattuck’s obligation to make Research Funding payments will cease upon termination, provided that Shattuck will reimburse Heat for its reasonable Supply Expenses actually incurred prior to termination.

3.3 Research Funding Payments.

(a) Within [***] following the end of each month in the Research Term, Heat will submit an invoice to Shattuck detailing (i) the Labor Funding payment due for such month, and (ii) the amounts incurred by Heat in Supply Expenses during such month. Within [***] of receiving each such invoice, Shattuck will pay to Heat the monthly Labor Funding payment and reimburse Heat for all pre-approved, uncontested, and properly documented Supply Expenses set forth in such invoice. Heat may send invoices to Shattuck electronically to an email address designated in writing by Shattuck, and all such invoices sent via electronic mail, will be considered received upon transmission provided that Heat maintains evidence of such transmission.
(b) Heat will keep records, including receipts and invoices, of the Supply Expenses it incurs in conducting the Research Services and, upon Shattuck’s reasonable request, Heat will provide to Shattuck detailed reports of such Supply Expenses.

(c) For the avoidance of doubt, any in-licensing or use of Third Party IP Rights by or on behalf of Heat for the purposes of performing its obligations under the Research Services will require the prior written approval of Shattuck.

ARTICLE 4
PAYMENTS

4.1 Initial Payment. In consideration for the rights granted to Shattuck hereunder, Shattuck will pay to Heat an upfront payment of Fifty Thousand U.S. Dollars ($50,000.00 USD) within [***] of the Effective Date.

4.2 Sublicense Income. If Shattuck receives any upfront fees or other non-royalty or other payments which are not tied to milestone events as consideration for rights granted under a sublicense of the Fusion Protein Patent Rights (the “Sublicense Consideration”), Shattuck will pay to Heat a percentage of such Sublicense Consideration as follows:

(a) [***] of Sublicense Consideration received by Shattuck under a sublicense agreement to develop and commercialize products which are Covered by a Valid Claim of the Fusion Protein Patent Rights and which is executed by Shattuck within [***] of the Effective Date;

(b) [***] of Sublicense Consideration received by Shattuck under a sublicense agreement to develop and commercialize products which are Covered by a Valid Claim of the Fusion Protein Patent Rights, and which is executed by Shattuck [***] of the Effective Date and [***] of the Effective Date; and

(c) [***] of Sublicense Consideration received by Shattuck under a sublicense agreement to develop and commercialize products which are Covered by a Valid Claim of the Fusion Protein Patent Rights, and which is executed by Shattuck [***] of the Effective Date.

For clarity, Shattuck will not be obligated to pay to Heat any percentage of amounts received from sublicensees of the Fusion Protein Patent Rights which are royalties or profit share payments received from such sublicensees, or any amounts received as payment in connection with the achievement of milestone events. Heat will receive royalty payments pursuant to Section 4.4 and Milestone Payments pursuant to Section 4.3.

4.3 On the first achievement of each of the following events identified in the table below (each a “Milestone Event”), Shattuck will make the following one-time payment (each a “Milestone Payment”) to Heat in the amount set opposite each such Milestone Event in the table below. Shattuck will notify Heat in writing within [***] after the achievement of
each Milestone Event, and will pay the applicable Milestone Payment to Heat along with such notice. For clarity, each Milestone Payment is payable only once, regardless of the number of Products developed or commercialized, number of approved indications for the Products, or any other event.

<table>
<thead>
<tr>
<th>Milestone Event</th>
<th>Milestone Payment (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Successful Completion of the first Phase 1 Clinical Trial for a Product</td>
<td>[***]</td>
</tr>
<tr>
<td>Successful Completion of the first Phase 2 Clinical Trial for a Product</td>
<td>[***]</td>
</tr>
<tr>
<td>Complete Filing of first BLA for a Product</td>
<td>[***]</td>
</tr>
<tr>
<td>First Commercial Sale of a Product</td>
<td>[***]</td>
</tr>
<tr>
<td>First achievement in a Calendar Year of [***] in aggregate worldwide Net Sales of all Products</td>
<td>[***]</td>
</tr>
<tr>
<td>First achievement in a Calendar Year of [***] in aggregate worldwide Net Sales of all Products</td>
<td>[***]</td>
</tr>
</tbody>
</table>

4.4 Royalty Payments.

(a) Subject to the terms and conditions of this Agreement, Shattuck will make royalty payments to Heat based on Net Sales of all Products worldwide in a Calendar Year by Shattuck, its Affiliates, and sublicensees, at a royalty rate of [***], subject to Sections 4.4(b) and (c).

(b) Royalties will be payable by Shattuck on a Product-by-Product and country-by-country basis, and the period of time during which royalties are payable on a Product will commence on the First Commercial Sale of such Product and will continue until the last-to-expire Valid Claim under the Fusion Protein Patent Rights that Covers such Product in such country. Such period of time during which Shattuck is required to pay Heat a royalty, pursuant to this Section 4.4(b), on the sales of such Product in each country is referred to the “Royalty Term” for such Product in such country.

(c) In the event that Shattuck or a sublicensee determines that it is reasonably necessary to obtain one or more licenses under any Patent(s) from Third Parties in order to research, develop, manufacture, have manufactured, import, export, use, market, sell, have sold, offer for sale or otherwise commercialize a Product (hereinafter “Third Party Licenses”), then [***] of any royalty consideration paid by Shattuck or a sublicensee
under such Third Party Licenses will be deducted from royalties otherwise payable by Shattuck to Heat for such Product under this Section 4.4; provided, however that in no event will the effective royalty rate for a given Product be less than [***].

4.5 Taxes. All payments of any amounts pursuant to this Agreement must comply with applicable tax withholding obligations. Shattuck has the right to withhold any amounts required to be withheld by any applicable laws from amounts payable to Heat. Shattuck will promptly provide Heat with all relevant information and documentation with respect to the amounts withheld. For clarity, in no event will Shattuck be responsible for the payment of taxes levied on the income of Heat pursuant to this Section 4.5.

4.6 Payments. Shattuck will pay Heat royalties due under Section 4.4 within [***] following the end of each Calendar Quarter commencing with the initial Calendar Quarter following the First Commercial Sale of a Product. All payments to Heat under this Agreement will be made by bank wire transfer in immediately available funds to an account in the name of Heat designated in writing by Heat. Payments hereunder will be considered to be made as of the day on which they are received by Heat’s designated bank. All amounts specified to be payable under this Agreement are in United States Dollars and will be paid in United States Dollars.

4.7 Reports. With each royalty payment pursuant to Section 4.6, Shattuck will furnish to Heat a reasonably detailed report showing the following information: (i) the gross invoiced amount for each Product during the reporting period sold by Shattuck or its Affiliates, or sublicensees to the first unrelated Third Party; (ii) the deductions taken in calculating Net Sales for each Product during such reporting period, and the Net Sales for each such Product; (iii) the exchange rates used, if any, in determining the amount due or performing any necessary currency conversion; (iv) the royalties payable with respect to such Net Sales; and (v) any withholding taxes required by applicable laws to be paid from such royalties.

4.8 Records; Audits. Shattuck will keep, and require its Affiliates, sublicensees to keep, complete, true and accurate books of accounts and records for the purpose of determining the amounts payable to Heat pursuant to this Agreement. Such books and records will be kept for such period of time required by applicable laws, but no less than at least [***] following the end of the Calendar Quarter to which they pertain. Such records will be subject to inspection in accordance with this Section 4.8. Upon at least [***] written notice to Shattuck, Shattuck will permit an independent, reputable, certified public accountant mutually agreeable to the Parties (the "Auditor"), at reasonable times and upon reasonable notice to audit or inspect the books or records the Auditor deems reasonably necessary or appropriate for the purpose of verifying the calculation and reporting of Net Sales under this Agreement. Such Auditor will sign a nondisclosure agreement reasonably acceptable to Shattuck in form and substance, and will not disclose to Heat, its Affiliates or any Third Party any information that is Shattuck’s or its Affiliate’s or sublicensee’s confidential customer information regarding pricing or other competitively sensitive proprietary information. Any and all records examined by such Auditor will be deemed Shattuck’s Confidential Information. The Auditor will disclose to Heat only the amount and accuracy of calculations and payments reported and actually paid or otherwise
payable under this Agreement. The Auditor will send a copy of the report to Shattuck at the same time it is sent to Heat. Such inspections may be made no more than [***] and during normal business hours.

ARTICLE 5
INTELLECTUAL PROPERTY

5.1 Ownership of Background IP. Each Party will have and retain all right, title and interest in and to, their respective ownership rights in the IP Rights owned or Controlled by such Party. Nothing in this Agreement will be construed to grant to either Party or its Affiliates any rights or license to any IP Rights of another Party or its Affiliates other than the rights and licenses expressly set forth in this Agreement.

5.2 Research Services IP and Research Services Inventions.

(a) Ownership and License Grants.

(i) Shattuck will have and retain all right, title and interest in the Research Services IP and Research Services Inventions. All Research Services IP and Research Services Inventions will be deemed the Confidential Information of Shattuck.

(ii) Heat (on behalf of itself and its Affiliates) hereby assigns, and agrees to assign, to Shattuck all right, title, and interest in and to the Research Services IP and Research Services Inventions.

(iii) Shattuck grants to Heat a non-exclusive, non-sublicensable license to Heat under the Research Services IP and Research Services Inventions for the limited purpose of conducting the Research Services. In the event that any Research Services IP and Research Services Invention is useful for Heat Existing Programs, Shattuck grants to Heat a full paidup non-exclusive license to Heat under the Research Services IP and Research Services Inventions for the limited purpose of developing the Heat Existing Programs, provided that the license granted under this Section 5.2(a)(iii) will automatically terminate if there is a material breach of this Agreement by Heat.

(b) Determination of Inventorship. Inventorship will be determined in accordance with the applicable laws of the U.S., including U.S. patent law, as of the Effective Date, irrespective of where such Invention occurs.

(c) Patent Prosecution and Maintenance

(i) Fusion Protein Patent Rights. Shattuck will have, at its sole cost and expense, the sole and exclusive right to control the Fusion Protein Patient Rights during the Term.
(iv) Shattuck will keep Heat informed in a timely manner of progress with regard to the Prosecution of Fusion Protein Patent Rights. Shattuck will consider in good faith and not unreasonably reject the comments, requests and suggestions of Heat with respect to strategies for filing and prosecuting Fusion Protein Patent Rights (including suggestions regarding national stage country selection).

(iii) Shattuck will timely file one or more non-provisional international (PCT) Patent applications claiming priority to the Provisional Applications.

(iv) Heat will make its employees (including inventors employed by Heat), and other Persons involved in performing the Research Services, reasonably available to Shattuck (or to its authorized attorneys, agents or representatives), along with all such related or useful documentation (including lab notebooks and data), to the extent reasonably necessary to enable Shattuck to undertake the Prosecution of all Fusion Protein Patent Rights, and will also make available to Shattuck such copies of material correspondence as may be reasonably requested by Shattuck which are in Heat’s possession, respecting the Fusion Protein Patent Rights and the Inventions described therein.

(v) Shattuck will notify Heat in writing within [***] of any final deadline if it does not desire to continue prosecution or maintain Fusion Protein Patent Rights in a particular jurisdiction and/or for a particular Invention. If Shattuck notifies Heat as such, then Heat will have the right to assume responsibility for the Prosecution of such Invention within the Fusion Protein Patent Rights. Shattuck will not allow any of the Fusion Protein Patent Rights to go abandoned without providing prior notice to Heat.

(vi) Nothing contained in this Agreement will be deemed to be a representation or warranty by Shattuck that it can or will be able to obtain Patents based on the activities conducted under the Research Services.

**ARTICLE 6**

**REPRESENTATIONS AND WARRANTIES**

6.1 **Reciprocal Representations.** Each Party hereby represents and warrants to the other Parties that:

(a) it has the full power and authority to enter into this Agreement and to perform its obligations hereunder, and all corporate approvals required have been obtained;

(b) entering this Agreement will not constitute a breach of any agreement, contract, understanding and/or obligation, including such Party’s documents of incorporation which it is currently bound by; and

(c) it is a corporation duly organized, validly existing under the laws of the jurisdiction of its organization and it has all necessary corporate power and authority to carry on its business as currently conducted or proposed to be conducted.

6.2 **Reciprocal Covenants.** Each Party hereby represents and warrants to the other Parties that:
(a) as long as this Agreement is in effect and without derogating from the rights to terminate the Agreement pursuant to Article 9 below, such Party will not undertake any obligations which conflict with its obligations under this Agreement; and

(b) in carrying out its obligations and responsibilities pursuant to this Agreement it will obtain or procure all necessary approvals and consents and will comply with all applicable laws and regulations, licenses, permits, approvals and procedures.

6.3 Heat IP Representations and Covenants. Heat hereby represents, warrants, and covenants that, except as disclosed in the Disclosure Schedules:

(a) it owns or Controls all of its interest in the Provisional Applications and Background Fusion Protein Know-How existing as of the Effective Date;

(b) all of its interest in and to the Provisional Applications and Background Fusion Protein Know-How are and will remain during the Term of this Agreement free and clear of Liens, other than as set forth under this Agreement;

(c) to the best of its knowledge the performance of its activities and obligations under this Agreement do not rely upon, incorporate or otherwise infringe any Third Party IP Rights; however, Heat has not conducted any searches of Third Party IP Rights to date;

(d) all of its employees, agents, consultants and other relevant Persons with whom Heat has contracted, or will contract (subject to Shattuck’s prior written consent), to perform any activities on Heat’s behalf in connection with the Research Services, have assigned, or will assign, to Heat all of their right, title and interest in any Inventions arising from the performance of such activities;

(e) it has the right and authority to grant the licenses set forth in Sections 2.1 and 2.2;

(f) it has no knowledge of any legal suit or proceeding by any Third Party contesting the ownership or validity of the Provisional Applications and Background Fusion Protein Know-How, or alleging that such Provisional Applications and Background Fusion Protein Know-How rights are infringing, or would infringe if granted, any Third Party IP Rights;

(g) it has the necessary experience and expertise to manage and/or perform all of its obligations under Research Services Plan;

(h) it has not transferred and will not during the Term transfer any material embodiment of the Provisional Applications and Background Fusion Protein Know-How, to a Third Party without Shattuck’s prior written approval; and
6.4 Disclaimer. EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, OR ANY OTHER AGREEMENT CONTEMPLATED HEREUNDER, NEITHER PARTY MAKES ANY REPRESENTATIONS OR EXTENDS ANY WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED. THE REPRESENTATIONS AND WARRANTIES AND DISCLAIMERS DESCRIBED IN THIS ARTICLE 6 ARE EXCLUSIVE AND SUPERSEDE ANY OTHER WARRANTY LIMITATIONS AND DISCLAIMERS GIVEN BY EITHER PARTY WITH RESPECT TO THE SUBJECT MATTER CONTAINED HEREIN, WHETHER WRITTEN OR ORAL. EACH PARTY EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE OR USE, NON-INFRINGEMENT, VALIDITY AND ENFORCEABILITY OF PATENTS, OR THE PROSPECTS OR LIKELIHOOD OF DEVELOPMENT OR COMMERCIAL SUCCESS OF ANY PRODUCT.

6.5 Limitation of Liability. EXCEPT FOR LIABILITY FOR BREACH OF ARTICLE 8 (CONFIDENTIALITY), GROSS NEGLIGENCE OR INTENTIONAL MISCONDUCT, NO PARTY OR ANY OF ITS AFFILIATES WILL BE ENTITLED TO RECOVER FROM THE OTHER PARTY ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL, INDIRECT, AGGRAVATED, EXEMPLARY OR PUNITIVE DAMAGES (INCLUDING LOST PROFITS, BUSINESS OR GOODWILL) IN CONNECTION WITH THIS AGREEMENT, REGARDLESS OF WHETHER SUCH DAMAGES ARE FORESEEABLE, AND WHETHER BASED UPON A CLAIM OR ACTION OF CONTRACT, WARRANTY, NEGLIGENCE, STRICT LIABILITY OR OTHER TORT, OR OTHERWISE, ARISING OUT OF THIS AGREEMENT.

ARTICLE 7
INDEMNIFICATION AND INSURANCE

7.1 Indemnification of Shattuck. Heat will indemnify and hold harmless Shattuck [***] (the “Shattuck Indemnitees”) from and against any and all Losses from any Third Party Claims incurred by any Shattuck Indemnitee, arising from, or occurring as a result of (a) [***] or (b) [***]. The foregoing indemnification obligation will not apply to the extent such Third Party Claim arose out of or resulted from or is attributable to any [***].

7.2 Indemnification of Heat. Shattuck will indemnify and hold harmless Heat [***] (the “Heat Indemnitees”) from and against any and all Losses from any Third Party Claims incurred by any Heat Indemnitee, arising from, or occurring as a result of (a) [***] or (b) [***]. The foregoing indemnification obligation will not apply to the extent such Third Party Claim arose out of or resulted from or is attributable to any [***].

7.3 Procedure. If a Shattuck Indemnitee or a Heat Indemnitee (each an “Indemnitee”) intends to claim indemnification under this Article 7, it will promptly inform the indemnifying Party (the “Indemnitor”) in writing of any Third Party Claim, in respect of which the Indemnitee intends to claim such indemnification. The Indemnitee will provide the
Indemnitor with reasonable assistance, at the Indemnitor’s expense, in connection with the defense of the Third Party Claim for which indemnity is being sought. The Indemnitee may participate in and monitor such defense with counsel of its own choosing at its sole expense; provided, however, the Indemnitor will have the right to assume and conduct the defense of the Third Party Claim with counsel of its choice. The Indemnitor will not settle any Third Party Claim without the prior written consent of the Indemnitee, not to be unreasonably withheld or delayed, unless the settlement involves only the payment of money. So long as the Indemnitor is actively defending the Third Party Claim in good faith, the Indemnitee will not settle any such Third Party Claim without the prior written consent of the Indemnitor. If the Indemnitor does not assume and conduct the defense of the Third Party Claim as provided above, (a) the Indemnitee may defend against, and consent to the entry of any judgment or enter into any settlement with respect to the Third Party Claim in any manner the Indemnitee may deem reasonably appropriate (and the Indemnitee need not consult with, or obtain any consent from, the Indemnitor in connection therewith), and (b) the Indemnitor will remain responsible to indemnify the Indemnitee as provided in this Article 7. The failure to deliver written notice to the Indemnitor within a reasonable time after the commencement of any action with respect to a Third Party Claim will only relieve the Indemnitor of its indemnification obligations under this Article 7 if and to the extent the Indemnitor is actually prejudiced thereby.

7.4 Insurance. Each Party will maintain, at its cost, reasonable insurance against liability and other risks associated with its activities contemplated by this Agreement, including but not limited to its indemnification obligations herein, in such amounts and on such terms as are customary for prudent practices for biotechnology companies of similar size and with similar resources in the pharmaceutical industry for the activities to be conducted by it under this Agreement.

ARTICLE 8
CONFIDENTIALITY

8.1 Confidential Information. Other than as expressly set forth herein, Shattuck and Heat each undertakes to treat and to maintain and to ensure that their Representatives will treat and maintain, in strict confidence and secrecy, the Confidential Information, will keep in confidence the existence and contents of this Agreement, and will not disclose, publish, or disseminate in any manner, any Confidential Information to a Third Party other than to those of its Representatives with a need to know the same for the purpose of performing its activities and obligations under this Agreement (the “Purpose”). Shattuck and Heat each agree to be responsible for any use or disclosure of the other Party’s Confidential Information to any of its Representatives.

8.2 Non-Disclosure Obligations. Shattuck and Heat each will:

(a) safeguard and keep secret all of the other Party’s Confidential Information, and will not directly or indirectly disclose to any Third Party such Confidential Information without written permission of the Discloser and
(b) in performing its duties and obligations hereunder, use at least the same degree of care as it does with respect to its own confidential information of like importance but, in any event, at least reasonable care.

8.3 Exclusions. The undertakings and obligations under Sections 8.1 and 8.2 will not apply to any part of the other Party’s Confidential Information which:

(a) was known to the Recipient prior to disclosure by the Discloser, as evidenced by contemporaneous written records;

(b) was generally available to the public prior to disclosure to the Recipient;

(c) is disclosed to Recipient by a Third Party who is not bound by any confidentiality obligation, having a legal right to make such disclosure;

(d) has become, through no act or failure to act on the part of the Recipient, public information or generally available to the public;

(e) was independently developed by the Recipient without reference to or reliance upon such Confidential Information;

(f) is required to be disclosed by the Recipient by law, by court order, or governmental regulation (including securities laws and/or exchange regulations), provided that the Recipient gives the Discloser reasonable notice prior to any such disclosure and reasonably cooperates (at the Discloser’s expense) with the Discloser in obtaining a protective order or other suitable protection from disclosure (if available) with respect to such Confidential Information. Notwithstanding the foregoing, in the event that any Party is required to disclose Confidential Information pursuant to obligations as a publicly-traded company, then, prior to such disclosure, the text of such disclosure will be provided to the Discloser hereto for its comment and review. The Parties will use good faith efforts to determine mutually agreeable disclosure; however, the Party with obligations as a publicly-traded company will have the final authority to make decisions on its disclosure obligations as a publicly-traded company.

8.4 Irreparable Harm. The Parties acknowledge that each Party’s respective Confidential Information is of special and unique significance to each of them and that any unauthorized disclosure or use of the Confidential Information could cause irreparable harm and significant injury to the Discloser, which may be difficult to ascertain. Accordingly, any breach of this Agreement may entitle the aggrieved Party, in addition to any other right or remedy that it may have available to it by law or in equity, to remedies of injunction, performance and other relief, including recourse in a court of law.

8.5 Notice. Each Party agrees to inform the other Party of any breach or threatened breach of the provisions hereof by its Representatives.

8.6 Name. Neither Party will use the name of the other Party or its Affiliates in any publicity, press release, advertising or news without the prior written consent such other Party or its Affiliates, as applicable. However, if either Party has disclosure obligations as a publicly-traded company, the other Party’s name may be used as is necessary to comply with such disclosure obligations.
8.7 **Publications.** Heat will not publish Publications without the prior review and written approval of Shattuck. Heat will submit all proposed Publications to Shattuck for review by Shattuck at least [***] prior to (i) submission of an original manuscript for publication, (ii) abstract submission for poster or podium presentation, (iii) an oral or poster presentation, or (iv) any other Publication (including any press release), and Heat will not publish and such proposed Publication without Shattuck’s prior written consent. Heat will consider Shattuck’s comments and suggestions in good faith and, in any event, Heat will not publish any Publication that discloses Shattuck’s Confidential Information or would have a negative effect on Shattuck’s IP Rights. The Parties recognize that Heat has certain disclosure obligations as a publicly-traded company that cannot be abrogated by this Agreement. If a disclosure by Heat is required, the Parties will work together in good faith to determine a mutually agreeable disclosure; however, Heat will have the final authority to make decisions on its disclosure obligations as a publicly-traded company and this Agreement will not be interpreted as preventing Heat from making any disclosure that its counsel deems to be necessary to comply with applicable rules and regulations.

8.8 **Survival.** The provisions relating to confidentiality in this Article 8 will remain in effect during the Term and for a period of [***] after the expiration or termination of the Term.

**ARTICLE 9**

**TERM AND TERMINATION**

9.1 **Term.** The term of this Agreement will begin on the Effective Date and continue until the later of (1) twenty (20) years following the Effective Date and (2) expiration of the last to expire Royalty Term, unless earlier terminated in accordance with this Article 9 or extended by the Parties by written agreement (the “Term”), and will continue in full force and effect during the Term.

9.2 **Termination for Cause.** Shattuck and Heat will each have the right to terminate this Agreement before the end of the Term upon written notice (i) by Shattuck if Heat is in material breach of this Agreement, (ii) by Heat if Shattuck is in material breach of this Agreement, and, in each case, such breaching Party has not cured such breach within ninety (90) days after notice is received by such breaching Party regarding such breach. Any such termination will become effective at the end of such ninety-day period unless the breaching Party has cured any such breach prior to the end of such period.

9.3 **Termination for Insolvency.** Either Party may terminate this Agreement if, at any time, the other Party files in any court or agency pursuant to any statute or regulation of any state or country a petition in bankruptcy or insolvency or for reorganization or for an arrangement or for the appointment of a receiver or trustee of such Party or of substantially all of its assets; or if such Party proposes a written agreement of composition or extension of substantially all of its debts; or if such Party will be served with an involuntary petition against
9.4 Consequences of Termination

(a) Accrued Obligations. The expiration or termination of this Agreement, for any reason, will not release Heat or Shattuck from any liability which, at the time of such expiration or termination, has already accrued to such Party or which is attributable to a period prior to the effective date of such expiration or termination, nor will any expiration or termination of this Agreement preclude Heat or Shattuck from pursuing all rights and remedies it may have under this Agreement, at law or in equity, with respect to breach of this Agreement.

(b) Rights Upon Bankruptcy. All rights and licenses granted under or pursuant to this Agreement are, and will otherwise be deemed to be, for purposes of Bankruptcy Laws, licenses of rights to “intellectual property” as defined under the Bankruptcy Laws. If a case is commenced during the Term by or against a Party under Bankruptcy Laws then, unless and until this Agreement is rejected as provided in such Bankruptcy Laws, such Party (in any capacity, including debtor-in-possession) and its Successors and assigns (including, a Title 11 trustee) will perform all of the obligations provided in this Agreement to be performed by such Party. If a case is commenced during the Term by or against a Party under the Bankruptcy Laws, this Agreement is rejected as provided in the Bankruptcy Laws and one of the other Parties elects to retain its rights hereunder as provided in the Bankruptcy Laws, then the Party subject to such case under the Bankruptcy Laws (in any capacity, including debtor-in-possession) and its Successors and assigns (including, a Title 11 trustee), will provide to such other Party copies of all information necessary for such other Party to prosecute, maintain and enjoy its rights under the terms of this Agreement promptly upon such other Party’s written request therefor. All rights, powers and remedies of the non-bankrupt Parties as provided herein are in addition to and not in substitution for any and all other rights, powers and remedies now or hereafter existing at law or in equity (including, the Bankruptcy Laws) in the event of the commencement of a case by or against a Party under the Bankruptcy Laws. It is the intention and understanding of the Parties to this Agreement that the rights granted to the Parties under this Section 9.4(b) are essential to the Parties’ respective businesses and the Parties acknowledge that damages are not an adequate remedy.

(c) Shattuck’s Rights Upon Termination. In the event that Shattuck terminates this Agreement under Section 9.2 based on Heat’s material breach, Heat will assign, and does hereby assign to Shattuck or its designee, all right, title, and interest in its interest in the Provisional Applications.

(d) Survival. Expiration or termination of this Agreement will not relieve the Parties of any rights or obligations accruing prior to such expiration or termination. In addition, upon expiration or termination of this Agreement, all rights and obligations of the Parties under this Agreement will terminate, except those described in the following Sections and Articles: 4.8, 5.2(a)(i) and (ii), 6.4, 6.5, 7, 8, 9.4, and 11.
ARTICLE 10  
DILIGENCE REPORTS

10.1 Shattuck agrees to provide annual reports to Heat commencing the first (1st) anniversary of the Effective Date, in which Shattuck will inform Heat of its progress in researching and developing at least one Product, as required under Section 2.3. Such reports will be due annually, on the anniversary of the Effective Date during the term of this Agreement. In the event that Heat undergoes a Change of Control Event and the Successor owns or Controls a Competitive Product, as provided in Section 2.4, Shattuck will have no further obligation to provide annual reports under this Article 10.

MISCELLANEOUS

11.1 Governing Law. This Agreement is governed by, and will be construed in accordance with, the laws of New York without regard to its conflict of law rules. The Parties agree that by executing this Agreement, they have each consented to the exclusive jurisdiction of the federal and state courts of New York, New York.

11.2 Waiver of Breach. No delay or waiver by any Party of any condition or term in any one or more instances will be construed as a further or continuing waiver of such condition or term or of another condition or term.

11.3 Further Actions. Each Party agrees to execute, acknowledge and deliver such further instruments, and to perform all such other acts, as may be necessary or appropriate in order to carry out the purposes and intent of this Agreement.

11.4 Performance by Affiliates. To the extent that this Agreement imposes obligations on Affiliates of a Party, such Party agrees to cause its Affiliates to perform such obligations. Each Party will remain liable hereunder for the actions of its Affiliates under this Agreement.

11.5 Modification. No amendment or modification of any provision of this Agreement will be effective unless in a prior writing signed by all Parties hereto. No provision of this Agreement will be varied, contradicted or explained by any oral agreement, course of dealing or performance or any other matter not set forth in an agreement in writing and signed by all Parties hereto.

11.6 Severability. In the event any provision of this Agreement is held invalid, illegal or unenforceable in any jurisdiction, the Parties will negotiate in good faith and enter into a valid, legal and enforceable substitute provision that most nearly reflects the original intent of the Parties. All other provisions of this Agreement will remain in full force and effect in such jurisdiction. Such invalidity, illegality or unenforceability will not affect the validity, legality or enforceability of such provision in any other jurisdiction.

11.7 Entire Agreement. This Agreement (including the Exhibit attached hereto and any letter delivering information referenced herein) constitutes the entire agreement between the
Parties relating to the subject matter hereof and supersedes and cancels all previous express or implied agreements and understandings, negotiations, writings and commitments, either oral or written, in respect of the subject matter hereof. Each of the Parties acknowledges and agrees that in entering into this Agreement, and the documents referred to herein, it does not rely on, and will have no remedy in respect of, any statement, representation, warranty or understanding (whether negligently or innocently made) of any Person (whether party to this Agreement or not) other than as expressly set forth in this Agreement. Nothing in this clause will operate to limit or exclude any liability for fraud.

11.8 No Third Party Beneficiaries. No Person other than the Parties and their respective permitted Successors and assigns hereunder will be deemed an intended beneficiary hereunder, nor have any right to enforce any obligation of any Party to this Agreement.

11.9 Notices. Any notice or communication required or permitted under this Agreement will be in writing in the English language, delivered personally, sent by internationally-recognized courier, or sent by registered or certified mail, postage prepaid to the following addresses of the Parties (or such other address for a Party as may be at any time thereafter specified by like notice):

To Heat:
[***]

To Shattuck:
[***]

with a copy to:
[***]

with a copy to:
[***]

Any such notice will be deemed to have been given (a) when delivered if personally delivered; (b) on the [***] Business Day after dispatch if sent by internationally-recognized overnight courier; and/or (c) on the [***] Business Day following the date of mailing if sent by mail or other internationally-recognized courier.

11.10 Assignment. Neither Party may assign its rights and obligations under this Agreement without the prior written consent of the other Party, provided, however, that each Party may assign its rights and obligations under this Agreement to an Affiliate or Successor without first obtaining the written consent of the other Party; provided that any such Affiliate or Successor must agree in writing to assume all rights and obligations of the assigning Party under this Agreement. Any assignment not in accordance with this Section 11.10 will be null and void. Except as otherwise expressly provided herein, the provisions hereof will be binding upon and inure to the benefit of the Parties and their respective Successors and permitted assigns.

11.11 No Partnership or Joint Venture. Nothing in this Agreement or any action which may be taken pursuant to its terms is intended, or will be deemed, to establish a joint venture or partnership between Shattuck and Heat. Neither Party to this Agreement will have
any express or implied right or authority to assume or create any obligations on behalf of, or in the name of, any other Party, or to bind any other Party to any contract, agreement or undertaking with any Third Party.

11.12 Interpretation. The captions to the several Articles and Sections of this Agreement are not a part of this Agreement but are included for convenience of reference and will not affect its meaning or interpretation. In this Agreement (a) the word “including” will be deemed to be followed by the phrase “without limitation” or like expression; (b) the singular will include the plural and vice versa; (c) masculine, feminine and neuter pronouns and expressions will be interchangeable.

11.13 Counterparts. This Agreement may be executed in any number of counterparts each of which will be deemed an original, and all of which together will constitute one and the same instrument.
IN WITNESS WHEREOF, the Parties have executed this Agreement as of the Effective Date.

Heat Biologics, Inc.

By: /s/ Jeffrey Wolf
Name: Jeffrey Wolf
Title: CEO

Shattuck Labs, Inc.

By: /s/ Josiah Hornblower
Name: Josiah Hornblower
Title: President
November 25, 2016

Jeffrey Wolf
Chief Executive Officer
Heat Biologics, Inc.
801 Capitola Dr. Bay 12
Durham, NC 27713

Re: Extension of Research Term Through December 31, 2016

Dear Jeff:

Reference is made to the Exclusive License Agreement effective June 3, 2016 between Shattuck Labs, Inc. and Heat Biologics, Inc. (the “Agreement”). Capitalized words used but not defined herein shall have the meaning ascribed to such terms in the Agreement.

Shattuck and Heat agree that the Research Term shall be extended through December 31, 2016, and the Labor Funding shall be increased to reflect the extended term by a pro-rated amount of the [***] rate set forth in Section 3.2 of the Agreement.

This side letter (the “Side Letter”) shall be subject to the terms and conditions of the Agreement, provided that, to the extent that the terms set forth in this Side Letter conflict with the terms of the Agreement, the terms of this Side Letter shall govern and control.

AGREED TO BY:

SHATTUCK LABS, INC.

By: /s/ Josiah Hornblower
Josiah Hornblower
President & Chief Executive Officer

HEAT BIOLOGICS, INC

By: /s/ Jeffrey Wolf
Jeffrey Wolf
Chief Executive Officer
AMENDMENT NO. 1
TO LICENSE AGREEMENT

This Agreement and Amendment No. 1 to License Agreement (this “First Agreement and Amendment”) is made as of December 19, 2016 (“First Amendment Effective Date”) by and between Shattuck Labs, Inc. (“Shattuck”) and Heat Biologics, Inc. (“Heat”). Each of Shattuck and Heat may be referred to herein as a “Party” and together as the “Parties”.

WHEREAS, the Parties entered into the Exclusive License Agreement, effective as of June 3, 2016 (the “License Agreement”) and

WHEREAS, the Parties desire to amend the License Agreement in writing the definition of “Provisional Applications,” as set forth in Section 1.40, as agreed upon herein.

NOW THEREFORE, in consideration of the premises and the mutual covenants hereinafter set forth, the Parties agree as follows (Capitalized terms used herein, but not otherwise defined, shall have the meanings given them in the License Agreement):

1. **Amendment to Section 1.40**. Section 1.40 is hereby deleted and replaced in its entirety as follows:
   

2. **Entire Agreement**. Except as expressly amended hereby, all other terms and conditions of the License Agreement shall remain in full force and effect.

3. **Counterparts**. This First Agreement and Amendment may be executed in one or more counterparts, each of which shall be an original and all of which taken together shall constitute one and the same agreement.

[Remainder of page intentionally left blank]
IN WITNESS WHEREOF, the parties hereto have executed this First Agreement and Amendment as of the First Amendment Effective Date.

SHATTUCK LABS, INC.

By: /s/ Josiah Hornblower  
Name: Josiah Hornblower  
Title: CEO

HEAT BIOLOGICS, INC.

By: /s/ Jeffrey Wolf  
Name: Jeffrey Wolf  
Title: CEO
AMENDMENT NO. 2 TO THE EXCLUSIVE LICENSE AGREEMENT

This Amendment No. 2 (the “Amendment”) effective as of December 31, 2016 (the “Amendment Effective Date”) to the Exclusive License Agreement effective as of June 3, 2016, as amended by the Side Letter dated November 25, 2016 and Amendment No. 1 effective as of December 19, 2016 (collectively, the “Agreement”) is made by and between Shattuck Labs, Inc. (“Shattuck”) and Heat Biologics, Inc. (“Heat”). Each of Shattuck and Heat may be referred to herein as a “Party” and together as the “Parties”.

WHEREAS, the Parties entered the Exclusive License Agreement effective as of June 3, 2016;

WHEREAS, the Parties extended the term of the Exclusive License Agreement through December 31, 2016 in the Side Letter dated November 25, 2016;

WHEREAS, the Parties amended the definition of “Provisional Applications” of the Exclusive License Agreement in Amendment No. 1 effective as of December 19, 2016; and

WHEREAS, the Parties desire to amend the Agreement to amend the definition of “Research Services Liaison”, extend the “Research Term”, and amend the definition of “Labor Funding”;

NOW THEREFORE, in consideration of the above provisions and the mutual agreements contained herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

1. Intent. Except as expressly provided in this Amendment, the Agreement will remain unchanged and in full force and effect in accordance with its original terms. Capitalized terms not defined in this Amendment shall have the meaning set forth in the Agreement.

2. Section 1.49. Section 1.49 is hereby deleted and replaced by the following:

“Research Services Liaison” means George Fromm, Ph.D., or a similarly-skilled scientist who replaces Dr. Fromm should he no longer be employed by Heat.

3. Section 3.1(a). The first sentence of Section 3.1(a) is hereby deleted and replaced by the following:

Heat will carry out the Research Services as set forth in Exhibit A from the Effective Date through January 31, 2017 (the “Research Term”).

4. Section 3.2. The first two sentences of Section 3.2 are hereby deleted and replaced by the following:

As compensation for providing the labor required to conduct the Research Services, Shattuck will make payments to Heat at a rate of 

(a) [***] during the first six months of the Research Term, (b) [***] for the period of December 4, 2016 to December 31, 2016, and 

(c) [***] for the period of January 1, 2017 to January 31, 2017 (collectively, the “Labor Funding”).
IN WITNESS WHEREOF, the Parties hereto, intending legally to be bound hereby, have each caused this Amendment to be executed by their duly authorized representatives effective as of the Amendment Effective Date.

SHATTUCK LABS, INC.

By: /s/ Josiah Hornblower
Josiah Hornblower
President & Chief Executive Officer

HEAT BIOLOGICS, INC.

By: /s/ Jeffrey Wolf
Jeffrey Wolf
Chief Executive Officer
This Amendment No. 3 (the “Amendment No. 3”) effective as of March 8, 2017 (the “Amendment Effective Date”) to the Exclusive License Agreement effective as of June 3, 2016, as amended by the Side Letter dated November 25, 2016, Amendment No. 1 effective as of December 19, 2016, and Amendment No. 2 effective as of December 31, 2016 (collectively, the “Agreement”) is made by and between Shattuck Labs, Inc. (“Shattuck”) and Heat Biologics, Inc. (“Heat”). Each of Shattuck and Heat may be referred to herein as a “Party” and together as the “Parties.”

WHEREAS, the Parties entered into the Exclusive License Agreement effective as of June 3, 2016;

WHEREAS, the Parties extended the Research Term of the Exclusive License Agreement through December 31, 2016 in the Side Letter dated November 25, 2016;

WHEREAS, the Parties amended the definition of Provisional Applications of the Exclusive License Agreement in Amendment No. 1 effective as of December 19, 2016;

WHEREAS, the Parties amended the definition of Research Services Liaison, extended the Research Term, and amended the definition of Labor Funding in Amendment No. 2 effective as of December 31, 2016; and

WHEREAS, the Parties desire to amend the Agreement to document the termination of the Research Services and confirm Shattuck’s ownership of certain Inventions developed pursuant to the Research Services;

NOW THEREFORE, in consideration of the above provisions and the mutual agreements contained herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

1. **Intent.** Except as expressly provided in this Amendment, the Agreement will remain unchanged and in full force and effect in accordance with its original terms. Capitalized terms not defined in this Amendment shall have the meaning set forth in the Agreement.

2. **Termination of Research Services.** The Parties hereby agree and confirm the Research Services were completed by Heat as of January 31, 2017. Heat is no longer performing any Research Services on behalf of Shattuck, and Heat will not perform any additional research services for Shattuck unless agreed to by the Parties in writing. For clarity, the Parties agree that Shattuck does not owe any Research Funding payments to Heat under Sections 3.2 or 3.3 of the Agreement.

3. **Shattuck’s Ownership of Research Services IP and Research Services Inventions.** The Parties agree and confirm that Shattuck is the sole owner of, and Heat hereby assigns to Shattuck, the Research Services Inventions and Research Services IP. Heat will execute confirmatory assignments of Research Services Inventions concurrently with this Amendment No. 3. The Research Services Inventions and Research Services IP include the following:

1
a. **Research Services Inventions** (including all US and foreign filings which claim priority to the below listed applications)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIMERIC PROTEINS COMPRISING</td>
<td>US</td>
<td>62/464,002</td>
<td>N/A</td>
</tr>
<tr>
<td>TYPE I AND TYPE II EXTRACELLULAR DOMAINS AND</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>USES THEREOF CSF1R-BASED CHIMERIC PROTEINS</td>
<td>US</td>
<td>62/463,997</td>
<td>N/A</td>
</tr>
<tr>
<td>VSIG8-BASED CHIMERIC PROTEINS</td>
<td>US</td>
<td>62/463,999</td>
<td>N/A</td>
</tr>
</tbody>
</table>

b. **Research Services IP.** All data generated by Heat (by itself or in conjunction with third parties) at Shattuck’s request, including without limitation, all data generated in connection with the Research Services Inventions (including ELISA, Western blot, affinity, flow cytometry, functional data or mouse data), and all data related to manufacturing generated from DNA 2.0 or by Lake Pharma or KBI Biopharma.

For the avoidance of doubt, the Parties acknowledge that neither the Research Services IP nor Research Services Inventions directly relate to any Heat Existing Programs, as defined in Section 1.21 of the Agreement.

*Signature page follows*
IN WITNESS WHEREOF, the Parties hereto, intending legally to be bound hereby, have each caused this Amendment No. 3 to be executed by their duly authorized representatives effective as of the Amendment Effective Date.

SHATTUCK LABS, INC.

By: /s/ Josiah Hornblower
Josiah Hornblower
President & Chief Executive Officer

HEAT BIOLOGICS, INC.

By: /s/ Jeffrey Wolf
Jeffrey Wolf
Chief Executive Officer
LEASE AGREEMENT BETWEEN

PARMER RTP, LLC,

AS LANDLORD, AND

SHATTUCK LABS, INC.,

AS TENANT

DATED APRIL 17, 2018

DURHAM, NORTH CAROLINA
**BASIC LEASE INFORMATION**

Lease Date: April 17, 2018

Landlord: PARMER RTP, LLC, a Delaware limited liability company

Tenant: SHATTUCK LABS, INC., a Delaware corporation

Premises: Suite No. 200, containing approximately 13,523 rentable square feet, in the office building commonly known as Building 15 located at 5 Moore Drive, Durham, North Carolina (the “Building”) being a part of the Parmer RTP campus (the “Complex”). The Premises are outlined on the plan attached to the Lease as Exhibit A. The land on which the Building is located (the “Land”) is described on Exhibit B. The term “Project” shall collectively refer to the Building, the Land and the driveways, parking facilities, and similar improvements and easements associated with the foregoing or the operation thereof.

Term: One hundred twenty-four (124) full calendar months, plus any partial month from the Commencement Date to the end of the month in which the Commencement Date falls, starting on the Commencement Date and ending at 5:00 p.m. local time on the last day of the one hundred twenty-fourth (124th) full calendar month following the Commencement Date, subject to adjustment and earlier termination as provided in the Lease.

Commencement Date: September 1, 2018.

Basic Rent: Basic Rent shall be the following amounts for the following periods of time:

<table>
<thead>
<tr>
<th>Lease Month</th>
<th>Annual Basic Rent Rate</th>
<th>Monthly Basic Rent*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 — 8</td>
<td>$ 0.00</td>
<td>$ 0.00</td>
</tr>
<tr>
<td>9 — 20</td>
<td>$ 21.00</td>
<td>$ 23,665.25</td>
</tr>
<tr>
<td>21 — 32</td>
<td>$ 21.63</td>
<td>$ 24,375.21</td>
</tr>
<tr>
<td>33 — 44</td>
<td>$ 22.28</td>
<td>$ 25,106.46</td>
</tr>
<tr>
<td>45 — 56</td>
<td>$ 22.95</td>
<td>$ 25,859.66</td>
</tr>
<tr>
<td>57 — 68</td>
<td>$ 23.64</td>
<td>$ 26,635.45</td>
</tr>
<tr>
<td>69 — 80</td>
<td>$ 24.34</td>
<td>$ 27,434.51</td>
</tr>
<tr>
<td>81 — 92</td>
<td>$ 25.08</td>
<td>$ 28,257.55</td>
</tr>
<tr>
<td>93 — 104</td>
<td>$ 25.83</td>
<td>$ 29,105.27</td>
</tr>
<tr>
<td>105 — 116</td>
<td>$ 26.60</td>
<td>$ 29,978.43</td>
</tr>
<tr>
<td>117 — 124</td>
<td>$ 27.40</td>
<td>$ 30,877.78</td>
</tr>
</tbody>
</table>
As used herein, the term "Lease Month" means each calendar month during the Term (and if the Commencement Date does not occur on the first day of a calendar month, the period from the Commencement Date to the first day of the next calendar month shall be included in the first Lease Month for which Basic Rent is payable for purposes of determining the duration of the Term and the monthly Basic Rent rate applicable for such partial month).

* Notwithstanding anything to the contrary in the Basic Rent schedule set forth above, for the period of time beginning on the Commencement Date and continuing until the fitness center and the Complex “treehouse” conference center have been substantially completed by Landlord in accordance with the plans and specifications therefor and are available for use by Tenant and other tenants of the Project ("Complex Substantial Completion") then the applicable Annual Basic Rent Rate shall not increase by more than two percent (2%) per year. Such period of time is referred to herein as the "2% Cap Period".

<table>
<thead>
<tr>
<th>Additional Rent:</th>
<th>Tenant’s Proportionate Share of Operating Costs and Taxes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rent:</td>
<td>Basic Rent, Additional Rent, and all other sums that Tenant may owe to Landlord or otherwise be required to pay under the Lease.</td>
</tr>
<tr>
<td>Security Deposit:</td>
<td>$30,877.78</td>
</tr>
<tr>
<td>Permitted Use:</td>
<td>Research and development, laboratory, office and/or any other purpose or use allowed under applicable Law.</td>
</tr>
<tr>
<td>Tenant’s Proportionate Share:</td>
<td>29.81%, which is the percentage obtained by dividing (a) the number of rentable square feet in the Premises as stated above by (b) the 45,359 rentable square feet in the Building. Landlord and Tenant stipulate that the number of rentable square feet in the Premises and in the Building set forth above is conclusive and shall be binding upon them.</td>
</tr>
<tr>
<td>Initial Liability Insurance Amount:</td>
<td>$3,000,000</td>
</tr>
</tbody>
</table>

ii
Tenant’s Address: For all Notices:
Shattuck Labs, Inc.
3317 Bowman Ave.
Austin, TX 78703
Attn: CEO and General Counsel

With a copy to:

Shattuck Labs, Inc.
PO Box 301509
Austin, TX 78703
Attn: CEO and General Counsel

and

Shattuck Labs, Inc.
5 Moore Drive, Suite 200
Durham, North Carolina 27709

Landlord’s Address: For all Notices:
Partner RTP, LLC
c/o Karlin Real Estate
11755 Wilshire Blvd., Suite 1400
Los Angeles, California 90025
Attention: Matthew Schwab

With a copy to:

Karlin Real Estate
11755 Wilshire Blvd., Suite 1400
Los Angeles, California 90025
Attention: Nancy Lee

The foregoing Basic Lease Information is incorporated into and made a part of the Lease identified above. If any conflict exists between any Basic Lease Information and the Lease, then the Lease shall control.
# TABLE OF CONTENTS

1. Definitions and Basic Provisions  
   - Page 1

2. Lease Grant  
   - Page 1

3. Tender of Possession  
   - Page 1

4. Rent  
   - Page 2
   - (a) Payment  
   - (b) Operating Costs; Taxes  
   - (c) Cap on Operating Costs and Taxes for 2018 and 2019  
   - (d) Cap on Controllable Operating Costs for 2021 and Subsequent Years  
   - (e) Inspection and Audit Rights  
   - (f) Cap on Controllable Operating Costs for 2021 and Subsequent Years  
   - (g) Inspection and Audit Rights  
   - (h) Cap on Controllable Operating Costs for 2021 and Subsequent Years  
   - (i) Inspection and Audit Rights  
   - (j) Cap on Controllable Operating Costs for 2021 and Subsequent Years  
   - (k) Inspection and Audit Rights  
   - (l) Cap on Controllable Operating Costs for 2021 and Subsequent Years  
   - (m) Inspection and Audit Rights  
   - (n) Cap on Controllable Operating Costs for 2021 and Subsequent Years  
   - (o) Inspection and Audit Rights  
   - (p) Cap on Controllable Operating Costs for 2021 and Subsequent Years  
   - (q) Inspection and Audit Rights  
   - (r) Cap on Controllable Operating Costs for 2021 and Subsequent Years  
   - (s) Inspection and Audit Rights  
   - (t) Cap on Controllable Operating Costs for 2021 and Subsequent Years  
   - (u) Inspection and Audit Rights  
   - (v) Cap on Controllable Operating Costs for 2021 and Subsequent Years  
   - (w) Inspection and Audit Rights  
   - (x) Cap on Controllable Operating Costs for 2021 and Subsequent Years  
   - (y) Inspection and Audit Rights  
   - (z) Cap on Controllable Operating Costs for 2021 and Subsequent Years  

5. Delinquent Payment; Handling Charges  
   - Page 6

6. Security Deposit  
   - Page 6

7. Landlord’s Obligations  
   - Page 6
   - (a) Services  
   - (b) Utilities Services  
   - (c) Restoration of Services; Abatement  

8. Improvements; Alterations; Repairs; Maintenance  
   - Page 7
   - (a) Improvements; Alterations  
   - (b) Repairs; Maintenance  
   - (c) Performance of Work  
   - (d) Mechanic’s Liens  

9. Use; Compliance with Law  
   - Page 9
   - (a) Use  
   - (b) Compliance with Law  

10. Assignment and Subletting  
    - Page 10
    - (a) Transfers  
    - (b) Consent Standards  
    - (c) Request for Consent  
    - (d) Conditions to Consent  
    - (e) Attornment by Subtenants  
    - (f) Cancellation  
    - (g) Additional Compensation  
    - (h) Permitted Transfers
11. Insurance; Waivers; Subrogation; Indemnity
   (a) Tenant’s Insurance ........................................ 13
   (b) Landlord’s Insurance ...................................... 14
   (c) No Subrogation; Waiver of Property Claims .......... 15
   (d) Indemnity .................................................... 15

12. Subordination; Attornment; Notice to Landlord’s Mortgagee
   (a) Subordination .............................................. 16
   (b) Attornment .................................................. 16
   (c) Notice to Landlord’s Mortgagee ......................... 16
   (d) Landlord’s Mortgagee’s Protection Provisions ...... 16

13. Rules and Regulations ........................................ 17

14. Condemnation .................................................. 17
   (a) Total Taking .............................................. 17
   (b) Partial Taking - Tenant’s Rights ....................... 17
   (c) Partial Taking - Landlord’s Rights .................... 17
   (d) Temporary Taking ....................................... 17
   (e) Award ....................................................... 18

15. Fire or Other Casualty ........................................ 18
   (a) Repair Estimate .......................................... 18
   (b) Tenant’s Rights .......................................... 18
   (c) Landlord’s Rights ....................................... 18
   (d) Repair Obligation ....................................... 18
   (e) Abatement of Rent ...................................... 19

16. Personal Property Taxes ...................................... 19

17. Events of Default ............................................. 19
   (a) Payment Default ......................................... 19
   (b) Intentionally Omitted ................................... 19
   (c) Estoppel ................................................... 19
   (d) Insurance ................................................. 20
   (e) Mechanic’s Liens ....................................... 20
   (f) Other Defaults .......................................... 20
   (g) Insolvency ............................................... 20

18. Remedies ....................................................... 20
<table>
<thead>
<tr>
<th>Title</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Termination of Lease</td>
<td>20</td>
</tr>
<tr>
<td>(b) Termination of Possession</td>
<td>20</td>
</tr>
<tr>
<td>(c) Perform Acts on Behalf of Tenant</td>
<td>21</td>
</tr>
<tr>
<td>(d) Alteration of Locks</td>
<td>21</td>
</tr>
<tr>
<td>19. Payment by Tenant; Non-Waiver; Cumulative Remedies</td>
<td>21</td>
</tr>
<tr>
<td>(a) Payment by Tenant</td>
<td>21</td>
</tr>
<tr>
<td>(b) No Waiver</td>
<td>22</td>
</tr>
<tr>
<td>(c) Cumulative Remedies</td>
<td>22</td>
</tr>
<tr>
<td>20. Landlord’s Lien</td>
<td>22</td>
</tr>
<tr>
<td>21. Surrender of Premises</td>
<td>22</td>
</tr>
<tr>
<td>22. Holding Over</td>
<td>23</td>
</tr>
<tr>
<td>23. Certain Rights Reserved by Landlord</td>
<td>23</td>
</tr>
<tr>
<td>(a) Building Operations</td>
<td>23</td>
</tr>
<tr>
<td>(b) Security</td>
<td>24</td>
</tr>
<tr>
<td>(c) Prospective Purchasers and Lenders</td>
<td>24</td>
</tr>
<tr>
<td>(d) Prospective Tenants</td>
<td>24</td>
</tr>
<tr>
<td>24. Intentionally Omitted</td>
<td>24</td>
</tr>
<tr>
<td>25. Miscellaneous</td>
<td>24</td>
</tr>
<tr>
<td>(a) Landlord Transfer</td>
<td>24</td>
</tr>
<tr>
<td>(b) Limitation of Liability</td>
<td>24</td>
</tr>
<tr>
<td>(c) Force Majeure</td>
<td>25</td>
</tr>
<tr>
<td>(d) Brokerage</td>
<td>25</td>
</tr>
<tr>
<td>(e) Estoppel Certificates</td>
<td>25</td>
</tr>
<tr>
<td>(f) Notices</td>
<td>25</td>
</tr>
<tr>
<td>(g) Separability</td>
<td>25</td>
</tr>
<tr>
<td>(h) Amendments; Binding Effect; No Electronic Records</td>
<td>26</td>
</tr>
<tr>
<td>(i) Quiet Enjoyment</td>
<td>26</td>
</tr>
<tr>
<td>(j) Entire Agreement</td>
<td>26</td>
</tr>
<tr>
<td>(k) Waiver of Jury Trial</td>
<td>26</td>
</tr>
<tr>
<td>(l) Governing Law</td>
<td>26</td>
</tr>
<tr>
<td>(m) Recording</td>
<td>26</td>
</tr>
<tr>
<td>(n) Water or Mold Notification</td>
<td>27</td>
</tr>
<tr>
<td>(o) Joint and Several Liability</td>
<td>27</td>
</tr>
<tr>
<td>(p) Financial Reports</td>
<td>27</td>
</tr>
<tr>
<td>(q) Landlord’s Fees</td>
<td>27</td>
</tr>
<tr>
<td>(r) Telecommunications</td>
<td>27</td>
</tr>
<tr>
<td>(s)</td>
<td>Confidentiality</td>
</tr>
<tr>
<td>------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>(t)</td>
<td>Authority</td>
</tr>
<tr>
<td>(u)</td>
<td>Hazardous Materials</td>
</tr>
<tr>
<td>(v)</td>
<td>List of Exhibits</td>
</tr>
<tr>
<td>(w)</td>
<td>Prohibited Persons and Transactions</td>
</tr>
<tr>
<td>(x)</td>
<td>No Invasive Testing</td>
</tr>
</tbody>
</table>

26. Lobby Directory Signage  | 29 |
27. Monument Signage        | 29 |
28. Building Signage        | 30 |
29. Expansion               | 30 |
<table>
<thead>
<tr>
<th>Term</th>
<th>Page No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affiliate</td>
<td>1</td>
</tr>
<tr>
<td>Approval Criteria</td>
<td>D-3</td>
</tr>
<tr>
<td>Architect</td>
<td>D-1</td>
</tr>
<tr>
<td>Basic Lease Information</td>
<td>1</td>
</tr>
<tr>
<td>Basic Rent</td>
<td>i</td>
</tr>
<tr>
<td>Building</td>
<td>i</td>
</tr>
<tr>
<td>Building’s Structure</td>
<td>1</td>
</tr>
<tr>
<td>Building’s Systems</td>
<td>1</td>
</tr>
<tr>
<td>Casualty</td>
<td>18</td>
</tr>
<tr>
<td>Code Modification</td>
<td>10</td>
</tr>
<tr>
<td>Commencement Date</td>
<td>i</td>
</tr>
<tr>
<td>Completed Application for Payment</td>
<td>D-5</td>
</tr>
<tr>
<td>Construction Allowance</td>
<td>D-4</td>
</tr>
<tr>
<td>Damage Notice</td>
<td>18</td>
</tr>
<tr>
<td>Default Rate</td>
<td>6</td>
</tr>
<tr>
<td>Estimated Delivery Date</td>
<td>1</td>
</tr>
<tr>
<td>Event of Default</td>
<td>19</td>
</tr>
<tr>
<td>Extended Term</td>
<td>H-1</td>
</tr>
<tr>
<td>Governmental Requirements</td>
<td>10</td>
</tr>
<tr>
<td>Hazardous Materials</td>
<td>28</td>
</tr>
<tr>
<td>HVAC</td>
<td>6</td>
</tr>
<tr>
<td>including</td>
<td>1</td>
</tr>
<tr>
<td>Initial Liability Insurance Amount</td>
<td>ii</td>
</tr>
<tr>
<td>Land</td>
<td>i</td>
</tr>
<tr>
<td>Landlord</td>
<td>i, 1</td>
</tr>
<tr>
<td>Landlord’s Mortgagee</td>
<td>16</td>
</tr>
<tr>
<td>Law</td>
<td>1</td>
</tr>
<tr>
<td>Laws</td>
<td>1</td>
</tr>
<tr>
<td>Lease</td>
<td>1</td>
</tr>
<tr>
<td>Lease Month</td>
<td>i</td>
</tr>
<tr>
<td>Loss</td>
<td>15</td>
</tr>
<tr>
<td>Mortgage</td>
<td>16</td>
</tr>
<tr>
<td>OFAC</td>
<td>11</td>
</tr>
<tr>
<td>Operating Costs</td>
<td>2</td>
</tr>
<tr>
<td>Operating Costs and Tax Statement</td>
<td>4</td>
</tr>
<tr>
<td>Permitted Transfer</td>
<td>12</td>
</tr>
<tr>
<td>Permitted Transferee</td>
<td>12</td>
</tr>
<tr>
<td>Permitted Use</td>
<td>ii</td>
</tr>
<tr>
<td>Premises</td>
<td>i</td>
</tr>
<tr>
<td>Prevailing Rental Rate</td>
<td>H-1</td>
</tr>
<tr>
<td>Primary Lease</td>
<td>16</td>
</tr>
<tr>
<td>Project</td>
<td>i</td>
</tr>
<tr>
<td>Term</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Rent</td>
<td>ii</td>
</tr>
<tr>
<td>Repair Period</td>
<td>18</td>
</tr>
<tr>
<td>Security Deposit</td>
<td>ii</td>
</tr>
<tr>
<td>Space Plans</td>
<td>D-1</td>
</tr>
<tr>
<td>Space Plans Delivery Deadline</td>
<td>D-1</td>
</tr>
<tr>
<td>Substantial Completion</td>
<td>D-4</td>
</tr>
<tr>
<td>Substantially Completed</td>
<td>D-4</td>
</tr>
<tr>
<td>Taking</td>
<td>17</td>
</tr>
<tr>
<td>Taxes</td>
<td>4</td>
</tr>
<tr>
<td>Telecommunications Services</td>
<td>27</td>
</tr>
<tr>
<td>Tenant</td>
<td>i, 1</td>
</tr>
<tr>
<td>Tenant Party</td>
<td>1</td>
</tr>
<tr>
<td>Tenant’s Off-Premises Equipment</td>
<td>1</td>
</tr>
<tr>
<td>Tenant’s Proportionate Share</td>
<td>ii</td>
</tr>
<tr>
<td>Term</td>
<td>i</td>
</tr>
<tr>
<td>Total Construction Costs</td>
<td>D-4</td>
</tr>
<tr>
<td>Transfer</td>
<td>10</td>
</tr>
<tr>
<td>Work</td>
<td>D-2</td>
</tr>
<tr>
<td>Working Drawings</td>
<td>D-2</td>
</tr>
<tr>
<td>Working Drawings Delivery Deadline</td>
<td>D-1</td>
</tr>
</tbody>
</table>

ix
LEASE

This Lease Agreement (this “Lease”) is entered into as of April ____, 2018, between PARMER RTP, LLC, a Delaware limited liability company (“Landlord”), and SHATTUCK LABS, INC., a Delaware corporation (“Tenant”).

1. Definitions and Basic Provisions. The definitions and basic provisions set forth in the Basic Lease Information (the “Basic Lease Information”) set forth above are incorporated herein by reference for all purposes. Additionally, the following terms shall have the following meanings when used in this Lease: “Affiliate” means any person or entity which, directly or indirectly controls, is controlled by, or is under common control with the party in question; “Building’s Structure” means the Building’s exterior walls, roof, elevator shafts, footings, foundations, structural portions of load-bearing walls, structural floors and subfloors, and structural columns and beams; “Building’s Systems” means the Building’s HVAC, life-safety, plumbing, electrical, and mechanical systems; “including” means including, without limitation; “Laws” means all federal, state, and local laws, ordinances, rules and regulations, all court orders, governmental directives, and governmental orders and all interpretations of the foregoing, and all restrictive covenants affecting this Lease or the Project, and “Law” means any of the foregoing; “Tenant’s Off-Premises Equipment” means any of Tenant’s equipment or other property that may be located on or about the Project (other than inside the Premises); and “Tenant Party” means any of the following persons: Tenant; any assignees claiming by, through, or under Tenant; any subtenants claiming by, through, or under Tenant; and any of their respective agents, contractors, employees, licensees, guests and invitees.

2. Lease Grant. Subject to the terms of this Lease, Landlord leases to Tenant, and Tenant leases from Landlord, the Premises.

3. Tender of Possession. Landlord and Tenant presently anticipate that possession of the Premises will be tendered to Tenant in the condition required under this Lease, including without limitation HVAC in good order and working condition, within ten (10) business days following the full execution and delivery of this Lease and receipt by Landlord of all sums due at execution and evidence of Tenant’s insurance as required hereunder (the “Estimated Delivery Date”). If Landlord is unable to tender possession of the Premises to Tenant by the Estimated Delivery Date, then (a) the validity of this Lease shall not be affected or impaired thereby, (b) Landlord shall not be in default hereunder or be liable for damages therefor, and (c) Tenant shall accept possession of the Premises when Landlord tenders possession thereof to Tenant. By occupying the Premises, Tenant shall be deemed to have accepted the Premises in their condition as of the date of such occupancy, subject to the performance of punch-list items that remain to be performed by Landlord, if any. Within ten days after request by Landlord, Tenant shall execute and deliver to Landlord a letter substantially in the form of Exhibit E hereto confirming (1) the Commencement Date and the expiration date of the initial Term, (2) that Tenant has accepted the Premises, and (3) that Landlord has performed all of its obligations with respect to the Premises (except for punch-list items specified in such letter); however, the failure of the parties to execute such letter shall not defer the Commencement Date or otherwise invalidate this Lease. Occupancy of the Premises by Tenant prior to the Commencement Date shall be subject to all of the provisions of this Lease excepting only those requiring the payment of Basic Rent, Additional Rent and Taxes (each as defined herein).
4. Rent.

(a) Payment. Tenant shall timely pay to Landlord Rent, without notice, demand, deduction or set off (except as otherwise expressly provided herein), by good and sufficient check drawn on a national banking association at Landlord’s address provided for in this Lease or as otherwise specified by Landlord and shall be accompanied by all applicable state and local sales or use taxes. The obligations of Tenant to pay Rent to Landlord and the obligations of Landlord under this Lease are independent obligations. Rent shall be payable monthly in advance. The first monthly installment of Basic Rent shall be payable contemporaneously with the execution of this Lease and applied to the ninth (9th) Lease Month; thereafter, Basic Rent shall be payable on the first day of each month beginning on the first day of the tenth (10th) Lease Month of the Term. The monthly Rent for any partial month at the beginning of the Term shall equal the product of 1/365 of the annual Basic Rent (and Additional Rent) in effect during the partial month and the number of days in the partial month, and shall be due on the Commencement Date. Payments of Rent for any fractional calendar month at the end of the Term shall be similarly prorated.

(b) Operating Costs: Taxes.

(1) Tenant shall pay to Landlord Tenant’s Proportionate Share of the annual Operating Costs (defined below). Prior to each calendar year of the Term, Landlord shall make a good faith estimate of Tenant’s Proportionate Share of Operating Costs for the following calendar year or part thereof during the Term. Tenant shall pay to Landlord, in advance concurrently with each monthly installment of Basic Rent, an amount equal to the estimated Tenant’s Proportionate Share of Operating Costs for such calendar year or part thereof divided by the number of months therein. From time to time, but not more than once per calendar year, Landlord may re-estimate the amount of Tenant’s Proportionate Share of Operating Costs to be due by Tenant and deliver a copy of the re-estimate to Tenant. Thereafter, the monthly installments of Tenant’s Proportionate Share of Operating Costs shall be adjusted in accordance with the estimations so that, by the end of the calendar year in question, Tenant shall have paid all of Tenant’s Proportionate Share of Operating Costs as estimated by Landlord. Any amounts paid based on such an estimate shall be subject to adjustment as herein provided when actual Operating Costs are available for each calendar year.

(2) The term “Operating Costs” means all expenses and disbursements (subject to the limitations set forth below) that Landlord reasonably incurs for operation and maintenance of the Project, determined in accordance with sound accounting principles consistently applied, including the following costs: (A) wages and salaries of all on-site employees at or below the grade of general manager engaged solely in the operation, maintenance or security of the Project (together with Landlord’s reasonable allocation of expenses of off-site employees at or below the grade of general manager who perform a portion of their services in connection with the operation, maintenance or security of the Project), including taxes, insurance and benefits relating thereto; (B) all supplies and materials used in the operation, maintenance, repair, replacement, and security of the Project; (C) costs for improvements made to the Project which, although capital in nature, are expected to reduce the normal operating costs (including all utility costs) of the Project, as amortized using a commercially reasonable interest rate over the time period reasonably
estimated by Landlord to recover the costs thereof taking into consideration the anticipated cost savings, as determined by Landlord using its good faith, commercially reasonable judgment, as well as capital improvements made in order to comply with any Law hereafter promulgated by any governmental authority or any new interpretations of any Law hereafter rendered with respect to any existing Law, as amortized using a commercially reasonable interest rate over the useful economic life of such improvements as determined by Landlord in its reasonable discretion; (D) cost of all utilities, except the cost of utilities reimbursable to Landlord by the Project’s tenants other than pursuant to a provision similar to this Section 4(b); (E) insurance expenses; (F) repairs, replacements, and general maintenance of the Project; and (G) service, maintenance and management contracts with independent contractors for the operation, maintenance, management, repair, replacement, or security of the Project (including alarm service, window cleaning, and elevator maintenance). Operating Costs and Taxes for the Complex may be prorated among the Project and the other buildings of the Complex, as reasonably determined by Landlord.

Operating Costs shall not include costs for (i) capital improvements made to the Building, other than capital improvements described in Section 4(b)(2)(C) and except for items which are generally considered maintenance and repair items, such as painting of common areas, replacement of carpet in elevator lobbies, and the like; (ii) repair, replacements and general maintenance paid by proceeds of insurance or by Tenant or other third parties; (iii) interest, amortization or other payments on loans to Landlord; (iv) depreciation; (v) leasing commissions; (vi) legal expenses for services, other than those that benefit the Project tenants generally (e.g., tax disputes); (vii) renovating or otherwise improving space for occupants of the Project or vacant space in the Project; (viii) Taxes; (ix) federal income taxes imposed on or measured by the income of Landlord from the operation of the Project; (x) any cost or expenditure or any portion thereof for which Landlord has been reimbursed, whether by insurance proceeds or otherwise, except reimbursements or other payments from other tenants of the Building in respect to costs and expenses which are Operating Costs; (xi) costs incurred due to violation by Landlord of any of the terms and conditions of this Lease or any other lease relating to the Building; (xii) repairs resulting from any defect in the design or construction of the Building; (xiii) rental concessions granted to Tenant or any other tenant of the Building; (xiv) overhead and profit increment paid to subsidiaries or other affiliates of Landlord for services to the extent that such costs of such services exceed the comparable costs for such services rendered by persons or entities of similar skill, confidence and experience; (xv) advertising and promotional expenditures; (xvi) costs incurred in connection with the sale, financing, refinancing, mortgaging or sale of all or any portion of the Building, including brokerage commissions, attorneys’ and accountants’ fees, closing costs, title insurance premiums, transfer taxes and interest charges; (xvii) costs, fines, interests, penalties, legal fees or costs of litigation incurred due to the late payment of taxes, utility bills and other costs incurred by Landlord’s failure to make such payments when due; (xviii) costs incurred by Landlord for trustee fees, organizational expenses and accounting fees to the extent relating to Landlord’s general corporate overhead and general administrative expenses; (xix) any penalties or liquidated damages that Landlord pays to Tenant under this Lease or to any other tenant under their respective leases; (xx) costs associated with correcting any violation of law, or making renovations or alterations to the Building required in order to cause the Building to be in compliance with any applicable Laws in effect and applicable to the Property on the date of this Lease; (xxi) costs arising out of the gross negligence or willful misconduct of Landlord, or its agents; (xxii) reserves of any kind, including, without limitation, replacement reserves and reserves for bad debts or lost rent or any similar charge not involving the payment of money to third parties, and (xiii) costs of any utilities which are separately metered to the Premises.
(3) Tenant shall also pay Tenant’s Proportionate Share of Taxes for each year and partial year falling within the Term. Tenant shall pay Tenant’s Proportionate Share of Taxes in the same manner as provided above for Tenant’s Proportionate Share of Operating Costs. “Taxes” means taxes, assessments, and governmental charges or fees whether federal, state, county or municipal, and whether they be by taxing districts or authorities presently taxing or by others, subsequently created or otherwise, and any other taxes and assessments (including non-governmental assessments for common charges under a restrictive covenant or other private agreement that are not treated as part of Operating Costs) now or hereafter attributable to the Project or its operation, excluding, however, penalties and interest thereon and federal and state taxes on income (if the present method of taxation changes so that in lieu of or in addition to the whole or any part of any Taxes, there is levied on Landlord a capital tax, sales tax, or use tax directly on the rents received therefrom or a franchise tax, assessment, or charge based, in whole or in part, upon such rents for the Project, then all such taxes, assessments, or charges, or the part thereof so based, shall be deemed to be included within the term “Taxes” for purposes hereof, but only to the extent attributable to rents from the Project). Taxes shall include the actual out of pocket costs of consultants retained in an effort to lower taxes and all costs incurred in disputing any taxes or in seeking to lower the tax valuation of the Project. For property tax purposes, Tenant waives all rights to protest or appeal the appraised value of the Premises, as well as the Project; provided, however, Tenant reserves the right to protest or appeal the appraised value of Tenant’s personal property, furniture or fixtures for which Tenant is required to pay taxes thereon pursuant to Section 16 of this Lease.

(4) By April 1 of each calendar year, or as soon thereafter as practicable (but in no event later than May 1 of each calendar year), Landlord shall furnish to Tenant a statement of Operating Costs for the previous year, in each case adjusted as provided in Section 4(b)(5), and of the Taxes for the previous year (the “Operating Costs and Tax Statement”). If Tenant’s estimated payments of Operating Costs or Taxes under this Section 4(b) for the year covered by the Operating Costs and Tax Statement exceed Tenant’s Proportionate Share of such items as indicated in the Operating Costs and Tax Statement, then Landlord shall promptly credit or reimburse Tenant for such excess; likewise, if Tenant’s estimated payments of Operating Costs or Taxes under this Section 4(b) for such year are less than Tenant’s Proportionate Share of such items as indicated in the Operating Costs and Tax Statement, then Tenant shall promptly pay Landlord such deficiency.

(5) With respect to any calendar year or partial calendar year in which the Building is not occupied to the extent of 95% of the rentable area thereof, or Landlord is not supplying services to 95% of the rentable area thereof, the Operating Costs for such period which vary with the occupancy of the Building shall, for the purposes hereof, be increased to the amount which would have been incurred had the Building been occupied to the extent of 95% of the rentable area thereof and Landlord had been supplying services to 95% of the rentable area thereof.
c) **Initial Cap on Operating Costs and Taxes.** For purposes of calculating Additional Rent payable by Tenant under Section 4(b) for the initial twenty-four (24) Lease Months following the Commencement Date (the "Initial OpEx Cap Period"), Tenant’s responsibility for Operating Costs and Taxes shall not exceed an annual rate of $10.00 per rentable square foot of area in the Premises.

d) **Subsequent Cap on Controllable Operating Costs.** Upon expiration of the Initial OpEx Cap Period, for purposes of calculating Additional Rent payable by Tenant under Section 4(b), the amount of Controllable Operating Costs (as defined below) that may be included in calculating such Additional Rent for each such calendar year shall not exceed 105% of the actual amount of Controllable Operating Costs for the year immediately preceding each such calendar year. “Controllable Operating Costs” shall mean all Operating Costs which are within the reasonable control of Landlord; thus, excluding taxes, insurance, utilities, snow removal costs, and costs incurred to comply with governmental requirements enacted or made applicable to the Buildings or the Complex after the date of this Lease.

e) **Inspection and Audit Rights.** Provided no Event of Default then exists, after receiving an annual Operating Costs and Tax Statement and giving Landlord 30-days’ prior written notice thereof, Tenant may inspect or audit Landlord’s records relating to Operating Costs and Taxes for the period of time covered by such Operating Costs and Tax Statement in accordance with the following provisions. If Tenant fails to object to the calculation of Operating Costs and Taxes on an annual Operating Costs and Tax Statement within 90 days after the statement has been delivered to Tenant, or if Tenant fails to conclude its audit or inspection within 60 days after Tenant’s commencement thereof, then Tenant shall have waived its right to object to the calculation of Operating Costs and Taxes for the year in question and the calculation of Operating Costs and Taxes set forth on such statement shall be final. Tenant’s audit or inspection shall be conducted where Landlord maintains its books and records, shall not unreasonably interfere with the conduct of Landlord’s business, and shall be conducted only during business hours reasonably designated by Landlord. Landlord will cooperate with Tenant, to a commercially reasonable extent (including by providing electronic copies of applicable documents to the extent in Landlord’s or its property manager’s possession and provided the same are not confidential, proprietary or privileged), in connection with Tenant’s audit. Tenant shall pay all costs of such audit or inspection, unless the total Operating Costs for the period in question is determined to be in error by more than five percent (5%) in the aggregate, and, as a result thereof, Tenant paid to Landlord more than the actual Operating Costs due for such period, in which case Landlord shall pay the reasonable and actual audit cost (not to exceed $5,000). Tenant may not conduct an inspection or have an audit performed more than once during any calendar year. If such inspection or audit reveals that an error was made in the Operating Costs and Taxes previously charged to Tenant, then Landlord shall refund to Tenant any overpayment of any such costs, or Tenant shall pay to Landlord any underpayment of any such costs, as the case may be, within 30 days after notification thereof. Tenant shall maintain the results of each such audit or inspection confidential and shall not be permitted to use any third party to perform such audit or inspection, other than an independent firm of certified public accountants (1) reasonably acceptable to Landlord, (2) which is not compensated on a contingency fee basis or in any other manner which is dependent upon the results of such audit or inspection (and Tenant shall deliver the fee agreement or other similar evidence of such fee arrangement to Landlord upon request), and (3) which agrees with Landlord in writing to maintain the results of such audit or inspection confidential. Nothing set forth herein shall be construed to limit, suspend or abate Tenant’s obligation to pay Rent when due, including Additional Rent.
5. Delinquent Payment; Handling Charges. All payments required of Tenant hereunder not received within three (3) business days of the date due shall bear interest from the date due until paid at the lesser of fifteen percent per annum or the maximum lawful rate of interest (such lesser amount is referred to herein as the “Default Rate”); additionally, Landlord, in addition to all other rights and remedies available to it, may charge Tenant a fee equal to the greater of (a) $50.00 or (b) five percent (5.00%) of the delinquent payment to reimburse Landlord for its cost and inconvenience incurred as a consequence of Tenant’s delinquency. In no event, however, shall the charges permitted under this Section 5 or elsewhere in this Lease, to the extent they are considered to be interest under applicable Law, exceed the maximum lawful rate of interest. Notwithstanding the foregoing, the late fee referenced above shall not be charged with respect to the first occurrence (but not any subsequent occurrence) during any 12-month period that Tenant fails to make payment within three (3) business days of the date due, until five days after Landlord delivers written notice of such delinquency to Tenant.

6. Security Deposit. Contemporaneously with the execution of this Lease, Tenant shall pay to Landlord the Security Deposit, which shall be held by Landlord to secure Tenant’s performance of its obligations under this Lease. The Security Deposit is not an advance payment of Rent or a measure or limit of Landlord’s damages upon an Event of Default (as defined herein). Landlord may, from time to time following an Event of Default and without prejudice to any other remedy, use all or a part of the Security Deposit to perform any obligation Tenant fails to perform hereunder. Following any such application of the Security Deposit, Tenant shall pay to Landlord on demand the amount so applied in order to restore the Security Deposit to its original amount. Subject to the requirements of, and conditions imposed by, Laws applicable to security deposits under commercial leases, Landlord shall, within the time required by applicable Law, return to Tenant the portion of the Security Deposit remaining after deducting all damages, charges and other amounts permitted by Law. Landlord and Tenant agree that such deductions shall include, without limitation, all damages and losses that Landlord has suffered or that Landlord reasonably estimates that it will suffer as a result of any breach of this Lease by Tenant. The Security Deposit may be commingled with other funds, and no interest shall be paid thereon. If Landlord transfers its interest in the Premises, Landlord will assign the Security Deposit to the transferee and, upon such transfer and the delivery to Tenant of an acknowledgement of the transferee’s responsibility for the Security Deposit as provided by Law, Landlord thereafter shall have no further liability for the return of the Security Deposit.

7. Landlord’s Obligations.

   (a) Services. Landlord shall furnish to Tenant (1) water at those points of supply provided for general use of tenants of the Building; (2) at all times (including outside of normal business hours) heated and refrigerated air conditioning (“HVAC”) as appropriate, at such temperatures and in such amounts as are standard for comparable buildings in the vicinity of the Building; (3) janitorial service to the Premises on weekdays, other than holidays, for Building-standard installations and such window washing as may from time to time be reasonably required; provided, however, Landlord’s janitorial service providers will not be permitted to enter the laboratory space portion of the Premises (the “Laboratory Space”) without Tenant’s prior written
consent, which consent shall not be unreasonably withheld, conditioned or delayed; (4) elevators for ingress and egress to the floor on which the
Premises are located, in common with other tenants, provided that Landlord may reasonably limit the number of operating elevators during non-business
hours and holidays; and (5) electrical current during normal business hours for equipment that does not require more than 110 volts and whose electrical
energy consumption does not exceed normal office usage. Landlord shall maintain the common areas of the Building in reasonably good order and
condition, except for damage caused by a Tenant Party.

(b) Utilities Services. Tenant shall pay for all water, electricity, heat, telephone, sewer, sprinkler charges and other utilities and services
used at the Premises, together with any taxes, penalties, surcharges and the like imposed thereon. Prior to the Commencement Date, Landlord (at its
cost) will cause the Building to be separately metered with regard to all utilities and install a sub-meter to measure Tenant’s use of electricity in the
Premises. Such sub-meter for the Premises shall be read by Landlord or Landlord’s designee, and Tenant shall pay to Landlord, within thirty (30) days
after Tenant’s receipt of an invoice therefor, the cost of such service based on rates charged for such service by the utility company furnishing such
service, including all fuel adjustment charges, demand charges and taxes.

c) Restoration of Services; Abatement. Landlord shall use reasonable efforts to restore any service required of it that becomes
unavailable; however, such unavailability shall not render Landlord liable for any damages caused thereby, be a constructive eviction of Tenant,
constitute a breach of any implied warranty, or, except as provided in the next sentence, entitle Tenant to any abatement of Tenant’s obligations
hereunder. If, however, Tenant is prevented from using the Premises because of the unavailability of any such service for a period of five (5) consecutive
business days following Landlord’s receipt from Tenant of a written notice regarding such unavailability, the restoration of which is within Landlord’s
reasonable control, and such unavailability was not caused by a Tenant Party or a governmental directive, then Tenant shall, as its exclusive remedy be
entitled to a reasonable abatement of Rent for each consecutive day (after such 5-day period) that Tenant is so prevented from using the Premises.

8. Improvements; Alterations; Repairs; Maintenance.

(a) Improvements; Alterations. Improvements to the Premises shall be installed at Tenant’s expense only in accordance with plans and
specifications which have been previously approved in writing by Landlord, which approval shall be governed by the provisions set forth in this
Section 8(a). No alterations or additions in or to the Premises may be made without Landlord’s prior written consent, which shall not be unreasonably
withheld or delayed; however, Landlord may withhold its consent to any alteration or addition that would adversely affect (in the reasonable discretion
of Landlord) the (1) Building’s Structure or the Building’s Systems (including the Building’s restrooms or mechanical rooms), (2) exterior appearance of
the Building, (3) appearance of the Building’s common areas or elevator lobby areas, or (4) provision of services to other occupants of the Building.
Tenant shall not paint or install lighting or decorations, signs, window or door lettering, or advertising media of any type visible from the exterior of the
Premises without the prior written consent of Landlord, which consent may be withheld in Landlord’s sole and absolute discretion. All alterations,
additions, and improvements shall be constructed, maintained, and used by Tenant, at its risk and expense, in accordance with all Laws; Landlord’s
consent to or approval of any alterations, additions or improvements (or the plans therefor) shall

7
not constitute a representation or warranty by Landlord, nor Landlord’s acceptance, that the same comply with sound architectural and/or engineering practices or with all applicable Laws, and Tenant shall be solely responsible for ensuring all such compliance. Notwithstanding the foregoing, Tenant shall have the right from time to time to make nonstructural alterations to the Premises (e.g., paint, carpet, removable fixtures) that do not require a building permit, do not affect the Building’s Systems and are not visible from the exterior of the Premises without Landlord’s consent (“Minor Nonstructural Alterations”), provided that Tenant provides Landlord at least ten (10) days prior written notice of such Minor Nonstructural Alterations and otherwise complies with the terms and provisions of this Section 8(a) in the performance of such Minor Nonstructural Alterations, and such Minor Nonstructural Alterations do not cost more than $30,000 in any one instance or series of related instances.

(b) Repairs; Maintenance. Tenant shall maintain the Premises in a clean, safe, and operable condition, and shall not permit or allow to remain any waste or damage to any portion of the Premises. In addition, Tenant, at its sole expense, shall provide janitorial services to the Laboratory Space on weekdays (other than holidays), in a first class manner. Additionally, Tenant, at its sole expense, shall repair, replace and maintain in good condition and in accordance with all Laws and the equipment manufacturer’s suggested service programs, all portions of the Premises, Tenant’s Off-Premises Equipment, and any systems exclusively serving the Premises (if any). Tenant shall repair or replace, subject to Landlord’s direction and supervision, any damage to the Building caused by a Tenant Party. If Tenant fails to make such repairs or replacements within 15 days after the occurrence of such damage (or such longer period as may be reasonably required provided Tenant commences to make such repairs or replacements within such 15-day period and proceeds diligently to completion), then Landlord may make the same at Tenant’s cost. If any such damage occurs outside of the Premises, then Landlord may elect to repair such damage at Tenant’s expense, rather than having Tenant repair such damage. The reasonable costs of all maintenance, repair or replacement work performed by Landlord under this Section 8 shall be paid by Tenant to Landlord within 30 days after Landlord has invoiced Tenant therefor.

(c) Performance of Work. All work described in this Section 8 shall be performed only by Landlord or by contractors and subcontractors approved in writing by Landlord, which approval will not be unreasonably withheld for contractors and subcontractors that maintain the insurance coverages required by Landlord, Landlord’s property management company and Landlord’s asset management company as additional insureds against such risks, in such amounts, and with such companies as Landlord may reasonably require. Tenant shall provide Landlord with the identities, mailing addresses and telephone numbers of all persons performing work or supplying materials prior to beginning such construction and Landlord may post on and about the Premises notices of non-responsibility pursuant to applicable Laws. All such work shall be performed in accordance with all Laws and in a good and workmanlike manner so as not to damage the Building (including the Premises, the Building’s Structure and the Building’s Systems). All such work which may affect the Building’s Structure or the Building’s Systems must be approved by the Building’s engineer of record, at Tenant’s expense and, at Landlord’s election, must be performed by Landlord’s usual contractor for such work. All work affecting the Building roof must be performed by Landlord’s roofing contractor and will not be permitted if it would void or reduce the warranty on the roof.
Mechanic’s Liens. All work performed, materials furnished, or obligations incurred by or at the request of a Tenant Party shall be deemed authorized and ordered by Tenant only, and Tenant shall not permit any mechanic’s liens to be filed against the Premises or the Project in connection therewith. Upon completion of any such work, Tenant shall deliver to Landlord final lien waivers from all contractors, subcontractors and materialmen who performed such work. If a lien is filed, then Tenant shall, within ten days after Landlord has delivered notice of the filing thereof to Tenant (or earlier, as necessary to prevent the forfeiture of the Premises, the Project or any interest of Landlord therein or the imposition of any fine with respect thereto), either (1) pay the amount of the lien and cause the lien to be released of record, or (2) diligently contest such lien and deliver to Landlord a bond or other security reasonably satisfactory to Landlord. If Tenant fails to timely take either such action, then Landlord may pay the lien claim, and any amounts so paid, including expenses and interest, shall be paid by Tenant to Landlord within ten days after Landlord has invoiced Tenant therefor. Landlord and Tenant acknowledge and agree that their relationship is and shall be solely that of “landlord-tenant” (thereby excluding a relationship of “owner-contractor,” “owner-agent” or other similar relationships). Accordingly, all materialmen, contractors, artisans, mechanics, laborers and any other persons now or hereafter contracting with Tenant, any contractor or subcontractor of Tenant or any other Tenant Party for the furnishing of any labor, services, materials, supplies or equipment with respect to any portion of the Premises during the Term, are hereby charged with notice that they look exclusively to Tenant to obtain payment for same. Nothing herein shall be deemed a consent by Landlord to any liens being placed upon the Premises, the Project or Landlord’s interest therein due to any work performed by or for Tenant or deemed to give any contractor or subcontractor or materialman any right or interest in any funds held by Landlord to reimburse Tenant for any portion of the cost of such work. Tenant shall defend, indemnify and hold harmless Landlord and its agents and representatives from and against all claims, demands, causes of action, suits, judgments, damages and expenses (including attorneys’ fees) in any way arising from or relating to the failure by any Tenant Party to pay for any work performed, materials furnished, or obligations incurred by or at the request of a Tenant Party. This indemnity provision shall survive termination or expiration of this Lease.

9. Use; Compliance with Law.

(a) Use. Tenant shall use the Premises only for the Permitted Use and shall comply with all Laws relating to this Lease and/or the use, condition, access to, and occupancy of the Premises and will not commit waste, overload the Building’s Structure or the Building’s Systems or subject the Premises to use that would damage the Premises. Tenant shall not conduct second or third shift operations within the Premises; however, Tenant may use the Premises after normal business hours, so long as Tenant is not generally conducting business from the Premises after normal business hours. The Premises shall not be used for any use which is disreputable, creates extraordinary fire hazards, or results in an increased rate of insurance on the Building or its contents, or for the storage of any Hazardous Materials (other than typical office supplies [e.g., photocopier toner] and then only in compliance with all Laws). Tenant shall not use any substantial portion of the Premises for a “call center,” any other telemarketing use, or any credit processing use. If, because of a Tenant Party’s acts or because Tenant vacates the Premises, the rate of insurance on the Building or its contents increases, then Tenant shall pay to Landlord the amount of such increase on demand, and acceptance of such payment shall not waive any of Landlord’s other rights. Tenant shall conduct its business and control each other Tenant Party so as not to create any nuisance or unreasonably interfere with other tenants or Landlord in its management of the Building.
(b) **Compliance with Law.**

(1) If any federal, state or local laws, ordinances, orders, rules, regulations or requirements (collectively, “**Governmental Requirements**”) in existence as of the date of the Lease require an alteration or modification of the Premises (a “**Code Modification**”) and such Code Modification is not made necessary as a result of the specific use being made by Tenant of the Premises (as distinguished from an alteration or improvement which would be required to be made by the owner of any building comparable to the Building irrespective of the use thereof by any particular occupant) and is not made necessary as the result of any alteration of the Premises by Tenant, such Code Modification shall be performed by Landlord, at Landlord’s sole cost and expense.

(2) If, as a result of one or more Governmental Requirements that are not in existence as of the date of this Lease, it is necessary from time to time during the Lease Term, to perform a Code Modification to the Building or the Project that is not made necessary as a result of the specific use being made by Tenant of the Premises (as distinguished from an alteration or improvement which would be required to be made by the owner of any building comparable to the Building irrespective of the use thereof by any particular occupant) and is not made necessary as the result of any alteration of the Premises by Tenant, such Code Modification shall be performed by Landlord and the cost thereof shall be included in Operating Costs.

(3) If, as a result of one or more Governmental Requirements, it is necessary from time to time during the Lease Term to perform a Code Modification to the Building or the Project that is made necessary as a result of the specific use being made by Tenant of the Premises (as distinguished from an alteration or improvement which would be required to be made by the owner of any building comparable to the Building irrespective of the use thereof by any particular occupant), or as the result of any alteration of the Premises by Tenant, such Code Modification shall be the sole and exclusive responsibility of Tenant in all respects.

10. **Assignment and Subletting.**

(a) **Transfers.** Except as provided in Section 10(h), Tenant shall not, without the prior written consent of Landlord, (1) assign, transfer, or encumber this Lease or any estate or interest herein, whether directly or by operation of law, (2) permit any other entity to become Tenant hereunder by merger, consolidation, or other reorganization, (3) intentionally omitted, (4) sublet any portion of the Premises, (5) grant any license, concession, or other right of occupancy of any portion of the Premises, or (6) permit the use of the Premises by any parties other than Tenant (any of the events listed in Section 10(a)(1) through 10(a)(6) being a “**Transfer**”).
(b) Consent Standards. Landlord shall not unreasonably withhold its consent to any assignment or subletting of the Premises, provided that the proposed transferee (1) is creditworthy, (2) has a good reputation in the business community, (3) will use the Premises for the Permitted Use (thus, excluding, without limitation, uses for credit processing and telemarketing) and will not use the Premises in any manner that would conflict with any exclusive use agreement or other similar agreement entered into by Landlord with any other tenant of the Building or Complex, (4) will not use the Premises, Building or Project in a manner that would materially increase the pedestrian or vehicular traffic to the Premises, Building or Project, (5) is not a governmental entity, or subdivision or agency thereof, (6) is not another occupant of the Building or Complex, (7) is in compliance with the regulations of the Office of Foreign Asset Control ("OFAC") of the Department of the Treasury (including those named on OFAC's Specially Designated Nationals and Blocked Persons List) and any statute, executive order (including the September 24, 2001, Executive Order Blocking Property and Prohibiting Transactions with Persons Who Commit, Threaten to Commit or Support Terrorism), or other governmental action relating thereto; and (8) is not a person or entity with whom Landlord is then, or has been within the six-month period prior to the time Tenant seeks to enter into such assignment or subletting, negotiating to lease space in the Building or Complex or any Affiliate of any such person or entity; otherwise, Landlord may withhold its consent in its sole discretion. Additionally, Landlord may withhold its consent to any proposed Transfer if any Event of Default by Tenant then exists.

(c) Request for Consent. At least 15 days prior to the effective date of the proposed Transfer, Tenant shall provide Landlord with a written description of all terms and conditions of the proposed Transfer, copies of the proposed documentation, and the following information about the proposed transferee: name and address of the proposed transferee and any entities and persons who own, control or direct the proposed transferee; reasonably satisfactory information about its business and business history; its proposed use of the Premises; banking, financial, and other credit information; and general references sufficient to enable Landlord to determine the proposed transferee’s creditworthiness and character. Within 30 days after written notice from Landlord, Tenant will reimburse Landlord for its reasonable attorneys’ fees incurred in connection with considering any request for consent to a Transfer, not to exceed $1,500.00 per request for consent.

(d) Conditions to Consent. If Landlord consents to a proposed Transfer, the proposed transferee shall deliver to Landlord a written agreement expressly assuming Tenant’s obligations hereunder; however, any transferee of less than all of the Premises shall be liable only for obligations under this Lease properly allocable to the space subject to the Transfer, for the period of the Transfer. No Transfer shall release Tenant from its obligations under this Lease; Tenant and its transferee shall be jointly and severally liable therefor. Landlord’s consent to any Transfer shall not waive Landlord’s rights as to any subsequent Transfers. If an Event of Default occurs while the Premises or any part thereof are subject to a Transfer, then Landlord, in addition to its other remedies, may collect directly from such transferee all rents becoming due to Tenant and apply such rents against Rent. Tenant instructs its transferees to make payments of rent directly to Landlord upon receipt of notice from Landlord to do so following the occurrence of an Event of Default. Landlord shall not be responsible for the cost of any demising walls or other improvements necessitated by a proposed subletting or assignment.
(c) **Attornment by Subtenants.** Each sublease hereunder shall be subject and subordinate to this Lease and to the matters to which this Lease is or shall be subordinate, and each subtenant is deemed to have agreed that in the event of termination, re-entry or dispossession by Landlord under this Lease, Landlord may, at its option, take over the right, title and interest of Tenant, as sublandlord, under such sublease, and such subtenant shall, at Landlord’s option, attorn to Landlord pursuant to the then executory provisions of such sublease, except that Landlord shall not be (1) liable for any previous act or omission of Tenant under such sublease, (2) subject to any counterclaim, offset or defense of such subtenant against Tenant, (3) bound by any previous modification of such sublease not approved by Landlord in writing or by any rent or additional rent or advance rent which such subtenant has paid for more than the current month to Tenant, and all such rent shall remain due and owing, notwithstanding such advance payment, (4) bound by any security or advance rental deposit made by such subtenant which is not delivered to Landlord and with respect to which such subtenant shall look solely to Tenant for refund or reimbursement, or (5) obligated to perform any work in the subleased space or to prepare it for occupancy, and in connection with such attornment, the subtenant shall execute and deliver to Landlord any instruments Landlord may reasonably request to evidence and confirm such attornment. Each subtenant or licensee of Tenant shall be deemed, automatically as a condition of its occupying or using any part of the Premises, to have agreed to be bound by the terms of this Section 10(e).

(f) **Cancellation.** Landlord may, within 30 days after receipt of Tenant’s written request for Landlord’s consent to an assignment or subletting, cancel this Lease as to the portion of the Premises proposed to be sublet or assigned as of the date the proposed Transfer is to be effective. If Landlord cancels this Lease as to any portion of the Premises, then this Lease shall cease for such portion of the Premises and Tenant shall pay to Landlord all Rent accrued through the cancellation date relating to such portion of the Premises. Thereafter, Landlord may lease such portion of the Premises to the prospective transferee (or to any other person) without liability to Tenant. Notwithstanding the foregoing, if Landlord provides written notification to Tenant of its election to cancel this Lease as to any portion of the Premises as provided above, Tenant may rescind its proposed assignment or subletting of all or any portion of the Premises by notifying Landlord in writing within five (5) business days following Landlord’s written cancellation notice.

(g) **Additional Compensation.** Except in connection with a Permitted Transfer, Tenant shall pay to Landlord, immediately upon receipt thereof, fifty percent of the excess of (1) all compensation received by Tenant for a Transfer less the actual out-of-pocket costs reasonably incurred by Tenant with unaffiliated third parties (i.e., brokerage commissions and tenant finish work) in connection with such Transfer (such costs shall be amortized on a straight-line basis over the term of the Transfer in question) over (2) the Rent allocable to the portion of the Premises covered thereby.

(h) **Permitted Transfers.** Notwithstanding Section 10(a)-(g) above, Tenant may Transfer all or part of its interest in this Lease or all or part of the Premises (a "**Permitted Transfer**") to the following types of entities (a "**Permitted Transferee**") without the written consent of Landlord:

1. an Affiliate of Tenant;
(2) any corporation, limited partnership, limited liability partnership, limited liability company or other business entity in which or with which Tenant, or its corporate successors or assigns, is merged or consolidated, in accordance with applicable statutory provisions governing merger and consolidation of business entities, so long as (A) Tenant’s obligations hereunder are assumed by the entity surviving such merger or created by such consolidation; and (B) the Tangible Net Worth of the surviving or created entity is not less than the Tangible Net Worth of Tenant as of the date immediately prior to the Transfer;

(3) any corporation, limited partnership, limited liability partnership, limited liability company or other business entity acquiring all or substantially all of Tenant’s assets if such entity’s Tangible Net Worth after such acquisition is not less than the Tangible Net Worth of Tenant as of the date immediately prior to the Transfer; or

(4) any corporation, limited partnership, limited liability partnership, limited liability company or other business entity or person acquiring a majority or controlling ownership interest in Tenant.

Tenant shall promptly notify Landlord of any such Permitted Transfer. Tenant shall remain liable for the performance of all of the obligations of Tenant hereunder, or if Tenant no longer exists because of a merger, consolidation, or acquisition, the surviving or acquiring entity shall expressly assume in writing the obligations of Tenant hereunder. Additionally, the Permitted Transferee shall comply with all of the terms and conditions of this Lease, and the use of the Premises by the Permitted Transferee may not violate any other agreements affecting the Premises, the Building, the Complex, Landlord or other tenants of the Building or Complex. No later than 30 days after the effective date of any Permitted Transfer, Tenant shall furnish Landlord with (A) copies of the instrument effecting such Permitted Transfer, (B) documentation establishing Tenant’s satisfaction of the requirements set forth above applicable to any such Transfer, (C) evidence of insurance as required under this Lease with respect to the Permitted Transferee, and (D) evidence of compliance with the regulations of OFAC and any statute, executive order (including the September 24, 2001, Executive Order Blocking Property and Prohibiting Transactions with Persons Who Commit, Threaten to Commit, or Support Terrorism), or other governmental action relating thereto, including the name and address of the Permitted Transferee and any entities and persons who own, control or direct the Permitted Transferee; provided, however, Tenant shall not be required to provide such information if the Permitted Transferee is a publicly traded company or subsidiary thereof. The occurrence of a Permitted Transfer shall not waive Landlord’s rights as to any subsequent Transfers. “Tangible Net Worth” means the excess of total assets over total liabilities, in each case as determined in accordance with generally accepted accounting principles consistently applied (“GAAP”). Any subsequent Transfer by a Permitted Transferee shall be subject to the terms of this Section 10.

11. Insurance; Waivers; Subrogation; Indemnity.

(a) Tenant’s Insurance. Effective as of the earlier of (1) the date Tenant enters or occupies the Premises, or (2) the Commencement Date, and continuing throughout the Term, Tenant shall maintain the following insurance policies: (A) commercial general liability insurance (which when combined with any umbrella policy maintained by Tenant) provides for coverage in amounts of $3,000,000 per occurrence or, following the expiration of the initial Term, such other amounts as Landlord from time to time reasonably requires (and, if the use and occupancy of the Premises include any activity or matter that is or may be excluded from coverage under a
commercial general liability policy [e.g., the sale, service or consumption of alcoholic beverages], Tenant shall obtain such endorsements to the commercial general liability policy or otherwise obtain insurance to insure all liability arising from such activity or matter [including liquor liability, if applicable] in such amounts as Landlord may reasonably require), insuring Tenant, Landlord, Landlord’s property management company, Landlord’s asset management company and, if requested in writing by Landlord, Landlord’s Mortgagee against all liability for injury to or death of a person or persons or damage to property arising from the use and occupancy of the Premises and (without implying any consent by Landlord to the installation thereof) the installation, operation, maintenance, repair or removal of Tenant’s Off-Premises Equipment, (B) insurance covering the full value of all alterations and improvements and betterments in the Premises, naming Landlord and Landlord’s Mortgagee as additional loss payees as their interests may appear, (C) insurance covering the full value of all furniture, trade fixtures and personal property (including property of Tenant or others) in the Premises or otherwise placed in the Project by or on behalf of a Tenant Party (including Tenant’s Off-Premises Equipment), (D) contractual liability insurance sufficient to cover Tenant’s indemnity obligations hereunder (but only if such contractual liability insurance is not already included in Tenant’s commercial general liability insurance policy), (E) worker’s compensation insurance, to the extent required by applicable Law, and (F) business interruption insurance in an amount sufficient to cover one year’s Basic Rent and Additional Rent under this Lease. The commercial general liability insurance to be maintained by Tenant may have a deductible of no more than $5,000 per occurrence; the property insurance to be maintained by Tenant may have a deductible of no more than $10,000 per occurrence; and, all other insurance to be maintained by Tenant shall have no deductible. Tenant’s insurance shall provide primary coverage to Landlord when any policy issued to Landlord provides duplicate or similar coverage. Landlord’s policy will be excess over Tenant’s policy. Tenant shall furnish to Landlord certificates of such insurance at least ten (10) days prior to the earlier of the Commencement Date or the date Tenant enters or occupies the Premises, and at least fifteen (15) days prior to each renewal of said insurance, and Tenant shall notify Landlord at least thirty (30) days before cancellation of any such insurance policies. All such insurance policies shall be in form reasonably satisfactory to Landlord and issued by companies with a Best’s rating of A++:VII or better. If Tenant fails to comply with the foregoing insurance requirements or to deliver to Landlord the certificates or evidence of coverage required herein, and such failure continues for more than two (2) business days after written notice from Landlord, Landlord, in addition to any other remedy available pursuant to this Lease or otherwise, may, but shall not be obligated to, obtain such insurance and Tenant shall pay to Landlord within thirty (30) days after written notice from Landlord, the premium costs thereof, plus an administrative fee of 15% of such cost.

(b) Landlord’s Insurance. Throughout the Term of this Lease, Landlord shall maintain, as a minimum, the following insurance policies: (1) property insurance for the Building’s full replacement value (excluding property required to be insured by Tenant), less a commercially-reasonable deductible if Landlord so chooses, and (2) commercial general liability insurance in an amount of not less than $3,000,000. Landlord may, but is not obligated to, maintain such other insurance and additional coverages as it may deem necessary. The cost of all insurance carried by Landlord with respect to the Project shall be included in Operating Costs. The foregoing insurance policies and any other insurance carried by Landlord shall be for the sole benefit of Landlord and under Landlord’s sole control, and Tenant shall have no right or claim to any proceeds thereof or any other rights thereunder.
(c) No Subrogation; Waiver of Property Claims. Landlord and Tenant each waives any claim it might have against the other for any damage to or theft, destruction, loss, or loss of use of any property, to the extent the same is insured against under any insurance policy of the types described in this Section 11 that covers the Project, the Premises, Landlord’s or Tenant’s fixtures, personal property, leasehold improvements, or business, or is required to be insured against under the terms hereof, regardless of whether the negligence of the other party caused, or is alleged to have caused, such Loss (defined below). Additionally, Tenant and Landlord each waive any claim it may have against the other for any Loss to the extent such Loss is caused by a terrorist act. Each party shall cause its insurance carrier to endorse all applicable policies waiving the carrier’s rights of recovery under subrogation or otherwise against the other party. Notwithstanding any provision in this Lease to the contrary, Landlord, its agents, employees and contractors shall not be liable to Tenant or to any party claiming by, through or under Tenant for (and Tenant hereby releases Landlord and its servants, agents, contractors, employees and invitees from any claim or responsibility for) any damage to or destruction, loss, or loss of use, or theft of any property of any Tenant Party located in or about the Project, caused by casualty, theft, fire, third parties or any other matter or cause, regardless of whether the negligence of any party caused, or is alleged to have caused, such Loss in whole or in part (except to the extent such Loss arose from the gross negligence or willful misconduct of such party). Tenant acknowledges that Landlord shall not carry insurance on, and shall not be responsible for damage to, any property of any Tenant Party located in or about the Project.

(d) Indemnity.

(1) Subject to Section 11(c), Tenant shall defend, indemnify, and hold harmless Landlord and its representatives and agents from and against all claims, demands, liabilities, causes of action, suits, judgments, damages, and expenses (including reasonable attorneys’ fees) arising from any injury to or death of any person or the damage to or theft, destruction, loss, or loss of use of, any property or inconvenience (a “Loss”) (1) occurring in or on the Project and/or the Complex (other than within the Premises) to the extent caused by the negligence or willful misconduct of any Tenant Party, (2) occurring in the Premises, or (3) arising out of the installation, operation, maintenance, repair or removal of any property of any Tenant Party located in or about the Project and/or the Complex, including Tenant’s Off-Premises Equipment; however, such indemnity shall not apply to the extent such Loss arose from the negligence or willful misconduct of Landlord or its agents.

(2) Subject to Section 11(c), Landlord shall defend, indemnify, and hold harmless Tenant and its representatives and agents from and against any Loss arising from Landlord’s maintenance or operation of the common areas of the Project and/or the Complex; however, such indemnity shall not apply to the extent such Loss arose from the negligence or willful misconduct of Tenant or its agents.

(3) The indemnities set forth in this Lease shall survive termination or expiration of this Lease and shall not terminate or be waived, diminished or affected in any manner by any abatement or apportionment of Rent under any provision of this Lease. If any proceeding is filed for which indemnity is required hereunder, the indemnifying party agrees, upon request therefor, to defend the indemnified party in such proceeding at its sole cost utilizing counsel satisfactory to the indemnified party.
12. Subordination; Attornment; Notice to Landlord's Mortgagee.

(a) Subordination. This Lease shall be subordinate to any deed of trust, mortgage, or other security instrument (each, a “Mortgage”), or any ground lease, master lease, or primary lease (each, a “Primary Lease”), that now or hereafter covers all or any part of the Premises (the mortgagor under any such Mortgage, beneficiary under any such deed of trust, or the lessor under any such Primary Lease is referred to herein as a “Landlord’s Mortgagee”). Any Landlord’s Mortgagee may elect, at any time, unilaterally, to make this Lease superior to its Mortgage, Primary Lease, or other interest in the Premises by so notifying Tenant in writing. The provisions of this Section shall be self-operative and no further instrument of subordination shall be required; however, in confirmation of such subordination, Tenant shall execute and return to Landlord (or such other party designated by Landlord) within ten days after written request therefor such documentation, in recordable form if required, as a Landlord’s Mortgagee may reasonably request to evidence the subordination of this Lease to such Landlord’s Mortgagee’s Mortgage or Primary Lease (including a subordination, non-disturbance and attornment agreement) or, if the Landlord’s Mortgagee so elects, the subordination of such Landlord’s Mortgagee’s Mortgage or Primary Lease to this Lease.

(b) Attornment. Tenant shall attorn to any party succeeding to Landlord’s interest in the Premises, whether by purchase, foreclosure, deed in lieu of foreclosure, power of sale or otherwise, upon such party’s request, and shall execute such agreements confirming such attornment as such party may reasonably request.

(c) Notice to Landlord’s Mortgagee. Tenant shall not seek to enforce any remedy it may have for any default on the part of Landlord without first giving written notice by certified mail, return receipt requested, specifying the default in reasonable detail, to any Landlord’s Mortgagee whose address has been given to Tenant, and affording such Landlord’s Mortgagee a reasonable opportunity to perform Landlord’s obligations hereunder.

(d) Landlord’s Mortgagee’s Protection Provisions. If Landlord’s Mortgagee shall succeed to the interest of Landlord under this Lease, Landlord’s Mortgagee shall not be: (1) liable for any act or omission of any prior lessor (including Landlord); (2) bound by any Rent which Tenant has paid for more than the current month to any prior lessor (including Landlord), and all such rent shall remain due and owing; (3) bound by any security or advance rental deposit made by Tenant which is not delivered or paid over to Landlord’s Mortgagee and with respect to which Tenant shall look solely to Landlord for refund or reimbursement; (4) bound by any termination, amendment or modification of this Lease made without Landlord’s Mortgagee’s consent and written approval, except for those terminations, amendments and modifications permitted to be made by Landlord without Landlord’s Mortgagee’s consent pursuant to the terms of the loan documents between Landlord and Landlord’s Mortgagee; (5) subject to the defenses which Tenant might have against any prior lessor (including Landlord); and (6) subject to the offsets which Tenant might have against any prior lessor (including Landlord) except for those offset rights which (A) are expressly provided in this Lease, (B) relate to periods of time following the acquisition of the Building by Landlord’s Mortgagee, and (C) Tenant has provided written
notice to Landlord’s Mortgagee and provided Landlord’s Mortgagee a reasonable opportunity to cure the event giving rise to such offset event. Landlord’s Mortgagee shall have no liability or responsibility under or pursuant to the terms of this Lease or otherwise after it ceases to own an interest in the Project. Nothing in this Lease shall be construed to require Landlord’s Mortgagee to see to the application of the proceeds of any loan, and Tenant’s agreements set forth herein shall not be impaired on account of any modification of the documents evidencing and securing any loan.

13. Rules and Regulations. Tenant shall comply with the rules and regulations of the Project which are attached hereto as Exhibit C. Landlord may, from time to time, change such rules and regulations for the safety, care, or cleanliness of the Project and related facilities, provided that such changes are applicable to all tenants of the Project, will not unreasonably interfere with Tenant’s use of the Premises and are enforced by Landlord in a non-discriminatory manner. Tenant shall be responsible for the compliance with such rules and regulations by each Tenant Party.


(a) **Total Taking.** If the entire Building or Premises are taken by right of eminent domain or conveyed in lieu thereof (a “Takings”), this Lease shall terminate as of the date of the Takings.

(b) **Partial Takings - Tenant’s Rights.** If any part of the Building becomes subject to a Takings and such Takings will prevent Tenant from conducting on a permanent basis its business in the Premises in a manner reasonably comparable to that conducted immediately before such Takings, then Tenant may terminate this Lease as of the date of such Takings by giving written notice to Landlord within 30 days after the Takings, and Basic Rent and Additional Rent shall be apportioned as of the date of such Takings. If Tenant does not terminate this Lease, then Rent shall be abated on a reasonable basis as to that portion of the Premises rendered untenantable by the Takings.

(c) **Partial Takings - Landlord’s Rights.** If any material portion, but less than all, of the Building becomes subject to a Takings, or if Landlord is required to pay any of the proceeds arising from a Takings to a Landlord’s Mortgagee, then Landlord or Tenant may terminate this Lease by delivering written notice thereof to the other within 30 days after such Takings, and Basic Rent and Additional Rent shall be apportioned as of the date of such Takings. If Landlord or Tenant does not so terminate this Lease, then this Lease will continue, but if any portion of the Premises has been taken, Rent shall abate as provided in the last sentence of Section 14(b).

(d) **Temporary Takings.** If all or any portion of the Premises becomes subject to a Takings for a limited period of time, this Lease shall remain in full force and effect and Tenant shall continue to perform all of the terms, conditions and covenants of this Lease, including the payment of Basic Rent and all other amounts required hereunder; provided, however, Tenant’s Rent shall be proportionally abated based on the duration and area affected by such temporary Takings. If any such temporary Takings terminates prior to the expiration of the Term, Tenant shall restore the Premises as nearly as possible to the condition prior to such temporary Takings, at Tenant’s sole cost and expense. Landlord shall be entitled to receive the entire award for any such temporary Takings, except that Tenant shall be entitled to receive the portion of such award which (1) compensates Tenant for its loss of use of the Premises within the Term and (2) reimburses Tenant for the reasonable out-of-pocket costs actually incurred by Tenant to restore the Premises as required by this Section 14(d).
e) **Award.** If any Taking occurs, then Landlord shall receive the entire award or other compensation for the Land, the Building, and other improvements taken; however, Tenant may separately pursue a claim (to the extent it will not reduce Landlord’s award) against the condemnor for the value of Tenant’s personal property which Tenant is entitled to remove under this Lease, moving costs, loss of business, and other claims it may have.

15. **Fire or Other Casualty.**

   (a) **Repair Estimate.** If the Premises or the Building are damaged by fire or other casualty (a “Casualty”), Landlord shall, within 90 days after such Casualty, deliver to Tenant a good faith estimate (the “Damage Notice”) of the time needed to repair the damage caused by such Casualty.

   (b) **Tenant’s Rights.** If a material portion of the Premises is damaged by Casualty such that Tenant is prevented from conducting its business in the Premises in a manner reasonably comparable to that conducted immediately before such Casualty and Landlord estimates that the damage caused thereby cannot be repaired within 180 days after the date of Casualty (the “Repair Period”), then Tenant may terminate this Lease by delivering written notice to Landlord of its election to terminate within 30 days after the Damage Notice has been delivered to Tenant.

   (c) **Landlord’s Rights.** If a Casualty damages the Premises or a material portion of the Building and (1) Landlord estimates that the damage to the Premises cannot be repaired within the Repair Period, (2) the damage to the Premises exceeds 50% of the replacement cost thereof (excluding foundations and footings), as estimated by Landlord, and such damage occurs during the last two years of the Term, (3) regardless of the extent of damage to the Premises, the damage is not fully covered by Landlord’s insurance policies plus applicable deductibles (provided Landlord carries the insurance required hereunder) or Landlord makes a good faith determination that restoring the Building would be uneconomical, or (4) Landlord is required to pay any insurance proceeds arising out of the Casualty to a Landlord’s Mortgagee such that remaining insurance proceeds are insufficient to cover the costs of rebuilding, then Landlord may terminate this Lease by giving written notice of its election to terminate within 30 days after the Damage Notice has been delivered to Tenant.

   (d) **Repair Obligation.** If neither party elects to terminate this Lease following a Casualty, then Landlord shall, within the Repair Period, begin to repair the Premises and shall proceed with reasonable diligence to restore the Premises to substantially the same condition as they existed immediately before such Casualty; however, Landlord shall not be required to repair or replace any alterations or betterments within the Premises (which shall be promptly and with due diligence repaired and restored by Tenant at Tenant’s sole cost and expense) or any furniture, equipment, trade fixtures or personal property of Tenant or others in the Premises or the Building, and Landlord’s obligation to repair or restore the Premises shall be limited to the extent of the
insurance proceeds actually received by Landlord for the Casualty in question (plus applicable deductible amounts); provided, further, however, if Landlord commences to restore the Premises and fails to substantially complete the restoration within thirty (30) days following the Repair Period (such deadline to be extended for delays caused by any Tenant Party or reasons specified in Section 25(c) below, the “Repair Deadline”), then Tenant may elect to terminate this Lease at any time following the Repair Deadline until such time as the restoration has been substantially completed. If this Lease is terminated under the provisions of this Section 15, Landlord shall be entitled to the full proceeds of the insurance policies providing coverage for all alterations, improvements and betterments in the Premises (and, if Tenant has failed to maintain insurance on such items as required by this Lease, Tenant shall pay Landlord an amount equal to the proceeds Landlord would have received had Tenant maintained insurance on such items as required by this Lease); provided, however, Landlord shall not be entitled to insurance proceeds applicable to Tenant’s trade fixtures, equipment, personal property and other property of Tenant in the Premises.

(e) Abatement of Rent. If the Premises are damaged by Casualty, Rent for the portion of the Premises rendered untenantable by the damage shall be abated on a reasonable basis from the date of damage until the completion of Landlord’s repairs (or until the date of termination of this Lease by Landlord or Tenant as provided above, as the case may be), unless the gross negligence or willful misconduct of a Tenant Party caused such damage, in which case, Tenant shall continue to pay Rent without abatement.

16. Personal Property Taxes. Tenant shall be liable for all taxes levied or assessed against personal property, furniture, or fixtures placed by Tenant in the Premises or in or on the Building or Project. If any taxes for which Tenant is liable are levied or assessed against Landlord or Landlord’s property and Landlord elects to pay the same, or if the assessed value of Landlord’s property is increased by inclusion of such personal property, furniture or fixtures and Landlord elects to pay the taxes based on such increase, then Tenant shall pay to Landlord, within 30 days following written request therefor, the part of such taxes for which Tenant is primarily liable hereunder; however, Landlord shall not pay such amount if Tenant notifies Landlord that it will contest the validity or amount of such taxes before Landlord makes such payment, and thereafter diligently proceeds with such contest in accordance with Law and if the non-payment thereof does not pose a threat of loss or seizure of the Project or interest of Landlord therein or impose any fee or penalty against Landlord.

17. Events of Default. Each of the following occurrences shall be an “Event of Default”:

(a) Payment Default. Tenant’s failure to pay Rent within five (5) days after Landlord has delivered written notice to Tenant that the same is due; however, an Event of Default shall occur hereunder without any obligation of Landlord to give any notice if Tenant fails to pay Rent when due and, during the 12 month interval preceding such failure, Landlord has given Tenant written notice of failure to pay Rent on one or more occasions;

(b) Intentionally Omitted.

(c) Estoppel. Tenant fails to provide any estoppel certificate after Landlord’s written request therefor pursuant to Section 25(e) and such failure shall continue for five days after Landlord’s second written notice thereof to Tenant which second written notice shall be delivered in an envelope or wrapper conspicuously marked “TIME SENSITIVE IMMEDIATE RESPONSE REQUIRED”;

19
Insurance. Tenant fails to procure, maintain and deliver to Landlord evidence of the insurance policies and coverages as required under Section 11(a);

Mechanic’s Liens. Tenant fails to pay and release of record, or diligently contest and bond around, any mechanic’s lien filed against the Premises or the Project for any work performed, materials furnished, or obligation incurred by or at the request of Tenant, within the time and in the manner required by Section 8(d);

Other Defaults. Tenant’s failure to perform, comply with, or observe any other agreement or obligation of Tenant under this Lease and the continuance of such failure for a period of more than 30 days after Landlord has delivered to Tenant written notice thereof provided, however, that if the nature of Tenant’s failure to perform is such that more than thirty (30) days are reasonably required to cure, then such failure to perform shall be deemed to have been cured if Tenant commences such performance within said thirty (30) day period and thereafter diligently pursues such cure to completion within a reasonable time; and

Insolvency. The filing of a petition by or against Tenant (the term “Tenant” shall include, for the purpose of this Section 17(g), any guarantor of Tenant’s obligations hereunder) (1) in any bankruptcy or other insolvency proceeding; (2) seeking any relief under any state or federal debtor relief law; (3) for the appointment of a liquidator or receiver for all or substantially all of Tenant’s property or for Tenant’s interest in this Lease; (4) for the reorganization or modification of Tenant’s capital structure; or (5) in any assignment for the benefit of creditors proceeding; however, if such a petition is filed against Tenant, then such filing shall not be an Event of Default unless Tenant fails to have the proceedings initiated by such petition dismissed within 90 days after the filing thereof.

Remedies. Upon any Event of Default, Landlord may, in addition to all other rights and remedies afforded Landlord hereunder or by law or equity, take any one or more of the following actions:

Termination of Lease. Terminate this Lease by giving Tenant written notice thereof, in which event Tenant shall pay to Landlord the sum of (1) all Rent accrued hereunder through the date of termination, (2) all amounts due under Section 19(a), and (3) an amount equal to (A) the total Rent that Tenant would have been required to pay for the remainder of the Term discounted to present value at a per annum rate equal to the “Prime Rate” as published on the date this Lease is terminated by The Wall Street Journal, Southwest Edition, in its listing of “Money Rates” minus one percent, minus (B) the then present fair rental value of the Premises for such period, similarly discounted;

Termination of Possession. Terminate Tenant’s right to possess the Premises without terminating this Lease by giving written notice thereof to Tenant, in which event Tenant shall pay to Landlord (1) all Rent and other amounts accrued hereunder to the date of termination of possession, (2) all amounts due from time to time under Section 19(a), and (3) all
Rent and other net sums required hereunder to be paid by Tenant during the remainder of the Term, diminished by any net sums thereafter received by Landlord through reletting the Premises during such period, after deducting reasonable costs incurred by Landlord in reletting the Premises. If Landlord elects to proceed under this Section 18(b), Landlord may remove all of Tenant’s property from the Premises and store the same in a public warehouse or elsewhere at the cost of, and for the account of, Tenant, without becoming liable for any loss or damage which may be occasioned thereby. Landlord shall use reasonable efforts to relet the Premises on such terms as Landlord in its sole reasonable discretion may determine (including a term different from the Term, rental concessions, and alterations to, and improvement of, the Premises); however, Landlord shall not be obligated to relet the Premises before leasing other portions of the Building or Complex and Landlord shall not be obligated to accept any prospective tenant unless such proposed tenant meets all of Landlord’s leasing criteria. Landlord shall not be liable for, nor shall Tenant’s obligations hereunder be diminished because of, Landlord’s failure to relet the Premises or to collect rent due for such reletting. Tenant shall not be entitled to the excess of any consideration obtained by reletting over the Rent due hereunder. Reentry by Landlord in the Premises shall not affect Tenant’s obligations hereunder for the unexpired Term; rather, Landlord may, from time to time, bring an action against Tenant to collect amounts due by Tenant, without the necessity of Landlord’s waiting until the expiration of the Term. Unless Landlord delivers written notice to Tenant expressly stating that it has elected to terminate this Lease, all actions taken by Landlord to dispossess or exclude Tenant from the Premises shall be deemed to be taken under this Section 18(b). If Landlord elects to proceed under this Section 18(b), it may at any time elect to terminate this Lease under Section 18(a);

(c) Perform Acts on Behalf of Tenant. Perform any act Tenant is obligated to perform under the terms of this Lease (and enter upon the Premises in connection therewith if necessary) in Tenant’s name and on Tenant’s behalf, without being liable for any claim for damages therefor, except to the extent due to Landlord’s gross negligence or willful misconduct in performing such obligation, and Tenant shall reimburse Landlord on demand for any expenses which Landlord may incur in thus effecting compliance with Tenant’s obligations under this Lease (including, but not limited to, collection costs and legal expenses), plus interest thereon at the Default Rate; or

(d) Alteration of Locks. Additionally, with or without notice, and to the extent permitted by Law, during the continuance of an Event of Default, Landlord may alter locks or other security devices at the Premises to deprive Tenant of access thereto, and Landlord shall not be required to provide a new key or right of access to Tenant.

19. Payment by Tenant; Non-Waiver; Cumulative Remedies.

(a) Payment by Tenant. Upon any Event of Default, Tenant shall pay to Landlord all actual out of pocket costs incurred by Landlord (including court costs and reasonable attorneys’ fees and expenses) in (1) obtaining possession of the Premises, (2) removing and storing Tenant’s or any other occupant’s property, (3) repairing, restoring, altering, remodeling to the extent necessary to put the Premises into the condition required at expiration of the Term, (4) if Tenant is dispossessed of the Premises and this Lease is not terminated, reletting all or any part of the Premises (including reasonable brokerage commissions, cost of commercially reasonable tenant finish work, and other costs incidental and necessary to such reletting), (5) performing
Tenant’s obligations which Tenant failed to perform, and (6) enforcing, Landlord’s rights, remedies, and recourses arising out of the default. To the full extent permitted by law, Landlord and Tenant agree the federal and state courts of the state in which the Premises are located shall have exclusive jurisdiction over any matter relating to or arising from this Lease and the parties’ rights and obligations under this Lease.

(b) No Waiver. Landlord’s acceptance of Rent following an Event of Default shall not waive Landlord’s rights regarding such Event of Default. No waiver by Landlord of any violation or breach of any of the terms contained herein shall waive Landlord’s rights regarding any future violation of such term. Landlord’s acceptance of any partial payment of Rent shall not waive Landlord’s rights with regard to the remaining portion of the Rent that is due, regardless of any endorsement or other statement on any instrument delivered in payment of Rent or any writing delivered in connection therewith; accordingly, Landlord’s acceptance of a partial payment of Rent shall not constitute an accord and satisfaction of the full amount of the Rent that is due.

(c) Cumulative Remedies. Any and all remedies set forth in this Lease:

(1) shall be in addition to any and all other remedies Landlord may have at law or in equity,

(2) shall be cumulative, and (3) may be pursued successively or concurrently as Landlord may elect. The exercise of any remedy by Landlord shall not be deemed an election of remedies or preclude Landlord from exercising any other remedies in the future.

20. Landlord’s Lien. Landlord hereby waives any landlord’s lien (whether arising by contract, by operation of law or statute or in equity) and/or the benefit of any express or implied lien with respect to Tenant’s Property (defined below) securing the performance of Tenant’s obligations under this Lease, until such time as Landlord may obtain an enforceable judgment against Tenant from a court with jurisdiction of Tenant or Tenant’s Property, at which time Landlord shall have such lien rights at law and in equity to enforce and collect such judgment and Tenant’s obligations under this Lease.

“Tenant’s Property” means all trade fixtures, furnishings, equipment, inventory, personal property and any other property (tangible or intangible) of Tenant located in, on or around, or used in connection with, the Premises. In addition and not in limitation of the foregoing, within ten (10) business days after written request Landlord will, at Tenant’s sole cost and expense, execute and deliver a written instrument, in form and substance satisfactory to Landlord, evidencing the waiver of any lien of Landlord with respect to Tenant’s Property.

21. Surrender of Premises. No act by Landlord shall be deemed an acceptance of a surrender of the Premises, and no agreement to accept a surrender of the Premises shall be valid unless it is in writing and signed by Landlord. At the expiration or termination of this Lease, Tenant shall deliver to Landlord the Premises with all improvements located therein in good repair and condition, free of Hazardous Materials placed on the Premises during the Term, broom-clean, reasonable wear and tear (and condemnation and Casualty damage not caused by Tenant, as to which Sections 14 and 15 shall control) excepted, and shall deliver to Landlord all keys to the Premises. Provided that no default then exists under this Lease, Tenant shall remove all of Tenant’s trade fixtures, furniture, equipment and personal property placed in the Premises or
elsewhere in the Building by Tenant (but Tenant may not remove any such item which was paid for, in whole or in part, by Landlord or any wiring or cabling unless Landlord requires such removal). Notwithstanding the foregoing, Tenant shall not be required to remove (i) any improvements constructed pursuant to Exhibit “D” hereof, (ii) any Minor Nonstructural Alterations, (iii) any other alterations, additions, or improvements subsequently installed byTenant, unless at the time of consenting to such alterations, additions or improvements, Landlord expressly required in writing that same be removed from the Premises upon expiration of the Lease, or (iv) any wiring or cabling. Tenant shall repair all damage caused by such removal. All items not so removed shall, at Landlord’s option, be deemed to have been abandoned by Tenant and may be appropriated, sold, stored, destroyed, or otherwise disposed of by Landlord without notice to Tenant and without any obligation to account for such items; any such disposition shall not be considered a strict foreclosure or other exercise of Landlord’s rights in respect of the security interest granted under Section 21. The provisions of this Section 21 shall survive the end of the Term.

22. Holding Over. If Tenant fails to vacate the Premises at the end of the Term, then Tenant shall be a tenant at sufferance and, in addition to all other damages and remedies to which Landlord may be entitled for such holding over, (a) Tenant shall pay, (i) during the first three (3) months of such holdover period, Basic Rent equal to 125% of the Rent payable during the last month of the Term, and (ii) after such three (3)-month period, Basic Rent equal to 150% of the Rent payable during the last month of the Term, and (b) Tenant shall otherwise continue to be subject to all of Tenant’s obligations under this Lease (including payment of Additional Rent). The provisions of this Section 22 shall not be deemed to limit or constitute a waiver of any other rights or remedies of Landlord provided herein or at law. If Tenant fails to surrender the Premises upon the termination or expiration of this Lease, in addition to any other liabilities to Landlord accruing therefrom, Tenant shall protect, defend, indemnify and hold Landlord harmless from all loss, costs (including reasonable attorneys’ fees) and liability resulting from such failure, including any claims made by any succeeding tenant founded upon such failure to surrender, and any lost profits to Landlord resulting therefrom.

23. Certain Rights Reserved by Landlord. Provided that the exercise of such rights does not unreasonably interfere with Tenant’s occupancy of the Premises, Landlord shall have the following rights:

(a) Building Operations. To decorate and to make inspections, repairs, alterations, additions, changes, or improvements, whether structural or otherwise, in and about the Project, or any part thereof; to enter upon the Premises (after giving Tenant reasonable notice thereof, which may be oral notice, except in cases of real or apparent emergency, in which case no notice shall be required) (provided, however, except following an Event of Default or in an emergency (in which instances no accompaniment shall be necessary), Tenant shall have a right to have its representative accompany Landlord at any such visit (and Tenant agrees to make a representative available for any such visit upon at least twenty-four (24) hours’ prior request by Landlord) and Landlord shall observe all reasonable safety protocols directed by Tenant during any such visit) and, during the continuance of any such work, to temporarily close doors, entryways, public space, and corridors in the Building; to interrupt or temporarily suspend Building services and facilities; to change the name of the Building; and to change the arrangement and location of entrances or passageways, doors, and doorways, corridors, elevators, stairs, restrooms, or other public parts of the Building;
(b) **Security.** To take such reasonable measures as Landlord deems advisable for the security of the Building and its occupants; evacuating the Building for cause, suspected cause, or for drill purposes; temporarily denying access to the Building; and closing the Building after normal business hours and on Sundays and holidays, subject, however, to Tenant’s right to enter when the Building is closed after normal business hours under such reasonable regulations as Landlord may prescribe from time to time;

(c) **Prospective Purchasers and Lenders.** To enter the Premises at all reasonable hours, upon reasonable prior notice, to show the Premises to prospective purchasers or lenders; provided, however, except following an Event of Default or in an emergency (in which instances no accompaniment shall be necessary), Tenant shall have a right to have its representative accompany Landlord at any such visit (and Tenant agrees to make a representative available for any such visit at least twenty-four (24) hours’ prior request by Landlord) and Landlord shall observe all reasonable safety protocols directed by Tenant during any such visit; and

(d) **Prospective Tenants.** At any time during the last 12 months of the Term (or earlier if Tenant has notified Landlord in writing that it does not desire to renew the Term) or at any time following the occurrence of an Event of Default which remains uncured, to enter the Premises at all reasonable hours, upon reasonable prior notice, to show the Premises to prospective tenants; provided, however, except following an Event of Default or in an emergency (in which instances no accompaniment shall be necessary), Tenant shall have a right to have its representative accompany Landlord at any such visit (and Tenant agrees to make a representative available for any such visit upon at least twenty-four (24) hours’ prior request by Landlord) and Landlord shall observe all reasonable safety protocols directed by Tenant during any such visit.

24. **Intentionally Omitted.**

25. **Miscellaneous.**

(a) **Landlord Transfer.** Landlord may transfer any portion of the Project and any of its rights under this Lease. If Landlord assigns its rights under this Lease, then Landlord shall thereby be released from any further obligations hereunder arising after the date of transfer, provided that the assignee assumes in writing Landlord’s obligations hereunder arising from and after the transfer date.

(b) **Limitation of Liability.**

(1) **Landlord’s Liability.** The liability of Landlord (and its partners, shareholders or members) to Tenant (or any person or entity claiming by, through or under Tenant) for any default by Landlord under the terms of this Lease or any matter relating to or arising out of the occupancy or use of the Premises and/or other areas of the Building shall be limited to Tenant’s actual direct, but not consequential, damages therefor and shall be recoverable only from the interest of Landlord in the Building (any the proceeds of any sale thereof), and Landlord (and its partners, shareholders or members) shall not be personally liable for any deficiency. The provisions of this Section shall survive any expiration or termination of this Lease.
(2) **Tenant’s Liability.** Except for any damages which Landlord may suffer because of Tenant’s holding over in the Premises following the expiration of the Term (for which Landlord may recover consequential damages from Tenant), the liability of Tenant to Landlord for any monetary damages arising from any default by Tenant under the terms of this Lease shall be limited to Landlord’s actual direct, but not consequential damages therefor. Nothing in this Section 25(b)(2) shall affect or limit Landlord’s rights to file legal actions to recover possession of the Premises, or for injunctive relief against Tenant, or any other non-monetary relief as provided in Sections 18 or 19 of this Lease.

(c) **Force Majeure.** Other than for Tenant’s obligations under this Lease that can be performed by the payment of money (e.g., payment of Rent and maintenance of insurance), whenever a period of time is herein prescribed for action to be taken by either party hereto, such party shall not be liable or responsible for, and there shall be excluded from the computation of any such period of time, any delays due to strikes, riots, acts of God, shortages of labor or materials, war, terrorist acts or activities, governmental laws, regulations, or restrictions, or any other causes of any kind whatsoever which are beyond the control of such party.

(d) **Brokerage.** Neither Landlord nor Tenant has dealt with any broker or agent in connection with the negotiation or execution of this Lease, other than CBRE, Inc. (on behalf of Landlord), and Savills Studley (on behalf of Tenant), whose commissions shall be paid by Landlord pursuant to a separate written agreement. Tenant and Landlord shall each indemnify the other against all costs, expenses, attorneys’ fees, liens and other liability for commissions or other compensation claimed by any broker or agent claiming the same by, through, or under the indemnifying party.

(e) **Estoppel Certificates.** From time to time, Tenant shall furnish to any party designated by Landlord, within ten (10) business days after Landlord has made a request therefor, a certificate signed by Tenant confirming and containing such factual certifications and representations as to this Lease as Landlord may reasonably request. Unless otherwise required by Landlord’s Mortgagee or a prospective purchaser or mortgagee of the Project, the initial form of estoppel certificate to be signed by Tenant is attached hereto as Exhibit F.

(f) **Notices.** All notices and other communications given pursuant to this Lease shall be in writing and shall be (1) mailed by first class, United States Mail, postage prepaid, certified, with return receipt requested, and addressed to the parties hereto at the address specified in the Basic Lease Information, (2) hand delivered to the intended addressee, (3) sent by a nationally recognized overnight courier service, or (4) sent by facsimile transmission during normal business hours followed by a confirmatory letter sent in another manner permitted hereunder. All notices shall be effective upon delivery to the address of the addressee (even if such addressee refuses delivery thereof). The parties hereto may change their addresses by giving notice thereof to the other in conformity with this provision.

(g) **Separability.** If any clause or provision of this Lease is illegal, invalid, or unenforceable under present or future laws, then the remainder of this Lease shall not be affected thereby and in lieu of such clause or provision, there shall be added as a part of this Lease a clause or provision as similar in terms to such illegal, invalid, or unenforceable clause or provision as may be possible and be legal, valid, and enforceable.
Amendments; Binding Effect; No Electronic Records. This Lease may not be amended except by instrument in writing signed by Landlord and Tenant. No provision of this Lease shall be deemed to have been waived by Landlord unless such waiver is in writing signed by Landlord, and no custom or practice which may evolve between the parties in the administration of the terms hereof shall waiver or diminish the right of Landlord to insist upon the performance by Tenant in strict accordance with the terms hereof. Landlord and Tenant hereby agree not to conduct the transactions or communications contemplated by this Lease by electronic means, except by facsimile transmission as specifically set forth in Section 25(f); nor shall the use of the phrase “in writing” or the word “written” be construed to include electronic communications except by facsimile transmissions as specifically set forth in Section 25(f). The terms and conditions contained in this Lease shall inure to the benefit of and be binding upon the parties hereto, and upon their respective successors in interest and legal representatives, except as otherwise herein expressly provided. This Lease is for the sole benefit of Landlord and Tenant, and, other than Landlord’s Mortgagee, no third party shall be deemed a third party beneficiary hereof.

(i) Quiet Enjoyment. Provided Tenant has performed all of its obligations hereunder, Tenant shall peaceably and quietly hold and enjoy the Premises for the Term, without hindrance from Landlord or any party claiming by, through, or under Landlord, but not otherwise, subject to the terms and conditions of this Lease.

(j) Entire Agreement. This Lease constitutes the entire agreement between Landlord and Tenant regarding the subject matter hereof and supersedes all oral statements and prior writings relating thereto. Except for those set forth in this Lease, no representations, warranties, or agreements have been made by Landlord or Tenant to the other with respect to this Lease or the obligations of Landlord or Tenant in connection therewith. The normal rule of construction that any ambiguities be resolved against the drafting party shall not apply to the interpretation of this Lease or any exhibits or amendments hereto.

(k) Waiver of Jury Trial. TO THE MAXIMUM EXTENT PERMITTED BY LAW, LANDLORD AND TENANT EACH WAIVE ANY RIGHT TO TRIAL BY JURY IN ANY LITIGATION OR TO HAVE A JURY PARTICIPATE IN RESOLVING ANY DISPUTE ARISING OUT OF OR WITH RESPECT TO THIS LEASE OR ANY OTHER INSTRUMENT, DOCUMENT OR AGREEMENT EXECUTED OR DELIVERED IN CONNECTION HEREWITHE OR THE TRANSACTIONS RELATED HERETO.

(l) Governing Law. This Lease shall be governed by and construed in accordance with the laws of the state in which the Premises are located.

(m) Recording. Tenant shall not record this Lease or any memorandum of this Lease without the prior written consent of Landlord, which consent may be witheld or denied in the sole and absolute discretion of Landlord, and any recordation by Tenant shall be a material breach of this Lease. Tenant grants to Landlord a power of attorney to execute and record a release releasing any such recorded instrument of record that was recorded without the prior written consent of Landlord.
(n) **Water or Mold Notification.** To the extent Tenant or its agents or employees discover any water leakage, water damage or mold in or about the Premises or Project, Tenant shall promptly notify Landlord thereof in writing.

(o) **Joint and Several Liability.** If Tenant is comprised of more than one party, each such party shall be jointly and severally liable for Tenant’s obligations under this Lease. All unperformed obligations of Tenant hereunder not fully performed at the end of the Term shall survive the end of the Term, including payment obligations with respect to Rent and all obligations concerning the condition and repair of the Premises.

(p) **Financial Reports.** Within 15 days after Landlord’s request, Tenant will furnish Tenant’s most recent audited financial statements (including any notes to them) to Landlord, or, if no such audited statements have been prepared, such other financial statements (and notes to them) as may have been prepared by an independent certified public accountant or, failing those, Tenant’s internally prepared financial statements. If Tenant is a publicly traded corporation, Tenant may satisfy its obligations hereunder by providing to Landlord Tenant’s most recent annual and quarterly reports. Landlord will not disclose any aspect of Tenant’s financial statements that Tenant designates to Landlord as confidential except (1) to Landlord’s Mortgagee or prospective mortgagees or purchasers of the Building, (2) in litigation between Landlord and Tenant, and/or (3) if required by court order. Tenant shall not be required to deliver the financial statements required under this Section 25(p) more than once in any 12-month period unless requested by Landlord’s Mortgagee or a prospective buyer or lender of the Building or an Event of Default occurs.

(q) **Landlord’s Fees.** Whenever Tenant requests Landlord to take any action not required of it hereunder or give any consent required or permitted under this Lease, Tenant will reimburse Landlord for Landlord’s reasonable, out-of-pocket costs payable to third parties and incurred by Landlord in reviewing the proposed action or consent, including reasonable attorneys’, engineers’ or architects’ fees, within 30 days after Landlord’s delivery to Tenant of a statement of such costs. Tenant will be obligated to make such reimbursement without regard to whether Landlord consents to any such proposed action. If Landlord reasonably believes that the out-of-pocket costs payable to third parties to be incurred by Landlord in reviewing the proposed action or consent will exceed $2,000, Landlord will first notify Tenant of such cost estimate before proceeding with such third-party expenses. If Tenant fails to consent to such additional costs and expenses within five (5) business days after Landlord’s written notification to Tenant thereof, Tenant shall be deemed to have rescinded its request for such action or consent.

(r) **Telecommunications.** Tenant and its telecommunications companies, including local exchange telecommunications companies and alternative access vendor services companies, shall have no right of access to and within the Building, for the installation and operation of telecommunications systems, including voice, video, data, Internet, and any other services provided over wire, fiber optic, microwave, wireless, and any other transmission systems (“Telecommunications Services”), for part or all of Tenant’s telecommunications within the Building and from the Building to any other location without Landlord’s prior written consent, not
to be unreasonably withheld. All providers of Telecommunications Services shall be required to comply with the rules and regulations of the Building, applicable Laws and Landlord’s policies and practices for the Building. Tenant acknowledges that Landlord shall not be required to provide or arrange for any Telecommunications Services and that Landlord shall have no liability to any Tenant Party in connection with the installation, operation or maintenance of Telecommunications Services or any equipment or facilities relating thereto. Tenant, at its cost and for its own account, shall be solely responsible for obtaining all Telecommunications Services.

(s) Confidentiality. Tenant acknowledges that the terms and conditions of this Lease are to remain confidential for Landlord’s benefit, and may not be disclosed by Tenant to anyone, by any manner or means, directly or indirectly, without Landlord’s prior written consent; however, Tenant may disclose the terms and conditions of this Lease if required by Law or court order, to its attorneys, accountants, employees and existing or prospective financial partners provided same are advised by Tenant of the confidential nature of such terms and conditions and agree to maintain the confidentiality thereof (in each case, prior to disclosure). Tenant shall be liable for any disclosures made in violation of this Section by Tenant or by any entity or individual to whom the terms of and conditions of this Lease were disclosed or made available by Tenant. The consent by Landlord to any disclosures shall not be deemed to be a waiver on the part of Landlord of any prohibition against any future disclosure.

(t) Authority. Tenant (if a corporation, partnership or other business entity) hereby represents and warrants to Landlord that Tenant is a duly formed and existing entity qualified to do business in the state in which the Premises are located, that Tenant has full right and authority to execute and deliver this Lease, and that each person signing on behalf of Tenant is authorized to do so. Landlord hereby represents and warrants to Tenant that Landlord is a duly formed and existing entity qualified to do business in the state in which the Premises are located, that Landlord has full right and authority to execute and deliver this Lease, and that each person signing on behalf of Landlord is authorized to do so.

(u) Hazardous Materials. The term “Hazardous Materials” means any substance, material, or waste which is now or hereafter classified or considered to be hazardous, toxic, or dangerous under any Law relating to pollution or the protection or regulation of human health, natural resources or the environment, or poses or threatens to pose a hazard to the health or safety of persons on the Premises or in the Project. Tenant shall not use, generate, store, or dispose of, or permit the use, generation, storage or disposal of Hazardous Materials on or about the Premises or the Project except for Hazardous Materials used or stored by Tenant in commercially reasonable quantities for Tenant’s operation of a medical therapeutics laboratory, and then in compliance with all Laws. If Tenant breaches its obligations under this Section 25(u), Landlord may immediately take any and all action reasonably appropriate to remedy the same, including taking all appropriate action to clean up or remediate any contamination resulting from Tenant’s use, generation, storage or disposal of Hazardous Materials. Tenant shall complete and certify to disclosure statements as reasonably requested by Landlord from time to time relating to Tenant’s transportation, storage, use, generation, manufacture, or release of Hazardous Materials on the Premises or in the Building, and Tenant shall promptly after Tenant’s receipt thereof deliver to Landlord a copy of any notice of violation relating to the Premises or the Building of any applicable environmental Law. Tenant shall defend, indemnify, and hold harmless Landlord and its representatives and agents from and against any and all claims, demands, liabilities, causes of action, suits, judgments, damages and expenses (including reasonable attorneys’ fees and cost of clean up and remediation) arising from Tenant’s failure to comply with the provisions of this Section 25(u). This indemnity provision shall survive termination or expiration of this Lease.
(v) List of Exhibits. All exhibits and attachments attached hereto are incorporated herein by this reference.

Exhibit A- Outline of Premises
Exhibit B- Description of the Land
Exhibit C- Building Rules and Regulations
Exhibit D- Tenant Finish-Work: Allowance (Tenant Performs the Work)
Exhibit E- Form of Confirmation of Commencement Date Letter
Exhibit F- Form of Tenant Estoppel Certificate
Exhibit G- Parking
Exhibit H- Renewal Option
Exhibit I- Right of First Offer
Exhibit J- Termination Option

(w) Prohibited Persons and Transactions. Tenant represents and warrants to Landlord that Tenant is currently in compliance with and shall at all times during the Term (including any extension thereof) remain in compliance with the regulations of the OFAC of the Department of the Treasury (including those named on OFAC’s Specially Designated Nationals and Blocked Persons List) and any statute, executive order (including the September 24, 2001, Executive Order Blocking Property and Prohibiting Transactions with Persons Who Commit, Threaten to Commit or Support Terrorism), or other governmental action relating thereto.

(x) No Invasive Testing. Tenant shall not undertake, nor shall Tenant permit any Tenant Party to undertake, any invasive investigation, drilling or sampling of the soil or groundwater at the Project without the prior written consent of Landlord, which consent shall be in Landlord’s sole discretion.

26. Lobby Directory Signage. Landlord shall, at Landlord’s sole cost and expense, cause Tenant to be identified on the Building lobby directory.

27. Monument Signage. For so long as Tenant leases and occupies the entire Premises, Tenant shall be allowed signage bearing the corporate identification and logo for Tenant on the Building’s currently existing (or replacement) multi-tenant monument sign (the “Monument Signage”). Other than the cost of procurement, construction and installation of Tenant’s initial Monument Signage (the cost of which shall be the responsibility of Landlord), Tenant is solely responsible for the cost of procurement, construction, installation and maintenance of the Monument Signage. The Monument Signage is subject to Landlord’s approval in its reasonable discretion, approval by all applicable governmental authorities and compliance with all applicable Laws. Upon the sooner of the expiration or termination of this Lease or the termination of Tenant’s right to Monument Signage under the terms hereof, Tenant shall, at its sole cost, remove the Monument Signage and restore all damage resulting therefrom.
28. Building Signage. For so long as Tenant leases and occupies the entire Premises, Tenant shall be allowed one (1) sign, bearing the corporate identification and logo for Tenant, on the exterior of the Building (the “Building Signage”). Tenant is solely responsible for the cost of procurement, construction, installation and maintenance of the Building Signage. The design of the Building Signage must be consistent with the design of other Building exterior signage and must comply with Landlord’s sign criteria for the Project. The Building Signage is subject to Landlord’s approval in its reasonable discretion, approval by all applicable governmental authorities and compliance with all applicable Laws. Upon the sooner of the expiration or termination of this Lease or the termination of Tenant’s right to Building Signage under the terms hereof, Tenant shall, at its sole cost, remove the Building Signage and restore all damage resulting therefrom.

29. Expansion. Provided that no Event of Default then exists, Landlord agrees that upon receipt of an Expansion Request (defined below) from Tenant, Landlord will use best efforts to provide Tenant with expansion space within the Building and/or Complex (“Expansion Space”), i.e., Landlord will promptly provide Tenant with a written list of “available space” for lease within the Building and elsewhere in the Complex that meets the criteria set forth in the Expansion Request. As used herein, an “Expansion Request” means a written request from Tenant, that includes at least the following information: (a) the requested size of the Expansion Space, and (b) the date on which Tenant needs the Expansion Space. As used herein, “available space” means space which is (i) not then subject to rights of third parties, including, without limitation, rights of first notice, expansion rights, extension rights and/or options to lease, and (ii) not then the subject of active negotiations for lease. Any expansion and/or relocation of the Premises resulting from an Expansion Request will be subject to the parties’ negotiation and execution of a lease amendment on terms mutually acceptable to both Landlord and Tenant; provided, however, that upon any such relocation (as opposed to an expansion) of the Premises, Tenant shall be released from all further obligations (except those obligations that expressly survive the expiration or earlier termination of this Lease) with regard to the original Premises. Landlord shall not be required to respond to more than one Expansion Request within any 6-month period.

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LANDLORD AND TENANT EXPRESSLY DISCLAIM ANY IMPLIED WARRANTY THAT THE PREMISES ARE SUITABLE FOR TENANT’S INTENDED COMMERCIAL PURPOSE, AND TENANT’S OBLIGATION TO PAY RENT HEREUNDER IS NOT DEPENDENT UPON THE CONDITION OF THE PREMISES OR THE PERFORMANCE BY LANDLORD OF ITS OBLIGATIONS HEREUNDER, AND, EXCEPT AS OTHERWISE EXPRESSLY PROVIDED HEREIN, TENANT SHALL CONTINUE TO PAY THE RENT, WITHOUT ABATEMENT, DEMAND, SETOFF OR DEDUCTION, NOTWITHSTANDING ANY BREACH BY LANDLORD OF ITS DUTIES OR OBLIGATIONS HEREUNDER, WHETHER EXPRESS OR IMPLIED.

This Lease is executed on the respective dates set forth below, but for reference purposes, this Lease shall be dated as of the date first above written. If the execution date is left blank, this Lease shall be deemed executed as of the date first written above.

**LANDLORD:**

PARMER RTP, LLC,
a Delaware limited liability company

By: /s/ Matthew Schwab

Name: Matthew Schwab
Title: Authorized Agent
Execution Date: April 18, 2018

**TENANT:**

SHATTUCK LABS, INC.,
a Delaware corporation

By: /s/ Josiah Hornblower

Name: Josiah Hornblower
Title: President & CEO
Execution Date: April 17, 2018
This First Amendment to Lease Agreement (this “Amendment”) is executed as of July 24, 2020 (the “Effective Date”), between PARMER RTP, LLC, a Delaware limited liability company (“Landlord”), and SHATTUCK LABS, INC., a Delaware corporation (“Tenant”).

RECITALS:

A. Reference is herein made to that certain Lease Agreement dated as of April 17, 2018, between Landlord and Tenant (the “Lease”). Capitalized terms used but otherwise not defined in this Amendment shall have the meaning ascribed to such terms in the Lease.

B. Pursuant to the terms of the Lease, Tenant is currently leasing Suite No. 200, containing approximately 13,523 rentable square feet (the “Existing Premises”) in the office building commonly known as Building 15 located at 5 Moore Drive, Durham, North Carolina (the “Building”).

C. Tenant desires to lease the additional space depicted on Exhibit A hereto, consisting of approximately 10,929 rentable square feet, designated as “Tenant A” and “Tenant C” space on Exhibit A (the “Initial Expansion Premises”), and approximately 7,786 rentable square feet, designated as “Tenant B” space on Exhibit A (the “Must-Take Expansion Premises”), and together with the Initial Expansion Premises, the “Expansion Premises”, and Landlord has agreed to lease such space to Tenant on the terms and conditions contained herein.

D. In addition, due to a scrivener’s error, the Basic Lease Information of the Lease incorrectly stated the rentable square footage of the Building as 45,359 rentable square feet, rather than 43,616 rentable square feet. Landlord and Tenant also desire to amend the Lease to correct such scrivener’s error.

AGREEMENTS:

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Landlord and Tenant hereby agree as follows:

1. Recitals. The recitals set forth above are true and correct and are hereby incorporated in their entirety.

2. Building. The rentable square footage of the Building set forth in the Basic Lease Information of the Lease is hereby deleted and revised to read “43,616 rentable square feet”.

3. Expansion Premises; Tenant’s Proportionate Share; Acceptance. Landlord hereby leases to Tenant, and Tenant hereby leases from Landlord, the Expansion Premises on the terms and conditions of the Lease, as modified hereby. Accordingly, from and after the Initial Expansion Effective Date (defined below), the term “Premises” shall refer collectively to the Existing Premises and the Initial Expansion Premises, and, except as otherwise provided herein, Tenant’s Proportionate Share shall be increased to 56.06%, which is the percentage obtained by dividing the number of rentable square feet in the Premises (24,452) by the number of rentable square feet in the Building (43,616). In addition, from and after the Must-Take Expansion
Effective Date (defined below), the term “Premises” shall refer collectively to the Existing Premises, the Initial Expansion Premises and the Must-Take Expansion Premises, and, except as otherwise provided herein, Tenant’s Proportionate Share shall be increased to 73.91%, which is the percentage obtained by dividing the number of rentable square feet in the Premises (32,238) by the number of rentable square feet in the Building (43,616). Tenant accepts the Expansion Premises in their “AS-IS” condition, subject to Landlord’s maintenance and repair obligations expressly set forth in the Lease. Landlord shall not be required to perform any demolition work or tenant finish-work therein or to provide any allowances therefor, except as expressly set forth in Section 8 and Exhibit B.

4. Term

(a) The Term for the Initial Expansion Premises shall begin on the Initial Expansion Effective Date and the Term for the Must-Take Expansion Premises shall begin on the Must-Take Expansion Date. The Term for the Initial Expansion Premises and Must-Take Expansion Premises shall expire co-terminously with the expiration date with respect to the Existing Premises (which expiration date is deemed by Landlord and Tenant to be at 5:00 p.m., Durham, North Carolina time on December 31, 2028), unless sooner terminated as provided in the Lease.

(b) As used herein, the “Initial Expansion Effective Date” means: the earliest of (a) the date on which Tenant occupies any portion of the Initial Expansion Premises and begins conducting business therein, (b) the date on which the Work (as defined in Exhibit B hereto) in the Initial Expansion Premises is Substantially Completed (as defined in Exhibit B hereto), or (c) the date on which the Work in the Initial Expansion Premises would have been Substantially Completed but for the occurrence of any Tenant Delay Days (as defined in Exhibit B hereto).

(c) As used herein, the “Must-Take Expansion Effective Date” means: the earliest of (a) the date on which Tenant occupies any portion of the Must-Take Expansion Premises and begins conducting business therein, (b) the date on which the Work in the Must-Take Expansion Premises is Substantially Completed, or (c) the date on which the Work in the Must-Take Expansion Premises would have been Substantially Completed but for the occurrence of any Tenant Delay Days.

(d) Prior to occupying the Must-Take Expansion Premises, Tenant shall execute and deliver to Landlord a letter substantially in the form of Exhibit C hereto confirming (1) the Initial Expansion Effective Date, (2) the Must-Take Expansion Effective Date; (3) that Tenant has accepted the Expansion Premises, and (4) that Landlord has performed all of its obligations with respect to the Expansion Premises (except for punch-list items specified in such letter); however, the failure of the parties to execute such letter shall not defer the Initial Expansion Effective Date, the Must-Take Expansion Effective Date, or otherwise invalidate the Lease or this Amendment.

5. Expansion Premises Additional Rent

For the initial twenty-four (24) months following the Initial Expansion Effective Date, Tenant’s responsibility for Operating Costs and Taxes for the Expansion Premises shall not exceed an annual rate of $10.00 per rentable square foot of area in the Expansion Premises. Following the Expiration of such twenty-four (24) month period, Tenant shall pay Additional Rent with respect to the Expansion Premises in the manner provided in the Lease.

First Amendment to Lease Agreement - Page 2
6. **Basic Rent.**

(a) Basic Rent for the Existing Premises shall remain due and payable as provided in the Lease.

(b) Beginning on the Initial Expansion Effective Date, the monthly Basic Rent for the Expansion Premises shall be the following amounts for the following periods of time:

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Annual Basic Rent Rate Per Rentable Square Foot</th>
<th>Rentable Square Feet in Expansion Premises</th>
<th>Monthly Installments of Basic Rent</th>
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</thead>
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<tr>
<td>Initial Expansion Effective Date – The day prior to the Must-Take Expansion Effective Date – 6/30/2022</td>
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<td>$19,699.52</td>
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<tr>
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<td>$42,732.95</td>
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</table>

* If the Must-Take Expansion Date has not occurred on or before June 30, 2021, then Tenant shall continue to pay Basic Rent for the Initial Expansion Premises only until such time as the Must-Take Expansion Date occurs, provided that the Basic Rent for the Initial Expansion Premises shall be calculated based on the applicable per square foot base rental rate set forth in the schedule above.

First Amendment to Lease Agreement - Page 3
7. **Increase in Security Deposit.** The amount of the Security Deposit under the Lease is hereby increased from $30,877.78 to $73,547.98. Contemporaneously with Tenant’s execution and delivery of this Amendment to Landlord, Tenant shall deliver to Landlord an amount equal to the difference between the Security Deposit currently on hand with Landlord and such increased amount of the Security Deposit.

8. **Tenant Finish-Work.** Landlord shall construct tenant improvements in the Expansion Premises in accordance with Exhibit B hereto.

9. **Condition of Existing Premises.** Tenant hereby accepts the Existing Premises in their “AS-IS” condition, subject to Landlord’s maintenance and repair obligations expressly set forth in the Lease. Landlord shall have no obligation for any construction or finish-out allowance or providing to Tenant any other tenant inducement with respect to the Existing Premises.

10. **Parking.** Beginning on the Initial Expansion Effective Date, the amount of unreserved parking spaces allocated to Tenant pursuant to Exhibit G to the Lease shall increase from thirty-four (34) unreserved spaces to sixty-one (61) unreserved spaces. Beginning on the Must-Take Expansion Effective Date, the amount of unreserved parking spaces allocated to Tenant pursuant to Exhibit G to the Lease shall increase from sixty-one (61) unreserved spaces to eighty (80) unreserved spaces.

11. **Termination Option.** Exhibit J to the Lease regarding the Termination Option is hereby deleted in its entirety.

12. **Loading Dock.** During the Term, Landlord may access and operate the loading dock in the Expansion Premises in connection with operating the gym located in the Building; provided that access shall not unreasonably interfere with Tenant’s operations in the Expansion Premises.

13. **Confidentiality.** Tenant acknowledges the terms and conditions of the Lease (as amended hereby) are to remain confidential for Landlord’s benefit and may not be disclosed by Tenant to anyone, by any manner or means, directly or indirectly, without Landlord’s prior written consent, except to current or prospective investors, lenders and purchasers and to Tenant’s attorneys, accountants, and other professional service providers. The consent by Landlord to any disclosures shall not be deemed to be a waiver on the part of Landlord of any prohibition against any future disclosure.
14. **Brokerage.** Landlord and Tenant each warrant to the other that it has not dealt with any broker or agent in connection with the negotiation or execution of this Amendment other than CBRE, Inc. (representing Landlord), whose commission shall be paid by Landlord pursuant to a separate written agreement. Tenant and Landlord shall each indemnify the other against all costs, expenses, attorneys’ fees, and other liability for commissions or other compensation claimed by any broker or agent claiming the same by, through, or under the indemnifying party.

15. **Prohibited Persons and Transactions.** Each of Landlord and Tenant represents and warrants to the other that it is currently in compliance with and shall at all times during the Term (including any extension thereof) remain in compliance with the regulations of the Office of Foreign Asset Control (“OFAC”) of the Department of the Treasury (including those named on OFAC’s Specially Designated Nationals and Blocked Persons List) and any statute, executive order (including the September 24, 2001, Executive Order Blocking Property and Prohibiting Transactions with Persons Who Commit, Threaten to Commit, or Support Terrorism), or other governmental action relating thereto.

16. **Ratification.** Each of Landlord and Tenant hereby ratifies and confirms its obligations under the Lease, and represents and warrants to the other that it has no defenses thereto. Additionally, each of Landlord and Tenant further confirms and ratifies that, as of the date hereof, (1) the Lease is and remains in good standing and in full force and effect, (2) such party has no claims, counterclaims, set-offs or defenses against the other arising out of the Lease or in any way relating thereto or arising out of any other transaction between Landlord and Tenant, and (3) all tenant finish-work allowances provided to Tenant with respect to the Existing Premises, have been paid in full by Landlord to Tenant, and Landlord has no further obligations with respect to funding an allowance with respect to the Existing Premises.

17. **Binding Effect; Governing Law.** Except as modified hereby, the Lease shall remain in full effect and this Amendment shall be binding upon Landlord and Tenant and their respective successors and assigns. If any inconsistency exists or arises between the terms of this Amendment and the terms of the Lease, the terms of this Amendment shall prevail. This Amendment shall be governed by the laws of the State of Texas.

18. **List of Exhibits.** All exhibits and attachments attached hereto are incorporated herein by this reference.

   - Exhibit A - Depiction of Expansion Premises
   - Exhibit B - Tenant Finish-Work: Landlord Builds to Plans
   - Exhibit B-1 - Approved Space Plan
   - Exhibit C - Confirmation of Expansion Effective Date

19. **Counterparts.** This Amendment may be executed in multiple counterparts, each of which shall constitute an original, but all of which shall constitute one document.

   [THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK]
This Amendment is executed on the respective dates set forth below, but for reference purposes this Amendment shall be dated as of the Effective Date. If the execution date is left blank, this Amendment shall be deemed executed as of the Effective Date.

**LANDLORD:**

PARMER RTP, LLC.
a Delaware limited liability company

By: /s/ Matthew Schwab

Name: Matthew Schwab

Title: Authorized Agent

Execution Date: July 24, 2020

**TENANT:**

SHATTUCK LABS, INC.,
a Delaware corporation

By: /s/ Taylor Schreiber

Name: Taylor Schreiber

Title: Chief Executive Officer

Execution Date: July 24, 2020

First Amendment to Lease Agreement - Page 6
Master Services Agreement

This Master Services Agreement (this “Agreement”) dated March 31, 2017 (the “Effective Date”), between Shattuck Labs, Inc., having a place of business at 3317 Bowman Ave, Austin, TX 78703 (“Client”) and KBI Biopharma, Inc., having a place of business at 1101 Hamlin Road, Durham, North Carolina 27704 (“KBI Biopharma”) (Client and KBI Biopharma, each a “Party”, and collectively, the “Parties”).

WHEREAS, Client is engaged in the discovery and development of new biological therapeutics;

WHEREAS, KBI Biopharma is in the business of providing biological development and clinical manufacturing services;

WHEREAS, Client desires KBI Biopharma to perform certain services in accordance with the terms of this Agreement and KBI Biopharma desires to perform such services; and

WHEREAS, the Parties have previously entered into a Cell Line Services License Agreement on August 26, 2016 and a Services Agreement on September 26, 2016 for Stable Pool Generation (the “2016 Agreements”).

NOW, THEREFORE, in consideration of the above statements, which form part of this Agreement, and other good and valuable consideration, the sufficiency and receipt of which are hereby acknowledged, the Parties hereto agree as follows:

1. Services to be Performed

1.1 Scope of Agreement. As a master form of contract, this Agreement allows the Parties to contract for multiple projects through the issuance of multiple Proposals as described in Section 1.2, without having to re-negotiate the basic terms and conditions contained herein. This Agreement and all attachments thereto shall supersede and replace the 2016 Agreements and any Services being provided under the 2016 Agreements will be subject to the terms and conditions set forth herein.

1.2 KBI Performance of Services. KBI Biopharma agrees to and shall perform services (the “Services”) for Client which are detailed in a proposed technical scope of work and budget that has been agreed upon and executed by the Parties (each a “Proposal”). Once executed, each Proposal shall be attached hereto as Attachment One and incorporated herein by reference. Each Proposal shall have a unique identifier, be consecutively numbered and specify the deliverables to be provided to Client as a result of the performance by KBI Biopharma of the Services (the “Deliverables”). In the event that Client requests KBI Biopharma to perform services beyond the scope of services specifically stated in a Proposal, KBI Biopharma shall have no obligation to perform such supplemental services unless and until a Change Order is executed in accordance with Article 8 below, or unless the Parties agree in writing on a new Proposal for additional services to be performed under this Agreement.

1.3 Additional Services. The Parties may agree upon additional Services to be performed under the terms of this Agreement, as may be described in purchase orders or proposals to be mutually agreed upon by the Parties in writing.
1.4 Compliance with Laws. KBI Biopharma shall perform the Services in all material aspects in compliance with Applicable Laws. Client shall have responsibility for determining regulatory strategy and for all regulatory decisions except for those matters that KBI Biopharma, in its reasonable discretion deems contrary to regulatory requirements or commitments made by KBI Biopharma to Regulatory Authorities, of which matters KBI Biopharma shall promptly notify Client in writing. Should the Applicable Laws change over the course of KBI Biopharma’s performance of the Services, KBI Biopharma will use reasonable efforts to satisfy the new requirements. Notwithstanding the foregoing, in the event that compliance with such new Applicable Laws necessitates a change in the scope or nature of the Services to be completed, KBI Biopharma will submit to Client a Change Order in accordance with Article 8.

1.5 Definitions; Interpretation.

1.5.1 “Applicable Laws” shall mean all laws, statutes, rules, regulations, directives, decisions, ordinances and other requirements of any Governmental Authority in the United States or the EU applicable to the Services relating to the manufacture, testing, quality, storage and supply of investigational drugs (including biologics); including, without limitation: (a) in the case of cGMP Batches for investigational clinical trials in the U.S., as expressly stated in the relevant Proposal or Quality Agreement, the FD&C Act and cGMPs; and (b) all applicable regulations and guidelines of the FDA, EMA and/or any other relevant Regulatory Authority in the United States and/or the EU applicable to the manufacture, testing, quality, storage and supply of an investigational new drug (including biologics); in each case, together with any and all amendments thereto.

1.5.2 “Batch” shall mean a specific quantity of Client Product that is intended to be of uniform character and quality and is produced during the same cycle of manufacture.

1.5.3 “Cause” means, with respect to an audit of a KBI Biopharma facility, that: (a) the audit is prompted by a Regulatory Authority critical finding or recall, or a critical finding in an audit conducted by or on behalf of Client pursuant to Section 5.1, where, in each case, a “critical finding” is a finding that would result in a regulatory action or has such other meaning as may be provided in the Quality Agreement; or (b) any other “for cause” basis exists (such as, by way of example and not limitation, notice by any Governmental Authority of KBI Biopharma’s noncompliance with Applicable Laws if such noncompliance relates to or may affect the Manufacture of Client Product, or issuance by the FDA of a Form 483 or Warning Letter or a comparable notice issued by any other Governmental Authority).

1.5.4 “Certificate of Analysis” means a document, signed by an authorized representative of KBI Biopharma, describing the applicable Specifications for, and testing methods applied to, a Batch of Client Product, and the results of such testing, and confirming that such Batch meets the Specifications.

1.5.5 “Certificate of Compliance” means a document, signed by an authorized representative of KBI Biopharma, attesting that a particular Batch of Client Product was manufactured in accordance with cGMPs.

1.5.6 “Client Materials” means all Client proprietary materials and information, biological and/or chemical materials, intellectual property and developments, including without limitation, all patents, patent applications, know-how, inventions, designs, concepts, technical information, manuals, or instructions which, as of the Effective Date, are owned, licensed or controlled by Client relating to the development, formulation, manufacture, processing, packaging, analysis or testing of the Client Product and provided to KBI Biopharma by or on behalf of Client.

1.5.7 “Client Product” shall mean a biologic Manufactured, or to be Manufactured, by KBI Biopharma on behalf of Client pursuant to a Proposal, which biologic may, as specified in such Proposal, either comprise: (a) a KBI Biopharma proprietary cell line (“KBI Cell Line”), or (b) a biologic which does not use or incorporate a proprietary KBI Biopharma cell line or which Client provides to KBI Biopharma (“Non-Proprietary Cell Line”), either with or without a Client-specified manufacturing process to be implemented by KBI Biopharma and/or its affiliates in manufacturing such Client Product on Client’s behalf; in each case, as more fully described in the applicable Proposal.
1.5.8 “cGMP” shall mean the current Good Manufacturing Practices for the production of drugs or biological products as promulgated under each of the following as in effect on the date of this Agreement and as amended or revised after the date of this Agreement and in effect at the time of the performance of the Services: (a) in the U.S., as set forth in FD&C Act and related U.S. regulations, including Parts 210 and 211 and/or Parts 600 and 610 (as applicable) of Title 21 of the U.S. Code of Federal Regulations (21 CFR 210 and 211 and/or 21 CFR 600 and 610), and the ICH Harmonised Tripartite Guideline Q7 “Good Manufacturing Practice Guide for Active Pharmaceutical Ingredients;” and (b) in the European Union, as set forth in European Commission Directive 2003/94/EC, Directive 2001/83/EC (as amended by Directive 2004/27/EC) and EudraLex — Volume 4 of the Rules Governing Medicinal Client Products in the European Union entitled “EU Guidelines to Good Manufacturing Practice Medicinal Client Products for Human and Veterinary Use.”

1.5.9 “EMA” shall mean the European Medicines Agency or the successor thereto.

1.5.10 “EU” means the countries of the European Union as it exists at any time.

1.5.11 “FD&C Act” shall mean the United States Federal Food, Drug and Cosmetic Act and regulations promulgated thereunder, as each may be amended from time to time.

1.5.12 “FDA” shall mean the United States Food and Drug Administration or the successor thereto.

1.5.13 “Governmental Authority” means any multinational, federal, state, local, municipal or other governmental authority of any nature (including any governmental division, prefecture, subdivision, department, agency, bureau, branch, office, commission, council, court or other tribunal), in each case, having jurisdiction over the applicable subject matter.

1.5.14 “Manufacture” or “Manufacturing” means all activities, whether performed by a Party or a Third Party designee of a Party, related to the manufacturing of a product, or any ingredient thereof, including manufacturing for clinical use, in-process and product testing, release of product, quality assurance activities related to manufacturing and release of product, handling and storage of product and ongoing stability tests, packaging and labeling.

1.5.15 “Master File” shall mean KBI Biopharma’s regulatory support file, including but not limited to information about KBI Biopharma’s facility, procedures and operations which KBI Biopharma provides to its customers for use in such customers’ regulatory submissions with respect to investigational new drugs that are manufactured and supplied by KBI Biopharma to its clients. If KBI Biopharma has submitted a Master File to the FDA (or, if mutually agreed in writing on a case-by-case basis, other Regulatory Authorities), such a filing shall be the “Master File” for the purposes of this Agreement and KBI Biopharma agrees to provide Client with a letter of authorization allowing Client to reference that file in its regulatory filings. KBI Biopharma shall maintain the Master File or components thereof so that it complies with current FDA regulations.

1.5.16 “Quality Agreement” shall have the meaning specified in Section 3.3.

1.5.17 “Regulatory Approvals” means, with respect to a Client Product or a facility for the Manufacture of a Client Product or any component thereof, all filings and approvals (including, as applicable, IND filings, product approvals, pricing approvals, establishment license approvals and, in each case any supplements and amendments thereto), licenses, registrations or authorizations of any Governmental Authority necessary to obtain marketing authorization for or to Manufacture a Client Product, as applicable, for or in a particular country or regulatory jurisdiction.
1.5.18 “Regulatory Authority” means, in a particular country or regulatory jurisdiction, any applicable Governmental Authority involved in granting Regulatory Approval in such country or regulatory jurisdiction, including (i) in the U.S., the FDA, and (ii) in the EU, the EMA, the European Commission and relevant national medicines regulatory authorities.

1.5.19 “Specifications” shall mean, for a given Deliverable and with respect to a particular Client Product, the release and acceptance criteria to which such Client Product must conform, which criteria shall be included in, or attached as an exhibit to, the applicable Proposal or the corresponding Quality Agreement (if any), all as amended from time to time by the Parties.

2. Client Obligations

2.1 General. Unless otherwise agreed to by the Parties in writing, in each case in accordance with a Proposal, Client is solely responsible for, and performance hereunder by KBI Biopharma is contingent upon: (a) provision of complete and accurate scientific data and relevant information which is known to Client and is relevant to the production of the Client Product and as otherwise to be supplied by Client pursuant to a Proposal; (b) provision of information necessary to effect the reliable transfer of methods and processes to KBI Biopharma; (c) identification and/or provision of specific reagents, reference standards or other materials necessary for the Manufacture of a Client Product, as may be provided in a Proposal; (d) if applicable, review and approval of in-process and finished product test results to ensure conformity of such results with required Client Product Specifications, regardless of which Party is responsible for finished Client Product release; (e) preparation of all submissions to Regulatory Authorities; and (f) performance of other relevant and appropriate obligations of Client set forth in the Proposal. The data and information provided under subsections (a) through (c) above and Section 2.4 below together are considered “Client Information”. As applicable and pursuant to Section 13.1, such Client Information may also be considered Confidential Information. Client shall perform its obligations as set forth in this Agreement, support and cooperate with the execution of the Services and shall not engage in any act or omission, which may reasonably be expected to prevent or delay the successful execution of the Services. Such support and cooperation shall include, but not be limited to, informing KBI Biopharma of Client’s overall regulatory strategy for the development and approval of a Client Product(s) to the extent relevant to the applicable Proposal, prompt review and approval of documents requiring Client’s signature, timely delivery of methods and materials and prompt response to other similar issues.

2.2 Provision of Regulatory Submissions. Client shall be solely responsible for filing and maintaining all IND applications and foreign equivalents thereof, applications for regulatory or marketing approval, and regulatory or marketing approvals with respect to any Client Product (collectively, “Regulatory Filings”). In the event that KBI Biopharma has submitted a Master File with the FDA, KBI Biopharma shall submit a letter of authorization to the FDA authorizing such Regulatory Authority to access and refer to the Master File in support of Client’s (or its designee’s) U.S. Regulatory Filings with respect to any Client Product and shall promptly provide Client with a copy of such letter of authorization. KBI Biopharma shall maintain the Master File as current per FDA regulations and will notify Client of any critical changes to the Master File that may adversely affect Client’s Regulatory Filings. In the event that KBI Biopharma has not submitted its Master File to the FDA (or, if mutually agreed in writing on a case-by-case basis, other Regulatory Authorities), then KBI Biopharma shall provide to Client appropriate and relevant sections of the Master File that are required for Client’s Regulatory Filings.

2.3 Information Regarding Hazardous Materials. Client shall provide to KBI Biopharma, on an on-going basis throughout the Term (as defined below), any applicable safe handling instructions for any substance or material provided by or on behalf of Client to KBI Biopharma in sufficient time for review and training by KBI Biopharma prior to delivery of any such substance or material to KBI Biopharma. Where appropriate or required by law, Client shall provide a Material Safety Data Sheet and instructions for proper storage for all Client-provided materials, finished product and reference standards.
2.4 Other Company Materials. As soon as practicable following the execution of this Agreement, Client shall provide to KBI Biopharma relevant and appropriate materials, know-how, information and technical assistance under Client’s control which is associated with the Client Product or otherwise required for the performance of the Services in accordance with the Proposal. Client agrees that, to its knowledge, such materials, know-how, information and technical assistance shall be complete and accurate to the extent required for KBI Biopharma to perform the Services.

2.5 Limited, Non-Exclusive License. Client hereby grants to KBI Biopharma during the Term of this Agreement the non-exclusive, non-sublicensable, non-transferable right to use any and all patent rights, trade secrets, intellectual property and other materials under Client’s control for the limited and sole purpose of allowing KBI Biopharma to perform the Services.

3. Performance

3.1 Schedule. The timelines and schedules for the performance of the Services (including without limitation the dates for production and delivery of Client Product) and the yield or quantity of Client Product as set out in the Proposal are best estimates only. The parties recognize the unpredictable nature of biological processes and that such processes may necessarily lead to changes to the timelines and schedules for performance of the Services. KBI Biopharma shall promptly notify Client if it reasonably expects that it will not be able to meet a timeline or schedule set forth in a Proposal, shall keep Client regularly informed in writing of any such changes that are necessary to each Proposal, and agrees that such changes will be made to the minimum extent reasonably necessary. Client shall not be entitled to cancel any unfulfilled part of the Services or refuse acceptance of Client Product related to a Proposal on grounds of late performance of the Services or late delivery of the Client Product subject to the provisions of this Section 3.1. Except as otherwise provided for in this Agreement, KBI Biopharma shall not be liable for any loss, damage, costs or expenses of any nature, whether direct, indirect, incidental or consequential, arising out of any delay in performance or delivery; or arising out of any failure to produce the estimated quantities of Client Product for delivery on the estimated schedule.

3.2 Technical Difficulties. If it becomes apparent to either KBI Biopharma or Client at any stage in the provision of any Services that, as a result of scientific or technical reasons [***], it will not be possible to complete the Services in the manner described in this Agreement or the Proposal or any Change Order thereto, KBI Biopharma will (a) identify the problem, (b) submit the problem in writing to senior management of each Party, and (c) representatives of senior management from each Party will negotiate in good faith for a [***] period from the date senior management of the Parties first convene regarding how to resolve such problem in a [***] manner. If the Parties do not agree on a [***] resolution to the problems within such [***] period, KBI Biopharma and Client shall each have the right to terminate this Agreement by written notice to the other Party, subject to Section 24.2.

3.3 Quality Agreement. Contemporaneously with the execution of this Agreement, or as soon as practicable after the execution hereof, in the event that the Proposal specifically enumerates Services that include the performance of activities that are subject to cGMP, the Parties shall develop and agree upon a quality agreement describing the quality, regulatory and compliance roles and responsibilities of each Party, the format and content of which shall be agreed upon by the Parties (the “Quality Agreement”). Upon execution by both Parties, the Quality Agreement shall be incorporated herein and attached hereto as Attachment Two.

3.4 Non-Conforming Services. Within [***] of the earlier of the delivery of Batch-specific documentation (“Batch Documentation” as defined below) or receipt of the Client Product, Client shall inform KBI Biopharma of any material non-conformity with required specifications set forth in the Proposal, as may be further provided in the Quality Agreement. Batch Documentation shall be specified in the applicable Quality Agreement and will include, but is not limited to: (a) a Certificate of Analysis or Certificate of Compliance, as applicable, for each Batch or the Client Product and (b) a summary report regarding the Manufacture of such Batch or Client Product in KBI Biopharma’s standard form. In the event that such non-conformity is attributable to a breach of KBI Biopharma’s obligations under this Agreement, then, KBI Biopharma shall, [***], at KBI Biopharma’s cost, as applicable, re-perform such non-conforming Services as soon as possible with no additional fees to Client.
3.5 **KBI Cell Line License.** If one or more Client Product uses the KBI Cell Line, KBI Biopharma hereby grants to Client, and Client hereby accepts from KBI Biopharma, a worldwide, non-exclusive, non-sublicensable, royalty free, fully-paid up, non-transferable license to use the KBI Cell Line to create Client Products (the “**Cell Line License**”). Client must at minimum engage KBI Biopharma to conduct the cell line development services with the KBI Cell Line in order to receive the grant of this Cell Line License. The fee for the Cell Line License is a one-time fee (the “**Cell Line License Fee**”) and shall be as follows:

3.5.1 If Client engages KBI Biopharma for cell line development, process development and manufacturing (with the full completion of at least one manufacturing run), no license fees will be due from Client.

3.5.2 If Client engages KBI Biopharma for cell line development and process development only, Client shall pay to KBI Biopharma a one-time license fee of [***].

3.5.3 If Client engages KBI Biopharma for cell line development only Client shall pay to KBI Biopharma a one-time license fee of [***].

If requested in writing by Client, the parties shall enter into a license agreement and KBI Biopharma shall provide to Client the KBI Cell Line License prior to Client’s first IND filing so that appropriate documentation related to the Cell Line can be included in the regulatory submission package. The Cell Line License shall include the right for Client to make or have made Client Products using the KBI Cell Line. Other than Client’s payment obligations as otherwise set forth herein or pursuant to a Proposal, payment of the Cell Line License Fee shall be the only financial consideration paid by Client to KBI Biopharma in connection with commercial sales of Client Products that use the KBI Cell Line. No royalties or any other payments (except those expressly specified above) shall be due to KBI Biopharma on safes of any Client Product. Neither Party shall be obligated to enter into a commercial manufacturing supply agreement except in its sole discretion and upon receipt of all necessary corporate approvals for such party.

4. **Work Output**

All reports specified in each Proposal and other applicable Batch Documentation (collectively, the “**Work Output**”) will be prepared using KBI Biopharma’s standard format(s) unless otherwise specified in the applicable Proposal or this Agreement. Client will be supplied with copies of Work Output generated as a result of the Services as set forth in each Proposal or Quality Agreement. All Work Output and any required Client Product samples will be archived by KBI Biopharma in electronic and, as required, paper form for a period of [***] following completion of the Services unless otherwise provided in the corresponding Proposal or required by Applicable Laws. At such time after completion of the Services, Work Output and Client Product samples will be sent to Client and a reasonable return fee will be charged to Client. If Client chooses to have KBI Biopharma dispose of Work Output and Client Product samples, a reasonable disposal fee will be charged.

5. **Facility Visits and Audits**

5.1 **Scope of Visit.** Client shall have the right upon no less than [***] prior written notice to KBI Biopharma and during regular business hours, to visit KBI Biopharma to observe the progress of the Services (i.e., person in the plant) and to inspect related records and data for the purpose of making quality control inspections so as to assure compliance with this Agreement. The form, participants, duration and procedures of all such regularly scheduled visits shall be subject to KBI Biopharma’s reasonable approval. Client shall have the right to conduct a “for Cause” audit during normal working hours with no less than one business day’s advance notice.
5.2 **Client Obligations.** It shall be the duty of Client to follow KBI Biopharma’s reasonable safety rules while in, on or about KBI Biopharma’s premises. KBI Biopharma also wants to ensure that all visits are conducted in a manner reasonably required to protect the confidentiality of KBI Biopharma Confidential Information and the confidential information of other clients. As such, Client agrees that it and its subcontractors, employees, agents, representatives, and guests of any of them shall: (a) be subject to a nondisclosure obligation comparable in scope to Article 13, (b) follow such security and facility access procedures as are designated by KBI Biopharma, (c) be accompanied by a KBI Biopharma representative, (d) not enter areas of any KBI Biopharma facility at times when any third party’s products are being manufactured to assure protection of KBI Biopharma’s or third party’s confidential information, (e) not visit areas of the facility other than those areas reasonably necessary to assess and evaluate KBI Biopharma’s performance of the Services, and (f) use good faith efforts to avoid disrupting KBI Biopharma’s operations. Except as set forth in the exceptions in Section 13.2, all information learned, observed or obtained by Client during any visit to KBI Biopharma’s facilities shall be deemed “Confidential Information” of KBI Biopharma under Article 13, regardless of whether such information is marked “Confidential” or subsequently summarized in writing. Client warrants that it, and its subcontractors, employees, agents, representatives, and any personnel acting on behalf of Client hereunder who visit the KBI Biopharma facility: (i) are not debarred, under subsections 306(a) or (b) of the Generic Drug Enforcement Act of 1992, as each may be amended from time to time, and (ii) will at all times comply with all safety and security regulations in effect from time to time and communicated by KBI Biopharma, and (iii) will at all times comply with Article 13 with respect to the confidentiality and use of KBI Biopharma Confidential Information.

5.3 **Costs.** Client may conduct [***] such quality assurance facility visit per calendar, except for Cause, year using no more than [***] auditors for a maximum of [***] at no cost to Client. Additional audits will be invoiced separately on a time and materials basis at the then current rate for such services.

6. **Regulatory Inspections and Communications**

6.1 **General.** KBI Biopharma will promptly notify Client of any regulatory inspections directly relating to Services provided to Client, a Client Product or Client Product, in accordance with the terms of the Quality Agreement (if applicable). KBI Biopharma agrees to reasonably cooperate with all Regulatory Authorities and submit to reasonable inspections by such authorities. In the event KBI Biopharma receives any correspondence from any Regulatory Authority that may adversely affect the Services, a Client Product or Client Product, KBI Biopharma shall notify Client thereof in writing as promptly as practicable but in no event later than within the time frames agreed in the Quality Agreement (if applicable).

6.2 **Costs.** Client shall be responsible for, and shall promptly pay, all documented costs charged by a Regulatory Authority for inspections directly related to Services provided to Client, a Client Product or Client Product. KBI Biopharma’s costs in connection with regulatory inspections will be invoiced separately on a time and materials basis at the then current rate for such services.

6.3 **Cooperation.** The Parties shall reasonably cooperate with and assist each other in complying with regulatory obligations, including by each Party providing to the other Party such information and documentation which is in such Party’s possession as may be reasonably necessary for a Party to prepare a response to an inquiry from a Regulatory Authority with respect to a Client Product or Client Product or KBI Biopharma’s facility where the Services are being rendered.

7. **Compensation**

7.1 **Fees and Invoices.** In consideration for KBI Biopharma performing the Services under a Proposal, Client shall pay to KBI Biopharma such amounts and at such times as described in the Price and Payment Terms section of the Proposal and as otherwise described in this Agreement. Following payment of an initial fee as set forth in Section 7.2, the remainder of the Services fees may be invoiced by KBI Biopharma on a monthly basis based on a budget and billing schedule set forth
in the Proposal. Payments are due [***] from date of invoice issuance, except as specifically provided in this Agreement. Charges for materials may be invoiced to Client and are payable at the time that KBI Biopharma orders such materials for Client’s project. Client agrees to pay to KBI Biopharma the actual cost of materials, consumables, and third party services, as evidenced by invoices and other written records, plus a [***] fee to compensate KBI Biopharma for the cost of purchasing, material handling, inventory and administration and management of third party services necessary for KBI Biopharma to perform the Services. KBI Biopharma agrees that cGMP materials and consumables that are used for manufacturing services that are charged to Client shall be presented on a Bill of Materials (“BOM”) and approved by the Client in advance. Late payments are subject to an interest charge of [***] or, if less, the maximum legal interest rate per month. Failure to bill for interest due shall not be a waiver of KBI Biopharma’s right to charge interest. All payments are non-refundable. If paid by wire transfer, any applicable wire transfer fees must be included in the payment issued to KBI Biopharma. Client shall be responsible for, and shall promptly pay to KBI Biopharma upon demand, all costs and expenses (including without limitation reasonable attorneys’ fees and court costs) incurred by KBI Biopharma in connection with the collection of invoice amounts that are due and payable under this Agreement. Unless within [***] of the date of invoice, Client has advised KBI Biopharma in good faith and in writing the specific basis for disputing an invoice, Client’s failure to promptly pay an invoice may, at KBI Biopharma’s election, constitute a material breach of this Agreement, and in addition to other remedies available to KBI Biopharma under Section 24.3, KBI Biopharma shall be entitled to suspend performance of Services until Client has paid any past due and undisputed invoice amounts.

7.2 Start-up Payment. KBI Biopharma requires payment of an initial fee prior to commencement of Services under each Proposal. The amount of the initial fee and the schedule for payment (if there are multiple tasks under the Proposal) shall be set forth in the Proposal. The initial fee shall be applied to the final project invoice. Upon termination of a Proposal or this Agreement, any remaining portion of the initial fee shall be applied to any outstanding amounts due from Client under the applicable Proposal. Unless otherwise provided in this Agreement or the applicable Proposal, initial fees are non-creditable, non-refundable, non-transferable to apply to any Services other than under the applicable Proposal.

7.3 Client Delays. KBI Biopharma has allocated resources to the Services that may be difficult or impractical to reallocate to other programs in the event of a delay attributable to Client’s failure to comply with its obligations under this Agreement, Client’s written request for delay, or scientific or technical issues related to a Client Product which are outside of KBI Biopharma’s control. In recognition of this, KBI Biopharma shall be entitled to charge reasonable wind down and restart fees resulting from such delays. Where the Services include the Manufacture of a Client Product, in the event that Client cancels or postpones a cGMP Batch (based on the manufacturing slots reserved for Client in the most recent schedule provided to Client) for any reason other than a material breach of this Agreement by KBI Biopharma, or in the event that a cGMP Batch is cancelled or postponed for scientific or technical issues related to Client’s Client Product which are outside of KBI Biopharma’s control, Client shall pay KBI Biopharma, upon receipt of an invoice, the following amounts, less all amounts already paid to KBI Biopharma for the applicable manufacturing Services:

(i) [***] of the price of the Services for the applicable manufacturing run if such cancellation or postponement occurs [***] or fewer prior to the scheduled vial thaw date (as communicated by KBI Biopharma to Client in writing) or at any time following the scheduled vial thaw date;

(ii) [***] of the price of the Services for the applicable manufacturing run if such cancellation or postponement occurs from [***] to [***] prior to the scheduled vial thaw date; or

(iii) [***] of the price of the Services for the applicable manufacturing run if such cancellation or postponement occurs from [***] to [***] prior to the scheduled vial thaw date.
7.4 **Taxes.** Any federal, state, county or municipal sales or use tax, excise tax, customs charges, duties or similar charge, or any other tax assessment (other than that assessed against KBI Biopharma’s income), license, fee or other charge lawfully assessed or charged on the manufacture, sale or transportation of Client Product sold or Services performed pursuant to this Agreement, and all government license filing fees and, if applicable, Prescription API User (PDUFA) annual establishment fees with respect to all Client Products and Services shall be paid by Client. Client shall not be obligated to pay any taxes imposed on KBI Biopharma’s or its Affiliate’s operations, facilities, equipment or income.

8. **Change Orders**

8.1 **Change Orders.** The budget for the Services specified in each Proposal and the estimated timelines specified therein are subject to a number of general and Proposal-specific assumptions. The assumptions relate to the design and objectives of the Proposal, manpower requirements, timing, capital expenditure requirements, if any, and other matters relating to the completion of the Services as may be set forth in the Proposal ("Proposal Assumptions"). KBI Biopharma also assumes that Client will cooperate and fully perform its obligations under this Agreement and as may be set out in the Proposal in a timely manner, that no event outside of KBI Biopharma’s reasonable control will occur (including without limitation a Force Majeure Event), and that there are no material changes to Applicable Laws relating to the performance of the Services (the foregoing assumptions together with the Proposal Assumptions, collectively, the “Assumptions”). In the event the Services cannot be performed or KBI Biopharma cannot produce the Deliverables due to a failure of any of the Assumptions, ("Modification Event") or Client requests a material change to the scope of Services to be provided pursuant a Proposal ("Client Requested Modification"), then the scope of Services to be performed may be amended as provided in this Article 8 (a "Modification"). A Modification Event shall also arise in the event (i) Client revises KBI Biopharma’s scope of Services to be provided pursuant to a Proposal, the Specifications, or the Assumptions; or (ii) the Client Information or Client Materials provided to KBI Biopharma are materially inaccurate, incomplete or deficient.

8.2 **Change Order Process.** In the event a Modification Event or Client Requested Modification, KBI Biopharma shall provide Client with a written change order containing an estimate of the required Modifications to the budget, activities and/or duration specified in applicable Proposal ("Change Order"). Client and KM Biopharma shall negotiate in good faith for a period of [***] following receipt of such Change Order by Client (the “Change Order Negotiation Period”) to agree on a Change Order that is mutually acceptable. The Parties may agree to extend the Change Order Negotiation Period beyond [***]. If practicable, and agreed to by Client, KBI Biopharma shall continue work on the Services during any such negotiations, but shall have no obligation to commence work with respect to any Change Order unless authorized in writing by Client. In the event the Parties are unable to agree upon such Change Order within the Change Order Negotiation Period, KBI Biopharma may elect to terminate this Agreement, or if reasonably possible, to perform the Services without regard to the unresolved Change Order; provided, however, that the estimated timelines shall be adjusted to reflect any delay during the Change Order Negotiation Period. In the event that this Agreement is so terminated, the provisions with respect to the effect of termination set forth in Section 24.5 shall apply. Any disputes arising from this Section 8 shall be resolved in accordance with the dispute resolution procedures set forth in Article 23.

8.3 **Regulatory Changes.** Notwithstanding the foregoing, with respect to any changes or modifications dictated by a Regulatory Authority or changes or modifications in Applicable Laws that occur after the initiation of Services by KBI Biopharma pursuant to a Proposal and which materially affect the budget in the Proposal, KBI Biopharma shall promptly notify Client of such changes or modifications and the anticipated change in the budget in the Proposal. The Parties will promptly meet to discuss the actions necessary to comply with such changes and the costs associated with the change in the budget. If, after reasonable efforts, the Parties are unable to agree on such changes (including the costs payable by Client pursuant to this Section 8.3), or if KBI Biopharma is unable to comply with such changes or modifications through the exercise of [***], either Party may, in its sole discretion, terminate this Agreement upon written notice to the other Party.
8.4 **Non-Material Changes.** Notwithstanding the foregoing, Client acknowledges, however, that KBI Biopharma is given flexibility to conduct the Services, although not expressly stated in the Proposal, at the time and in the manner that KBI Biopharma deems reasonably necessary to fulfill its obligations under this Agreement and each Proposal. Such flexibility includes the right to make Non-Material Changes to the Services and the Proposal, provided that KBI Biopharma implements all such changes only (a) in accordance with KBI Biopharma’s written standard operating procedures governing change control and (b) after confirming that such change does not affect either the related Client Product specifications if such specifications and requirements are fixed in writing by the Parties. As used herein, a “**Non-Material Change**” is defined as any variation, alteration or modification of activities, materials, or methods provided in a Proposal that does not: (i) impact the regulatory commitments or filings for a Client Product, (ii) affect the quality, purity, identity or strength of a Client Product, or (iii) increase the Services fees for the Manufacture of a Client Product.

9. **Shipment**

9.1 **General.** Unless otherwise agreed in writing by the Parties, all Deliverables including, but not limited to, Client Products, raw materials, samples or other materials provided hereunder by KBI Biopharma shall be made available for shipment Ex Works (INCOTERMS 2010) KBI Biopharma’s facility at which the cGMP Batch was Manufactured. For purposes of clarification, Ex Works means that carriage of goods shall be arranged by Client, and the cost of such carriage and risk of loss shall transfer to Client when the goods have been made available for shipment at KBI Biopharma’s facilities. KBI Biopharma shall package for shipment such Deliverables as set forth in each Proposal and in accordance with Client’s reasonable written instructions.

9.2 **Shipping Charges.** Client shall pay to KBI Biopharma, in addition to actual shipping costs, a handling fee of [***] for each standard shipment of any Deliverables, products, raw materials, samples, components or other materials provided hereunder.

10. **Notices**

Any notice required to be given pursuant to the terms and provisions hereof shall be in writing and shall be sent by certified or registered mail, postage prepaid with return receipt requested, or by nationally recognized overnight courier, postage prepaid with return receipt requested, or by confirmed facsimile (with printed confirmation of receipt), to the other Party at the following address:

If to Client:
Shattuck Labs, Inc.
3317 Bowman Ave
Austin, TX 78703
Attention: Taylor Schreiber, M.D., Ph. D.

If to KBI Biopharma:
KBI Biopharma, Inc.
1101 Hamlin Road
Durham, North Carolina 27704
Attention: Vice President Finance

with a copy to the Vice President and General Counsel, at the same address.

Each notice shall be deemed sufficiently given, served, sent, or received for all purposes at such time as it is delivered to the addressee or at such time as delivery is refused by the addressee upon presentation.
11. Limitations of Liability

11.1 The liability of either Party to the other Party for any loss suffered by the other Party resulting from this Agreement, a breach of warranty under Article 12, or any other liability of any nature, shall be limited to the payment of damages which shall not exceed the price for Services to be paid by Client to KBI Biopharma under each Proposal. The foregoing limitations of liability set forth in this Section 11.1 shall not apply to the extent such liability arises from a Party’s breach of Article 13, infringement of the other Party’s intellectual property, or a Party’s gross negligence or willful misconduct.

11.2 EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN THIS AGREEMENT: NEITHER PARTY SHALL BE LIABLE TO THE OTHER PARTY FOR ANY INCIDENTAL, INDIRECT, PUNITIVE, CONSEQUENTIAL (INCLUDING WITHOUT LIMITATION, LOST PROFITS), EXEMPLARY OR SPECIAL DAMAGES OF ANY TYPE, ARISING IN CONNECTION WITH THIS AGREEMENT, THE PROPOSAL, THE QUALITY AGREEMENT OR ANY ATTACHMENTS OR DOCUMENTS RELATED THERETO, WHETHER OR NOT FORESEEABLE AND WHETHER SUCH DAMAGES ARISE IN TORT, CONTRACT, EQUITY, STRICT LIABILITY, OR OTHERWISE, EVEN IF THE PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

12. Warranties

12.1 Warranties of KBI Biopharma.

12.1.1 As of the Effective Date, KBI Biopharma represents and warrants to Client that it has all requisite corporate power and authority to enter into and perform all of its obligations under this Agreement. The execution and delivery of this Agreement and the consummation of the transactions contemplated hereby have been duly and validly authorized by all necessary corporate action in respect thereof on the part of KBI Biopharma. Neither the execution and delivery of this Agreement nor the performance of the transactions contemplated hereby, nor compliance by KBI Biopharma with the provisions hereof, shall conflict with any obligations or agreements of KBI Biopharma to any person, contractual or otherwise.

12.1.2 KBI Biopharma warrants to Client that (a) it will render the Services with diligence, due care, consistent with industry standards for work of a similar nature, (b) it has the equipment, capacity, and skilled and experienced employees which are necessary to complete the Services, (c) it will complete the Services in accordance with Applicable Laws, (d) title to all Deliverables provided to Client under this Agreement will pass to Client as provided in this Agreement, free and clear of any security interest, lien or other encumbrance; (e) KBI Biopharma has the rights to grant the rights and licenses granted to Client under this Agreement; (f) to KBI Biopharma’s knowledge as of the Effective Date, KBI Biopharma has not received any written communication alleging that the practice it employs in rendering the Services of the type contemplated under this Agreement infringes the patent rights or misappropriates the trade secrets of any Third Party; and (g) KBI Biopharma’s knowledge, providing the Services will not infringe the intellectual property rights held by any third party.

12.1.3 KBI Biopharma represents to Client that it is not debarred, and warrants to Client that it will not knowingly use in any capacity the services of any person debarred, under subsections 306(a) or (b) of the Generic Drug Enforcement Act of 1992, as each may be amended from time to time.

12.1.4 EXCEPT AS EXPRESSLY WARRANTED IN THIS SECTION 12.1, KBI BIOPHARMA MAKES NO REPRESENTATION OR WARRANTY WITH RESPECT TO THE SERVICES OR CLIENT PRODUCT, EXPRESS OR IMPLIED, IN ANY MANNER AND EITHER IN FACT OR BY OPERATION OF LAW, AND SPECIFICALLY DISCLAIMS ANY AND ALL IMPLIED OR STATUTORY WARRANTIES, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, COURSE OF DEALING, COURSE OF PERFORMANCE, USAGE OF TRADE OR NONINFRINGEMENT. KBI BIOPHARMA MAKES NO WARRANTIES THAT THE EXECUTION OF THE SERVICES WILL RESULT IN ANY SPECIFIC QUANTITY OR AMOUNT OF PRODUCT.
12.1.5 KBI Biopharma has entered into certain covenants as provided in this Agreement with respect to the performance of the Services and has warranted, in Section 12.1.2, that the Services will be rendered with due care and in compliance with Applicable Laws; however, no predetermined results are assured. Client understands and agrees that the Services are experimental in nature, that biopharmaceutical process development is subject to certain inherent risks, and as such nothing in this Agreement shall be construed as a guarantee or warranty by KBI Biopharma that the Services, the Client Products, the Deliverables, or the materials, data, information of other results produced in connection therewith, will meet or otherwise satisfy any of the objectives, goals or targets of a Proposal. Client acknowledges and agrees there is absolutely no guarantee:

(i) that the results of the Services will be successful in any way or will be commercially exploitable, profitable, or approved by a Regulatory Authority;
(ii) that the Client Product, or any product, resulting from the Services will fulfill certain specifications or certain yields, except where expressly agreed in writing by KBI Biopharma; or
(iii) the Client Products, the Services and/or the results of the Services will be acceptable to or approved by any Regulatory Authority at the time of submission of such results to such authorities.

12.1.6 Client’s sole and exclusive remedy and KBI Biopharma’s sole and exclusive obligation under the warranties provided in this Section 12.1 shall be the remedies provided in Section 3.4 and monetary damages subject to Article 11.

12.2 Warranties of Client

12.2.1 As of the Effective Date, Client represents and warrants to KBI Biopharma that it has all requisite corporate power and authority to enter into and perform all of its obligations under this Agreement. The execution and delivery of this Agreement and the consummation of the transactions contemplated hereby have been duly and validly authorized by all necessary corporate action in respect thereof on the part of Client. Neither the execution and delivery of this Agreement nor the performance of the transactions contemplated hereby, nor compliance by Client with the provisions hereof, shall conflict with any obligations or agreements of Client to any person, contractual or otherwise.

12.2.2 Client represents and warrants to KBI Biopharma that, to its knowledge, it holds legal title to, or is fully entitled to provide, the materials, methods, plans, and processes necessary to conduct the Services and that to its knowledge KBI Biopharma’s performance of the Services will not violate or infringe on the patents, trademarks, service marks, copyrights, or intellectual property of any nature of any third party.

12.2.3 Client represents and warrants to KBI Biopharma that all Client Materials for use in the performance of the Services shall be free of defects and contaminants and shall be fit for use in the performance of the Services.

12.2.4 Client represents and warrants to KBI Biopharma that it will hold, use and/or dispose of Client Product and all materials provided by KBI Biopharma in accordance with Applicable Laws.

12.2.5 Client represents and warrants to KBI Biopharma that, to its knowledge, no specific safe handling instructions are applicable to any substance or material provided by Client to KBI Biopharma, except as disclosed to KBI Biopharma in writing in sufficient time for review and training by KBI Biopharma prior to delivery of any such substance or material to KBI Biopharma.
12.2.6 KBI Biopharma’s sole and exclusive remedy and Client’s sole and exclusive obligation under the warranties provided in this Section 12.2 shall be monetary damages subject to Article 11.

13. Confidentiality

13.1 Confidential Information. During the Term and for a period of [***] thereafter, each Party shall maintain in confidence all information and materials of the other Party disclosed or provided to it (the “Recipient”) by the other Party (the “Disclosing Party”) including the terms and conditions (but not the existence) of this Agreement (the “Confidential Information”). Confidential Information need not be labeled or marked “confidential” to be deemed Confidential Information hereunder, if under the circumstances it is, or should be, understood to be confidential. In accordance with Section 5.2, information learned, observed or obtained by Client during any visit to KBI Biopharma’s facilities shall be deemed “Confidential information” of KBI Biopharma hereunder, regardless of whether such information is marked “confidential” or subsequently summarized in writing.

13.2 Exceptions. Notwithstanding the foregoing, Confidential Information shall not include that portion of information or materials that the Recipient can demonstrate by contemporaneous written records was:

(i) known to the general public at the time of its disclosure to the Recipient, or thereafter became generally known to the general public, other than as a result of actions or omissions of the Recipient in violation of this Agreement;

(ii) disclosed to the Recipient on an unrestricted basis from a source unrelated to the Disclosing Party and not known by the Recipient to be under a duty of confidentiality to the Disclosing Party, as evidenced by competent written proof; or

(iii) independently developed by the Recipient, or known by the Recipient prior to the date of disclosure by the Disclosing Party, without the use of Confidential Information of the Disclosing Party, as evidenced by competent written proof.

13.3 Additional Protections. Each Party shall take all reasonable steps to maintain the confidentiality of the Confidential Information of the other Party, which steps shall be no less protective than those that such Party takes to protect its own information and materials of a similar nature, but in no event less than a reasonable degree of care. Neither Party shall use or permit the use of any Confidential Information of the other Party except for the purposes of carrying out its obligations or exercising its rights under this Agreement. All Confidential Information of a Party, including all copies and derivations thereof, is and shall remain the sole and exclusive property of the Disclosing Party and subject to the restrictions provided for herein. Neither Party shall disclose any Confidential Information of the other Party other than to those of its directors, officers, employees, licensors, independent contractors, assignees, agents and external advisors directly concerned with the carrying out of this Agreement, on a strictly applied “need to know” basis, provided that any such disclosure is made subject to obligations of confidentiality no less stringent than the obligations provided herein.

13.4 Permitted Disclosures. The obligations set forth in this Article 13 shall not apply to the extent that Recipient is required to disclose information by law, judicial order by a court of competent jurisdiction, or the rules of a securities exchange or requirement of a Governmental Authority for purposes of obtaining approval to test or market Client Product, or disclosures of information to a patent office for the purposes of filing a patent application as permitted in this Agreement; provided, however, that the Recipient shall provide prior written notice thereof to the Disclosing Party and sufficient opportunity for the Disclosing Party to review and comment on such required disclosure and request confidential treatment thereof or a protective order therefore. Any disclosure permitted pursuant to this Section 13.4 shall not be considered an exception under Section 13.2.
13.5 **Injunctive Relief.** The Parties acknowledge that either Party’s breach of this Article 13 may cause the other Party irreparable injury for which it may not have an adequate remedy at law. In the event of a breach and notwithstanding any other provision in this Agreement to the contrary, the non-breaching Party shall be entitled to seek injunctive relief in addition to any other remedies it may have at law or in equity.

14. **Intellectual Property**

14.1 **Inventions.** KBI Biopharma acknowledges and agrees that, as between the Parties, that Client Information, Client Materials, Client Products and/or Deliverables, and all inventions and discoveries, including all patent and other intellectual property rights therein, resulting from, or made during performance of, the Services by KBI Biopharma or its employees, representatives or agents or by a KBI Biopharma Affiliate or its employees, representatives or agents that use, reference, rely upon or incorporate the Client Information, Client Materials, Client Products and/or Deliverables, as well as any improvements thereto, shall constitute the sole and exclusive property of Client. KBI Biopharma assigns and agrees to assign to Client, at no cost to Client, any all data, ideas, information, developments, and inventions that are Client Product discoveries or improvements, or improvements to Client Materials, discovered solely or jointly by KBI Biopharma employees exclusively as a result of performing the Services under this Agreement or any Proposal (collectively a “Client Product Invention”). All inventions and improvements related to Client Materials will be Client Product Inventions. KBI Biopharma will promptly notify Client of all such Client Product Inventions. If Client requests and at Client’s expense, KBI Biopharma will execute any and all applications, assignments or other instruments and give testimony which shall be necessary to apply for and obtain letters of patent of the US or of any foreign country with respect to the Client Product Invention and Client shall compensate KBI Biopharma for the time devoted to such activities and reimburse it for expenses incurred. For Client Product Inventions assigned pursuant to this section, Client shall provide KBI Biopharma a non-exclusive, non-sublicensable, non-transferable, royalty-free license to use such Client Product Inventions for the limited purpose of performing the Services.

14.2 **Process Technology and Process Inventions.** Notwithstanding the foregoing, Client acknowledges that KBI Biopharma possesses and shall retain full ownership of information and technology relating to general manufacturing and analytical methods and processes that it employs for its business (“KBI Process Technology”) and KBI Biopharma shall retain all rights to any data, ideas, know-how, information, developments, and inventions related to the Process Technology that are developed, conceived or reduced to practice in connection with the Services which can be generally applied to the production of biologics other than the Client Product and which do not use, reference, rely on or incorporate any Client Information or Client Materials (collectively, “Process Inventions”).

14.3 **Process Technology and Process Inventions License.** If requested by Client, KBI Biopharma will grant to Client a perpetual, world-wide, royalty-free, non-exclusive license to KBI Process Technology and Process Inventions under terms mutually agreed to by the Parties for Client to use such KBI Process Technology and/or Process Inventions to Manufacture the Client Product. If KBI Biopharma requests, and at KBI Biopharma’s expense, Client will execute any and all applications, assignments or other instruments and give testimony which shall be necessary to apply for and obtain letters of patent of the US or of any foreign country with respect to the KBI Process Inventions and KBI Biopharma shall compensate Client for the time devoted to such activities and reimburse it for expenses incurred.

14.4 **Client Materials.** All Client Information and Client Materials that KBI Biopharma may have access to in order to perform the Services shall be deemed Client’s Confidential Information (regardless of whether such Client Materials are marked as “confidential”) and shall be owned exclusively by the Client. Nothing in this Agreement shall be deemed to grant any rights to KBI Biopharma in any Client Information or Client Materials, other than the right for KBI Biopharma to use such information or materials to perform the Services pursuant to each Proposal.
14.5 Inventions, Discoveries, and Other Intellectual Property. To the extent that the provisions in this Agreement do not expressly address a Party’s (or the Parties’) rights and responsibilities regarding inventions, discoveries and other intellectual property that are conceived over the Term of this Agreement, such rights and responsibilities will be governed by U.S. patent laws.

14.6 No Implied License. Neither Client nor KBI Biopharma grants or transfers to the other by operation of this Agreement any right or license under any patent right, copyright right, trademark right or other proprietary right of such Party, except as expressly set forth in this Agreement.

14.7 No Implied Assignment. Nothing in this Agreement shall be construed or deemed to be an assignment by either Party of, or obligation of the Party to assign, ownership of any intellectual property rights in subject matter conceived or authored solely or jointly by a Party or its employees or otherwise owned by that Party.

15. Indemnification

15.1 Indemnification by KBI Biopharma. Subject to Section 15.2 below, KBI Biopharma will indemnify, defend and hold harmless Client and its shareholders, directors, officers, employees and agents (each, a “Client indemnitee”) from and against all costs, losses, expenses (including reasonable attorneys’ fees) and direct damages (collectively, “Losses”) resulting from all lawsuits, claims, demands, actions and other proceedings by or on behalf of any third party (collectively “Claims”) to the extent such Losses arise directly or indirectly out of: (i) KBI Biopharma’s [***] failure of any material representation made hereunder by KBI Biopharma or (ii) the gross negligence or willful misconduct of any KBI Biopharma Indemnitee; except, in each case, to the extent such Losses result from the negligence or willful misconduct of any Client Indemnitee or the breach of this Agreement by Client.

15.2 Indemnification by Client. Client will indemnify, defend and hold harmless KBI Biopharma and its shareholders, directors, officers, employees and agents (each, a “KBI Biopharma indemnitee”) from and against all Losses resulting from all Claims to the extent such Losses arise directly or indirectly out of: (i) Client’s [***] failure of any material representation made hereunder by Client; (ii) Client’s development (including the conduct of clinical trials in humans), handling, manufacturing, testing, storage, transportation, disposal, marketing, commercialization (including any recalls, field corrections or market withdrawals), distribution, promotion, sale or use of the Client Product or Deliverables (including without limitation as a result of any illness, injury or death to persons, including employees, agents or contractors of Client or damage to property); (iii) the gross negligence or willful misconduct of any Client Indemnitee; or (iv) a claim that the Client does not have title to the Client Materials or that the Client Materials or the Client Product infringe the intellectual property rights of a third party; except in each case to the extent such Claims or Losses result from negligence or willful misconduct on the part of a KBI Biopharma Indemnitee or a breach of this Agreement by KBI Biopharma.

15.3 Indemnification Procedure. If any Claim covered by Article 15 is brought:

15.3.1 the indemnified Party shall promptly notify the indemnifying Party in writing of such Claim, provided, however, the failure to provide such notice within a reasonable period of time shall not relieve the indemnifying Party of any of its obligations hereunder except to the extent the indemnifying Party is prejudiced by such failure or delay;

15.3.2 the indemnifying Party shall assume, at its cost and expense, the sole defense of such Claim through counsel selected by the indemnifying Party and reasonably acceptable to the other Party, except that those indemnified may at their option and expense select and be represented by separate counsel;

15.3.3 the indemnifying Party shall maintain control of such defense and/or the settlement of such Claim;

15
15.3.4 the indemnified Party may, at its option and expense, participate in such defense, and if it so participates, the indemnifying Party and the indemnified Party shall cooperate with one another in such defense;  
15.3.5 the indemnifying Party will have authority to consent to the entry of any settlement or otherwise to dispose of such Claim (provided and only to the extent that an indemnified Party does not have to admit liability and such judgment does not involve equitable relief), and an indemnified Party may not consent to the entry of any judgment, enter into any settlement or otherwise to dispose of such Claim without the prior written consent of the indemnifying Party (not to be unreasonably withheld or delayed); and  
15.3.6 the indemnifying Party shall pay the full amount of any judgment, award or settlement with respect to such Claim and all other costs, fees and expenses related to the resolution thereof; provided, however, that such other costs, fees and expenses have been incurred or agreed, as the case may be, by the indemnifying Party in its defense or settlement of the Claim.

16. Force Majeure

Except for each Party’s payment, confidentiality and indemnity obligations, the obligations of either Party under this Agreement shall be excused during each period of delay caused by matters such as acts of God, fire, flood, explosion, earthquake, or other natural forces, war, civil unrest, acts of terrorism, accident, destruction, or other casualty, any lack or failure of transportation facilities, any lack or failure of supply of raw materials, power failure, any strike or labor disturbance, or any other event similar to those enumerated above, which are reasonably beyond the control of the Party obligated to perform (each, a “Force Majeure Event”). A Force Majeure Event shall not include a lack of funds, bankruptcy or other financial cause or disadvantage. Nothing contained in this Agreement shall affect either Party’s ability or discretion regarding any strike or other employee dispute or disturbance and all such strikes, disputes or disturbances shall be deemed to be beyond the control of such Party. A Force Majeure Event shall be deemed to continue only so long as the affected Party shall be using its [***] to overcome such condition. If either Party shall be affected by a Force Majeure Event, such Party shall give the other Party prompt notice thereof, which notice shall contain the affected Party’s estimate of the duration of such condition and a description of the steps being taken or proposed to be taken to overcome such Force Majeure Event. Any delay in the results delivered, in the performance of the Services occasioned by any such cause shall not constitute a default under this Agreement, and the obligations of the Parties shall be suspended during the period of delay so occasioned. During any period of any Force Majeure Event, the Party that is not directly affected by such Force Majeure Event may take any reasonable action necessary to mitigate the effects of such Force Majeure Event. If any part of the Services is invalid as a result of a Force Majeure Event affecting KBI Biopharma, KBI Biopharma will, upon written request from Client, and at Client’s sole cost and expense, repeat that part of the Services affected by the Force Majeure Event.

17. Insurance

17.1 KBI Biopharma Insurance. KBI Biopharma shall secure and maintain in full force and effect throughout the Term policies of insurance for (a) workers’ compensation in accordance with applicable statutory requirements, employer’s liability in an amount not less than $[***], and automobile liability in an amount not less than $[***], (b) commercial general liability in an amount not less than $[***] per occurrence and $[***] in the aggregate, and (c) products liability in an amount not less than $[***] per occurrence and $[***] in the aggregate. 

17.2 Client Insurance. Client shall secure and maintain in full force and effect throughout the Term policies of insurance for (a) workers’ compensation in accordance with applicable statutory requirements, employer’s liability in an amount not less than $[***], and automobile liability in an amount not less than $[***], and (b) primary and noncontributory commercial general liability in an amount not less than $[***] per occurrence and $[***] in the aggregate. Upon the initiation of clinical trials and for a period of [***] after completion of any clinical trials in which any Client Product provided under this Agreement is used, Client shall secure and maintain in full force and effect policies of insurance for (a) primary and noncontributory products/completed operations liability in an amount not less than $[***] per occurrence and $[***] in the aggregate.
17.3 **Mutual Obligations.** Each party will upon reasonable request furnish to the other certificates of insurance evidencing that such insurance is in effect. Each party shall serve prompt notice on the other in the event that such insurance should be materially adversely changed or terminated for any reason.

18. **Independent Contractor; Non-Solicitation**

18.1 **Independent Contractor.** KBI Biopharma shall perform the Services as an independent contractor of the Client. The relationship between the Parties shall not constitute a partnership, joint venture or agency nor constitute either Party as the agent, employee or legal representative of the other. The Parties agree that neither shall have power or right to bind or obligate the other, nor shall either hold itself out as having such authority.

18.2 **Non-Solicitation.** During the Term of this Agreement and for [***] thereafter, each Party agrees not to directly or indirectly solicit for hire (in any capacity) any person who is an employee of the other Party; provided that newspaper, Internet or other advertisements to fill job openings shall not be deemed to be “solicitation” hereunder. Any exceptions to this provision must be in writing and signed by each Party.

19. **Publicity; Use of Name**

The Parties may agree in writing to issue press releases or public disclosures describing the general nature of the Services provided hereunder. The use of the name, trademark, logo, or other identifying materials of either Party or its employees in any publicity, advertising or promotional material shall require the other Party’s express prior written consent.

20. **Entire Agreement, Amendment, Construction, Precedence**

This Agreement, each Proposal, and any applicable Quality Agreement constitute the entire agreement between the Parties and supersede all prior and contemporaneous negotiations, representations, commitments, agreements and understandings between the Parties (whether written or oral) relating to the subject matter hereof. This Agreement may not be amended or modified without the mutual written consent of both Parties. Each Party has had the opportunity to consult with counsel in connection with the review, drafting and negotiation of this Agreement. Accordingly, the rule of construction that any ambiguity in this Agreement shall be construed against the drafting Party shall not apply. In the event of any conflict among the components of this Agreement, the following order of precedence shall apply: (i) the terms and conditions of the Agreement, (ii) the Quality Agreement (if existing and except as noted below), and (iii) the Proposal. If Client chooses to issue a purchase order for the delivery of the Services or any component thereof, such purchase order should reference this Agreement and shall be issued solely for the convenience of Client and to provide subject matter description; however, any legal terms and conditions contained therein shall be of no effect. In the event of a conflict between the terms of the Quality Agreement and the terms of this Agreement, the terms of the Quality Agreement shall control as to issues pertaining to quality and this Agreement shall control as to all other issues.

21. **Choice of Law**

This Agreement shall be construed and enforced in accordance with the laws of the State of New York, without regard to its, or any other jurisdiction’s, rules regarding conflicts or choice of laws. The Parties waive application of the provisions of the 1980 U.N. Convention on Contracts for the International Sale of Goods, as amended.
22. Dispute Resolution

22.1 Initial Attempts to Resolve Disputes. If a dispute arises between the Parties in connection with this Agreement, the respective presidents or senior executives of KBI Biopharma and Client shall first meet as promptly as practicable and attempt to resolve in good faith such dispute. If such parties cannot resolve the dispute within [* ***] after written notice given by one Party to the other specifically invoking this stage in the dispute resolution procedure, either Party may by written notice to the other commence the arbitration process set forth in Section 23.2 below.

22.2 Arbitration. If a dispute has not been resolved by negotiation as provided in Section 23.1 above, then, except as otherwise provided in this Section 23.2, the dispute will be finally settled by binding arbitration in accordance with the Commercial Arbitration Rules of the AAA then in effect, by three (3) arbitrators, one of whom will be designated by each Party and the third of whom will be designated by the two so designated. The arbitration shall be conducted in English and held in a location mutually acceptable to the Parties. If the Parties cannot agree upon a location for the arbitration, it will be held in New York, New York. The arbitrators will render their award in writing and, unless all Parties agree otherwise, will include an explanation in reasonable detail of the reasons for their award. Judgment upon the award rendered by the arbitrators may be entered in any court having jurisdiction thereof. The Parties expressly waive any putative right they may otherwise have to seek an award arising out of any dispute hereunder of punitive damages or any other damages limited or excluded by this Agreement. The arbitrator will have the authority to grant injunctive relief and other specific performance. The arbitrator will, in rendering its decision, apply the substantive law of the State of New York, without regard to its conflict of laws provisions. The decision and/or award rendered by the arbitrator will be final and non-appealable (except for an alleged act of corruption or fraud on the part of the arbitrator).

22.3 Expenses. All expenses and fees of the arbitrators and expenses for hearing facilities and other expenses of the arbitration will be borne equally by the Parties unless the Parties agree otherwise or unless the arbitrators in the award assess such expenses against one of the Parties or allocate such expenses other than equally between the Parties. Each of the Parties will bear its own counsel fees and the expenses of its witnesses except (i) to the extent otherwise provided in this Agreement or by applicable law or (ii) to the extent the arbitrators in their discretion determine for any reason to allocate such fees and expenses among the Parties in a different manner. Any attorney or retired judge who serves as an arbitrator will be compensated at a rate equal to his or her current regular hourly billing rate unless otherwise mutually agreed upon by the Parties and the arbitrator.

22.4 Interlocutory Relief. Compliance with this Article 23 is a condition precedent to seeking relief in any court or tribunal in respect of a dispute, but nothing in this Article 23 will prevent a Party from seeking interlocutory relief in the courts of appropriate jurisdiction provided in Article 22, pending the arbitrator’s determination of the merits of the controversy, if applicable to protect the Confidential Information, property or other rights of that Party.

23. Assignment and Delegation

23.1 Assignment. This Agreement between the Parties shall not be assigned in whole or in part by either Party without the prior written consent of the other, which consent shall not be unreasonably withheld or delayed; provided, however, either Party may assign this Agreement in its entirety without the other Party’s consent, upon written notice to the other Party, as part of: (a) the sale of all or substantially all of the assets or the entire business to which this Agreement relates, or (b) a merger, consolidation, reorganization or other combination with or into another person or entity, in each case, pursuant to which the surviving entity or assignee assumes in writing the assigning or merging Party’s obligations hereunder. Any attempt to assign, or purported assignment of, this Agreement in contravention to this Section 24.1 shall be void ab initio and of no effect. This Agreement shall be binding upon and inure to the benefit of the Parties hereto and their respective successors and permitted assigns,
23.2 **Delegation.** Neither Party may delegate any performance under this Agreement; however, performance of the Services hereunder may be delegated or subcontracted by KBI Biopharma with the written consent of Client, which consent shall not be unreasonably withheld.

24. **Term and Termination**

24.1 **Term.** The term of this Agreement (the “Term”) shall be from the Effective Date until the fifth anniversary thereof, unless extended or earlier terminated as provided herein. If the Services pursuant to any Proposal have not been completed at the end of the initial term, the Term will thereafter be extended for successive [***] periods until the Services have been completed. Additionally, the Agreement may be terminated sooner as provided in Section 24.2 or 24.3, or the Term may be extended by written agreement of the Parties.

24.2 **Termination for Convenience.** Client may terminate this Agreement or a Proposal prior to completion of the Proposal by providing [***] days written notice to KBI Biopharma, subject to the conditions of this Section 24.2. Upon receipt of such notice of termination, KBI Biopharma will promptly scale down the affected portion of its Services and [***] avoid (or minimize, where non-cancellable) additional fees and expenses. KBI Biopharma shall submit to Client its final invoice of all its costs for Services performed and expenses incurred or irrevocably obligated related to the terminated Proposal and any reasonable costs for winding down its activities within [***] from the date of notice of termination. In addition, such final invoice shall also include any amounts due pursuant to Section 7.3 for cancellation or postponement of any cGMP Batches scheduled within [***] of the termination. Client shall pay all undisputed amounts in the final invoice within [***] from receipt of the invoice.

24.3 **Termination for Breach.** In the event of a material breach of this Agreement by a Party that is not cured within [***] of written notice of such breach by the non-breaching Party, the non-breaching Party may terminate this Agreement or a Proposal immediately upon written notice. Upon such termination, KBI Biopharma will promptly scale down the affected portion of the Proposal and use its reasonable commercial efforts to avoid (or minimize, where non-cancellable) additional expenses. In the event of termination under this Section 24.3 by KBI Biopharma, KBI Biopharma shall, within [***] from the date of notice of termination, submit to Client its final invoice of all its costs for Services performed and expenses incurred or irrevocably obligated related to the terminated Proposal and any reasonable costs for winding down its activities, plus, as liquidated damages and not as a penalty, an amount equal to the greater of (a) [***] of the cost of the Services not yet performed as of the effective date of termination for any Proposal terminated under this Section 24.2; or (b) the amounts due pursuant to Section 7.3 for cancellation or postponement of any cGMP Batches scheduled within [***] of the termination. Client shall pay all undisputed amounts in the final invoice within [***] from receipt of the invoice.

24.4 **Bankruptcy.** This Agreement may be terminated upon written notice by a Party in the event: (i) the other Party voluntarily enters into bankruptcy proceedings; (ii) the other Party makes an assignment for the benefit of creditors; (iii) a petition is filed against the other Party under a bankruptcy law, a corporate reorganization law, or any other law for relief of debtors or similar law analogous in purpose or effect, which petition is not stayed or dismissed within [***] of filing thereof; or (iv) the other Party enters into liquidation or dissolution proceedings or a receiver is appointed with respect to any assets of the other Party, which appointment is not vacated within [***].

24.5 **Effects of Termination.** Upon termination of this Agreement for any reason, each Party shall, as soon as practicable, but in any event within [***] of the effective date of termination, return to the other all Confidential Information which it possesses that belongs to the other Party, except that each may retain a copy in its law department for record keeping purposes. Upon termination of this Agreement, KBI Biopharma will furnish to Client a complete inventory of all work in progress and an inventory of all Client Product processed pursuant to each Proposal. Upon termination of this Agreement, neither Party shall use or exploit in any manner whatsoever any intellectual property rights or Confidential Information of the other Party, except as may be specifically provided.
in this Agreement. With respect to the liquidated damages set forth herein, the Parties acknowledge and agree that (i) actual damages would be
difficult or impracticable to ascertain, (ii) the amounts set forth herein, as applicable, represent the Parties reasonable estimate of such damages,
and (iii) the amounts set forth herein, as applicable, are not unreasonable under the circumstances existing at the time this Agreement was entered.

25. Survival

Articles 6, 10, 11, 12, 13, 14, 15, 19, 20, 21, 22, 23, 25, 26, Sections 1.5, 2.1, 2.2, 3.5 7.4, 17.2, 24.2, 24.3 and 24.5 hereof shall survive termination or
expiration of this Agreement. Termination or expiration of this Agreement for any reason will not release either Party from any liabilities or obligations
set forth in this Agreement that: (1) the Parties have expressly agreed shall survive any such termination or expiration; or (2) remain to be performed or
by their nature would be intended to be applicable following any such termination or expiration.

26. Severability

In the event that any one or more of the provisions of this Agreement should be held for any reason by any court or authority having final jurisdiction
over this Agreement, or over any of the Parties to this Agreement, to be invalid, illegal, or unenforceable, such provision or provisions shall be reformed
to approximate as nearly as possible the intent of the Parties, and if not reformable, shall be divisible and deleted in such jurisdictions; elsewhere, this
Agreement shall not be affected.

27. Waiver and Remedies

The delay or waiver (or single or partial exercise) by either Party hereto of any right, power, or privilege hereunder, or of any failure of the other Party to
perform, or of any breach by the other Party, shall not be deemed a waiver of any other right, power, or privilege hereunder or of any other breach by or
failure of such other Party, whether of a similar nature or otherwise. Any such waiver must be made in writing. Except as may otherwise be specifically
set forth in this Agreement, no remedy referred to in this Agreement is intended to be exclusive, but each shall be cumulative and in addition to any
other remedy referred to in this Agreement or otherwise available under law or equity. No Party shall have any right of set off with respect to amounts it
has an obligation to pay hereunder. No provision of this Agreement shall in any way inure to the benefit of any third person so as to constitute to any
such person a third-party beneficiary of this Agreement or otherwise give rise to any cause of action in any person not a Party hereto.

28. Counterparts

This Agreement, the Quality Agreement(s), each Proposal and any other attachment may be executed in counterparts, each of which will be deemed an
original but all of which together will constitute a single instrument. A facsimile or electronic transmission of the above referenced documents, or a
counterpart, shall be legal and binding on the Parties.

29. Headings

All article and section titles or headings contained in this Agreement, the Quality Agreement and each Proposal are for convenience only, will not be
deemed a part hereof or thereof, and will not affect the meaning or interpretation of this Agreement.

[Signature Page Follows.] 20
The Parties by their authorized representatives execute this Agreement as of the Effective Date.

KBI BIOPHARMA, INC.

By: /s/ Tim Kelly
Name: Tim Kelly
Title: President
Date: March 31, 2017

SHATTUCK LABS, INC.

By: /s/ Taylor Schreiber
Name: Taylor Schreiber
Title: Director and CSO
Date: March 30, 2017
Consent of Independent Registered Public Accounting Firm

The Board of Directors
Shattuck Labs, Inc.:

We consent to the use of our report included herein and to the reference to our firm under the heading “Experts” in the prospectus.

/s/ KPMG LLP

Austin, Texas
September 18, 2020