FOIA Confidential Treatment Requested
As confidentially submitted to the Securities and Exchange Commission on August 6, 2021. This draft registration statement has not been publicly filed with the Securities and Exchange Commission and all information herein remains confidential.
Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-1
REGISTRATION STATEMENT
Under
The Securities Act of 1933

ENTRADA THERAPEUTICS, INC.

(Exact name of registrant as specified in its charter)

Delaware	**2834**	**84-3983399**
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

6 Tide Street
Boston, MA 02210
(857) 520-9158
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Dipal Doshi
President and Chief Executive Officer
Entrada Therapeutics, Inc.
6 Tide Street
Boston, MA 02210
(857) 520-9158
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

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

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, as amended, 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, please 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," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

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 to Section 7(a)(2)(B) of the Securities Act. ☐

CALCULATION OF REGISTRATION FEE

Title of each Class of Securities to be Registered	**Amount to be Registered**	**Proposed Maximum Aggregate Offering Price[(1)(2)]**	**Amount of Registration Fee[(3)]**
Common Stock, par value $0.0001 per share		$	$

(1) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(o) under the Securities Act of 1933, as amended.
(2) Includes the offering price of shares that the underwriters may purchase pursuant to an option to purchase additional shares.
(3) Calculated pursuant to Rule 457(o) based on an estimate of the proposed maximum aggregate offering price.

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 that 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 this registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

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EXPLANATORY NOTE

Pursuant to the applicable provisions of the Fixing America's Surface Transportation Act, we are omitting our unaudited financial statements as of and for the three months ended March 31, 2021 and 2020 because they relate to historical periods that we believe will not be required to be included in the accompanying prospectus at the time of the contemplated offering. We intend to amend the registration statement to include all financial information required by Regulation S-X under the Securities Act of 1933, as amended, at the date of such amendment before distributing a preliminary prospectus to investors.

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Subject to Completion. Dated , 2021.

Preliminary prospectus

Shares

Common Stock

This is an initial public offering of shares of common stock of Entrada Therapeutics, Inc. All of the shares of common stock are being sold by us.

Prior to this offering, there has been no public market for our common stock. It is currently estimated that the initial public offering price per share will be between $ and $. We intend to apply to list our common stock on the Nasdaq Global Market under the symbol "TRDA."

We are an "emerging growth company" and a "smaller reporting company" under the federal securities laws and are subject to reduced public company disclosure standards. See "Prospectus Summary—Implications of Being an Emerging Growth Company and a Smaller Reporting Company."

See "Risk Factors" on page 13 to read about factors you should consider before buying shares of our common stock.

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

	Per Share	Total
Public offering price	$	$
Underwriting discount(1)	$	$
Proceeds, before expenses, to us	$	$

(1) We refer you to "Underwriting" beginning on page 194 for additional information regarding underwriting compensation.

To the extent that the underwriters sell more than shares of common stock, the underwriters have the option to purchase up to an additional shares from us at the initial public offering price less the underwriting discount.

The underwriters expect to deliver the shares of common stock to purchasers on or about , 2021.

Goldman Sachs & Co. LLC **Cowen** **Evercore ISI**

Prospectus dated , 2021.

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Through and including , 2021 (the 25th day after the date of this prospectus), all dealers that effect transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to the dealers' obligation to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

Neither we nor the underwriters have authorized anyone to provide any information other than that contained in this prospectus or in any free writing prospectus prepared by or on behalf of us or to which we have referred you. We and the underwriters take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We and the underwriters are not making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus is accurate only as of the date on the front cover of this prospectus. Our business, financial condition, results of operations, and prospects may have changed since that date.

For investors outside of 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 the United States. Persons outside of 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 common stock and the distribution of this prospectus outside of the United States.

The market data and certain other statistical information used throughout this prospectus are based on independent industry publications, governmental publications, reports by market research firms, or other independent sources that we believe to be reliable sources. Industry publications and third-party research, surveys, and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. We are responsible for all of the disclosure contained in this prospectus, and we believe that these sources are reliable; however, we have not independently verified the information contained in such publications. While we are not aware of any misstatements regarding any third-party information presented in this prospectus, their estimates, in particular, as they relate to projections, involve numerous assumptions, are subject to risks and uncertainties, and are subject to change based on various factors, including those discussed under the section entitled “Risk Factors” and elsewhere in this prospectus. Some data are also based on our good faith estimates.

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus and does not contain all of the information that you should consider in making your investment decision. Before investing in our common stock, you should carefully read this entire prospectus, including our financial statements and the related notes included elsewhere in this prospectus. You should also consider, among other things, the matters described under "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations," in each case appearing elsewhere in this prospectus. Unless the context otherwise requires, the terms "Entrada," the "Company," "we," "us," and "our" in this prospectus refer to Entrada Therapeutics, Inc.

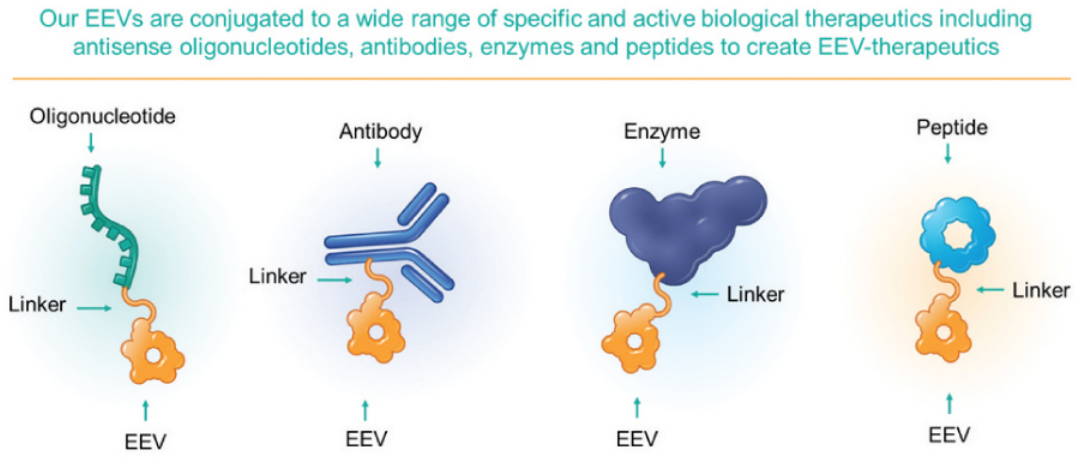
Overview

We aim to transform the lives of patients by leveraging our proprietary endosomal escape vehicle (EEV) platform to establish a new class of medicines and become the world's foremost intracellular therapeutics company. EEV therapeutics are comprised of small cyclic peptides that are chemically conjugated to a wide range of specific and active biological therapeutics. Our EEV therapeutics are designed to engage intracellular targets that have long been considered inaccessible and undruggable. Through our proprietary, highly versatile and modular EEV platform (EEV Platform), we are building a robust pipeline of EEV therapeutic candidates designed to enable the efficient intracellular delivery of therapeutics in various organs and tissues with an improved therapeutic index. We believe that the potential success of our early programs can translate into the efficient development of additional EEV therapeutic candidates and allow us to build portfolios in rare disease, immunology and oncology.

We are initially focused on the development of EEV therapeutics for rare neuromuscular diseases, including Duchenne muscular dystrophy (DMD). DMD is caused by genetic mutations that prevent the creation of functional dystrophin, a protein required to maintain the structural integrity of muscle cells. In our neuromuscular disease programs, we link EEVs to small strands of nucleic acids called oligonucleotides, including phosphorodiamidate morpholino oligomers (PMOs). We are developing EEV-PMOs that promote the skipping of these mutations associated with DMD. We believe that our EEV-PMO exon-skipping therapy will enable the production of functional dystrophin to slow, stop or even reverse disease progression. Our most advanced therapeutic candidate, ENTR-601-44, is being developed for patients with DMD that are exon 44 skipping amenable and we have a second program ongoing for patients with DMD that are exon 45 skipping amenable. We plan to submit an IND to the U.S. Food and Drug Administration (FDA) for ENTR-601-44 in 2022 and to submit an IND to the FDA for a DMD exon 45 skipping EEV-PMO candidate in 2023.

Our EEV Platform

Approximately 75% of all disease-causing targets are located inside cells. Intracellular therapeutics are designed to correct disease-causing dysfunction inside cells, addressing targets at the level of DNA, RNA or protein. In order to do so, these therapeutics need to first get through the cell's membrane, which is a phospholipid bilayer, and then escape from the cell's transportation and sorting vehicle, known as the early endosome, in order to reach and engage with their intended targets. Small molecules can permeate cell membranes but tend to be rapidly cleared by the body before they reach the intended tissue and can be associated with off-target effects. These limitations often necessitate high therapeutic doses and can be associated with less-than-optimal therapeutic activity. Biological therapeutics are generally highly specific and potent but limited in their ability to reach their intracellular targets of interest, often lacking the ability to efficiently penetrate the cell membrane and then escape from the early endosome.



We believe our EEV Platform will enable the efficient intracellular delivery of highly-specific and potent therapeutics. The following key attributes of our EEV Platform have allowed us to develop broadly distributed, highly efficient and highly specific EEV therapeutic candidates.

- ***Serum stability and extended half-life:*** Based on preclinical studies, we have observed that EEVs have increased stability and extended half-life due to their unique cyclic structure, which limits protease-mediated degradation. We believe this may enable increased systemic exposure.
- ***Broad biodistribution:*** EEVs target phospholipid bilayers, which we believe can enable delivery to any cell in the body, regardless of route of administration. We have shown biodistribution to a wide range of organs, tissues and cells in our preclinical studies, including cardiac muscle, the cerebellum and macrophages, among many others.
- ***Efficient uptake and drug release:*** EEVs generally avoid being trapped in the cell membrane and are instead taken up into the cell by the early endosome. EEVs then enable budding of vesicles from the early endosome, which we believe could substantially increase the level of therapeutics reaching intended targets within the cell.

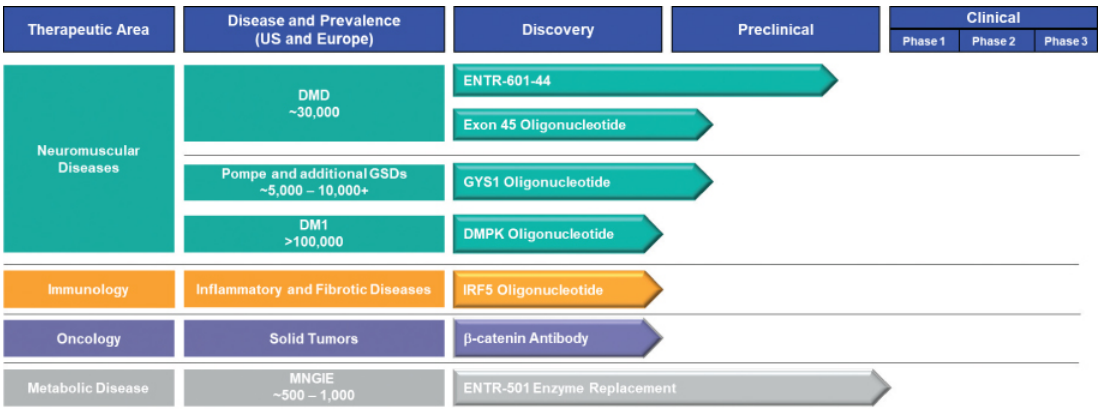
We believe our EEV Platform can offer meaningful advantages over existing therapeutic approaches, including:

- ***Broad potential therapeutic index*** based on observations in preclinical studies. We believe EEV therapeutic candidates can engage targets across various organs and tissues with up to 50 times greater intracellular target exposure compared with a similar dose regimen of an unconjugated therapeutic.
- ***Potential utility across multiple modalities*** due to the ability of EEVs to facilitate intracellular uptake of proprietary therapeutic candidates ranging in size from 1 kDa to 600 kDa, including oligonucleotides, peptides, antibodies and larger multimeric proteins.
- ***Potential applicability to a wide range of diseases*** as we believe EEVs can enter cells by binding with the phospholipid bilayer which is common to all cells, tissues and organs in the body. This may imply an ability to achieve both systemic and specific delivery of potential therapeutic candidates for a wide range of diseases.
- ***Multiple delivery routes*** possible including intravenous (IV), intramuscular (IM), subcutaneous (SQ) and intrathecal (IT) injections to deliver our EEV therapeutic candidates and generate functional outcomes.
- ***Modular approach supports efficient expansion of development into multiple therapeutic areas,*** including oligonucleotide therapies in rare disease and immunology, antibody-based protein degraders in oncology and enzyme replacement therapy in rare disease.

- ***A simple and scalable construct designed to translate from preclinical to clinical development*** as EEVs have been manufactured efficiently to clinical scale and the small size of EEVs may limit the risk of immunogenicity. In addition, acute and chronic toxicology studies in the ENTR-501 program have demonstrated the potential to deliver clinically-relevant doses in a non-human primate (NHP) with favorable tolerability.

Our Portfolio

Through the potential power of our EEV Platform, we aim to create a diverse and expanding pipeline of oligonucleotide, antibody and enzyme-based programs as summarized in the graphic below.



Neuromuscular Diseases

In neuromuscular disease, we are initially focused on the development of disease-modifying treatments for DMD. DMD is a monogenic X-linked disease caused by mutations in the *DMD* gene, which encodes for the protein dystrophin. We estimate that DMD occurs in approximately one in every 3,500 to 5,000 live male births and that the patient population is approximately 30,000 patients in the aggregate in the United States and Europe. Approximately 80% of patients have mutations amenable to exon skipping in the nucleus. We are developing therapeutic candidates to address the genetic basis, at the exon-specific level, of DMD. EEV oligonucleotides are designed to promote the skipping of exon mutations associated with DMD, enabling muscle cells to create functional dystrophin at a level that we believe may slow, stop or even reverse DMD progression. We are initially focusing on the development of an EEV-PMO, ENTR-601-44, for patients with DMD that are exon 44 skipping amenable, who represent approximately 7% of the total DMD population with significant unmet medical need. We have observed substantial exon skipping (50%-100%) and dystrophin production of up to approximately 70% of wild-type levels in mice, which is durable at eight weeks. Our preclinical studies have also demonstrated reductions in serum creatine kinase (CK), which is a commonly-used biomarker of muscle breakdown, to wild-type levels. Correction of CK is believed to be a strong indicator of pharmacodynamic activity throughout the body and has been described in medical literature as a marker of muscle integrity. We are next developing an EEV-PMO for patients with exon 45 skipping amenable mutations as our second oligonucleotide program. This group of patients represents approximately 8% of the total DMD population. We plan to submit an IND to the FDA for ENTR-601-44 in 2022 and to advance a potential EEV-PMO clinical candidate for patients with DMD that are exon 45 skipping amenable to IND filing to the FDA in 2023.

Our EEV Platform has broad applicability across multiple neuromuscular diseases. Leveraging our EEV Platform, we are also exploring EEV oligonucleotides for the potential treatment of Pompe disease and myotonic dystrophy type 1 (DM1).

Pompe disease is a rare, autosomal recessive lysosomal storage disease caused by a mutation in the gene that encodes for glucosidase alpha acid (GAA), which results in an absence or deficiency of GAA protein that is essential to the breakdown of complex sugar, glycogen. Excess glycogen in the

muscle cell leads to tissue damage and loss of function. Pompe disease is commonly estimated to affect between 5,000 and 10,000 patients in the aggregate in the United States and Europe; however, the advent of newborn screening suggests the disease is underdiagnosed. Our Pompe disease program focuses on the development of a potentially disease-modifying treatment by utilizing an EEV therapeutic candidate that targets and degrades the mRNA-encoding glycogen synthetase 1 (GYS1), a protein required for the synthesis of glycogen which powers muscle cells. Our preclinical data has shown superior and dose-dependent EEV-PMO knockdown of GYS1 gene expression (approximately 95%) and protein production in skeletal and cardiac muscles versus PMO alone. We are currently conducting preclinical studies to enable clinical candidate selection.

DM1 is a rare disease caused by an increase in the number of CUG triplet repeats found in the 3' non-coding region of the DM1 protein kinase (DMPK) gene. It is believed that disease severity correlates with number of CUG repeats. Multiple key proteins are misprocessed and this contributes to the multisystemic nature of the disease, which includes generalized limb weakness, respiratory muscle impairment, cardiac abnormalities, fatigue, gastrointestinal complications, incontinence and excessive daytime sleepiness. DM1 is commonly estimated to affect over 40,000 people in the United States and over 50,000 in Europe. Our approach is intended to address the underlying cause of the disease by targeting the extra CUG triplet repeats to generate functional DMPK. In our preclinical models, we have been able to observe reduction in RNA foci via treatment with EEV-PMO-CUG. We are investigating three different approaches in preclinical studies and intend to select one or more candidates to take to the clinic.

Immunology

In immunology, we are currently leveraging multiple oligonucleotide strategies to downregulate Interferon Regulatory Factor 5 (IRF5). IRF5 activation is a master switch implicated in the inflammatory and fibrotic processes associated with non-alcoholic steatohepatitis, systemic lupus erythematosus, inflammatory bowel disease, rheumatoid arthritis, asthma and neuropathic pain, among many others. We are currently preparing experiments evaluating the delivery of IRF5-targeting EEV-PMOs in mice.

Oncology

In oncology, we believe our EEV Platform has the potential to deliver highly selective large molecule protein degraders against disease-causing proteins. We are exploring biologically-validated targets that have been undruggable or have been suboptimally drugged. We are initially focused on β-catenin, a protein which contributes to the carcinogenesis, tumor progression and metastasis of several cancers, including colon, liver, pancreatic, lung, breast and ovarian cancer.

Metabolic Disease

Our ENTR-501, an intracellular thymidine phosphorylase (TP) enzyme replacement therapy (ERT), program is in development for the treatment of mitochondrial neurogastrointestinal encephalomyopathy (MNGIE). MNGIE is a slowly progressive, rare disease characterized by elevated levels of thymidine. Preliminary preclinical studies have demonstrated that ENTR-501 reduces toxic thymidine levels below those observed in wild-type mice. We have completed IND-enabling studies, including pharmacodynamic and pharmacokinetic studies in mice, and pharmacokinetic and chronic toxicology in NHPs for the MNGIE program. In 2020, we made the strategic decision to explore partnership opportunities for this program.

Additional Discovery Programs

We are leveraging the modularity of our EEV Platform to develop opportunities as diverse as EEV-CRISPR-Cas delivery for gene editing, EEV-antibody oligonucleotide conjugates for enhanced tissue tropism and blood brain barrier carriage, as well as novel EEV-ERT therapies. We regularly explore strategic opportunities to develop therapies where we believe our EEV Platform will make a difference for patients with devastating diseases.

Our Strategy

We aim to transform the lives of patients by establishing EEV therapetuics as a new class of medicines and become the world's foremost intracellular therapeutics company. To achieve this, the key pillars of our strategy include:

- Rapidly advance EEV-PMO therapeutic candidates into clinical development in patients with DMD.
- Leverage the modularity of our platform to advance a broad portfolio of EEV therapeutic candidates across multiple devastating diseases.
- Continue to invest in and build upon our EEV Platform to extend our pioneering position in developing novel EEV-based therapeutic candidates.
- Selectively evaluate strategic partnerships to maximize the therapeutic potential of our EEV Platform.

Our Team and Culture

Our patient-focused culture drives our shared mission of developing intracellular therapeutics for patients with devastating diseases. We are committed to building and maintaining a deep connection with the patients, caregivers, research community and physicians that we serve.

Our management team brings a depth of experience and knowledge base in platform research, drug discovery and development and commercialization. The team is led by Dipal Doshi, our President and Chief Executive Officer, who brings over 20 years of leadership experience within life sciences companies; Natarajan Sethuraman, Ph.D., our Chief Scientific Officer, who is an expert in large molecule therapeutic development and delivery platforms with over 30 years of experience across pharmaceutical and biotechnology companies; Nerissa Kreher, M.D., our Chief Medical Officer, a physician executive with a 15-year record of driving growth at start-ups and larger biotech/pharma companies and with extensive experience in rare disease research; Nathan Dowden, our Chief Operating Officer, who has almost three decades of experience leading corporate strategy, portfolio management, business planning and operations; and Kory Wentworth, our Chief Financial Officer, who has 20 years of public accounting and global biopharmaceutical experience. Our leadership team also includes Jared Cohen, Ph.D., J.D., our Vice President of Legal Affairs and Intellectual Property, Karla MacDonald, our Vice President of Corporate Communications, and Kerry Robert, M.S., our Vice President of People. As of June 30, 2021, our organization was comprised of 78 talented individuals with significant experience across discovery, preclinical research, manufacturing, clinical development and operations. Over 69% of our workforce has an advanced degree and approximately 50% has a Ph.D. We are supported by leading scientific and clinical experts in the fields of peptide chemistry, oligonucleotide and protein optimization, disease specific pathophysiology and clinical development.

Since our inception, we have raised over $200 million from leading biotechnology investors, including, among others, 5AM Ventures, MPM Capital, MRL Ventures Fund and Roche Venture Fund.

Risks Associated With Our Business

Our business is subject to a number of risks of which you should be aware before making an investment decision. These risks are discussed more fully in the "Risk Factors" section of this prospectus. These risks include, but are not limited to, the following:

- We have a limited operating history, have incurred significant operating losses since our inception and expect to incur significant losses for the foreseeable future. We may never generate any revenue or become profitable or, if we achieve profitability, we may not be able to sustain it.
- We will require additional financing to achieve our goals, and a failure to obtain this necessary capital when needed on acceptable terms, or at all, could force us to delay, limit, reduce or terminate our development programs, commercialization efforts or other operations.

- We are early in our development efforts. We have not initiated clinical studies, and as a result it will be years before we commercialize a therapeutic candidate, if ever. If we are unable to identify and advance therapeutic candidates through preclinical studies and clinical trials, obtain marketing approval and ultimately commercialize them, or experience significant delays in doing so, our business will be materially harmed.
- Our business is highly dependent on the clinical advancement of our programs and modalities and is especially dependent on the success of our lead EEV therapeutic candidate, ENTR-601-44. Delay or failure to advance programs or modalities, including ENTR-601-44 could adversely impact our business.
- Our EEV therapeutic candidates are based on a novel therapeutic approach, which makes it difficult to predict the time and cost of development and of subsequently obtaining regulatory approval, if at all.
- Preclinical and clinical development involves a lengthy and expensive process with an uncertain outcome, and the results of preclinical studies are not necessarily predictive of the results of later preclinical studies and any clinical trials of our therapeutic candidates. We have not tested any of our therapeutic candidates in clinical trials and our therapeutic candidates may not have favorable results in clinical trials, if any, or receive regulatory approval on a timely basis, if at all.
- We may encounter substantial delays in the commencement, enrollment or completion of our planned clinical trials or we may fail to demonstrate safety and efficacy to the satisfaction of applicable regulatory authorities, which could prevent us from commercializing any therapeutic candidates we determine to develop on a timely basis, if at all.
- Our approach to the discovery and development of therapeutic candidates based on our EEV Platform is unproven, and we do not know whether we will be able to develop any products of commercial value, or if competing technological approaches will limit the commercial value of our therapeutic candidates or render our EEV Platform obsolete.
- We rely, and expect to continue to rely, on third parties to conduct some or all aspects of our product manufacturing, research and preclinical and clinical testing, and these third parties may not perform satisfactorily or dedicate adequate resources to meet our needs.
- We face significant competition, and if our competitors develop technologies or therapeutic candidates more rapidly than we do or their technologies are more effective, our business and our ability to develop and successfully commercialize products may be adversely affected.
- We expect to expand our development and regulatory capabilities, and as a result, we may encounter difficulties in managing our growth, which could disrupt our operations.
- While we will attempt to diversify our risks by developing one or more programs in each modality, there are risks that are unique to each modality and risks that are applicable across modalities. These risks may impair our ability to advance one or more of our programs in clinical development, obtain regulatory approval, or ultimately commercialize our programs, or cause us to experience significant delays in doing so, any of which may materially harm our business.
- If we are unable to obtain and maintain patent protection for our therapeutic programs and other proprietary technologies we develop, or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize products and technology similar or identical to ours, and our ability to successfully commercialize our therapeutic programs and other proprietary technologies we may develop may be adversely affected.
- Our future success depends on our ability to retain key employees and to attract, retain and motivate qualified personnel.

Corporate History

We were incorporated under the laws of the State of Delaware on September 22, 2016 as CycloPorters, Inc. On October 26, 2017, we changed our name to Entrada Therapeutics, Inc. Our

principal corporate offices are located at 6 Tide Street, Boston, MA 02210, and our telephone number is (857) 520-9158. Our website address is www.entradatx.com. We do not incorporate the information on or accessible through our website into this prospectus, and you should not consider any information on, or that can be accessed through, our website as part of this prospectus.

We own various U.S. federal trademark applications and unregistered trademarks, including our company name and logo. All other trademarks or trade names referred to in this prospectus are the property of their respective owners. Solely for convenience, the trademarks and trade names in this prospectus are referred to without the symbols ® and ™, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto.

Implications of Being an Emerging Growth Company and a Smaller Reporting Company

We qualify as an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, as amended (JOBS Act). As an emerging growth company, we may take advantage of specified reduced reporting and other requirements that are otherwise applicable generally to public companies. These provisions include:

- only two years of audited financial statements in addition to any required unaudited interim financial statements with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure;
- exemption from the requirement that critical audit matters be discussed in our independent auditor's reports on our audited financial statements or any other requirements that may be adopted by the Public Company Accounting Oversight Board, unless the Securities and Exchange Commission (SEC) determines that the application of such requirements to emerging growth companies is in the public interest;
- reduced disclosure about our executive compensation arrangements;
- no non-binding advisory votes on executive compensation or golden parachute arrangements; and
- exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting.

We may take advantage of these exemptions for up to five years or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company on the date that is the earliest of (i) the last day of the fiscal year in which we have total annual gross revenues of $1.07 billion or more; (ii) the last day of our fiscal year following the fifth anniversary of the date of the completion of this offering; (iii) the date on which we have issued more than $1 billion in non-convertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the SEC. We may choose to take advantage of some but not all of these exemptions. We have taken advantage of reduced reporting requirements in this prospectus. Accordingly, the information contained herein may be different from the information you receive from other public companies in which you hold stock. Additionally, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have 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 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, 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 also a "smaller reporting company" as defined in the Securities Exchange Act of 1934, as amended (Exchange Act). 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 million or (ii) our annual

revenue was less than $100 million during the most recently completed fiscal year and the market value of our stock held by non-affiliates is less than $700 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.

THE OFFERING

Common stock offered	shares.
Common stock to be outstanding immediately after this offering	shares (shares if the underwriters exercise their option to purchase additional shares in full).
Underwriters' option to purchase additional shares	We have granted a 30-day option to the underwriters to purchase up to an aggregate of additional shares of common stock from us at the public offering price, less underwriting discounts and commissions on the same terms as set forth in this prospectus.
Use of proceeds	We estimate that our net proceeds from the sale of shares of our common stock in this offering will be approximately $ million, or $ million if the underwriters exercise in full their option to purchase additional shares, assuming an initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. We intend to use the net proceeds from this offering, together with our existing cash and cash equivalents, for the following: approximately $ million for preclinical studies, IND-enabling studies and clinical trials, approximately $ million for EEV Platform development and discovery research and the remainder for general corporate purposes. See "Use of Proceeds" for additional information.
Risk factors	You should carefully read the "Risk Factors" section of this prospectus for a discussion of factors that you should consider before deciding to invest in our common stock.
Proposed Nasdaq Global Market symbol	"TRDA"

The number of shares of our common stock to be outstanding after this offering is based on 11,774,460 shares of common stock outstanding as of June 30, 2021, which includes 20,870 shares of unvested restricted stock and 1,586,761 shares of unvested early exercised stock options, after giving effect to the automatic conversion of all outstanding shares of our redeemable convertible preferred stock into an aggregate of 138,821,984 shares of our common stock immediately prior to the completion of this offering, and excludes:

- 15,600,579 shares of common stock issuable upon the exercise of stock options outstanding as of June 30, 2021 under our 2016 Stock Incentive Plan, as amended (2016 Plan) at a weighted average exercise price of $0.62 per share;
- 2,016,253 shares of our common stock issuable upon the exercise of stock options granted after June 30, 2021 pursuant to our 2016 Plan;
- 2,416,228 shares of common stock reserved for future issuance as of June 30, 2021 under the 2016 Plan, which will cease to be available for issuance at the time that our 2021 Stock Option and Incentive Plan (2021 Stock Plan), becomes effective;
- shares of our common stock that will become available for future issuance under our 2021 Plan, which will become effective upon effectiveness of the registration statement of which this prospectus is a part; and

- shares of common stock reserved for future issuance under our 2021 Employee Stock Purchase Plan (ESPP), which will become effective upon effectiveness of the registration statement of which this prospectus is a part.

Unless otherwise indicated, all information in this prospectus reflects or assumes the following:

- the conversion of all outstanding shares of our preferred stock into an aggregate of approximately 138,821,984 shares of common stock immediately prior to the completion of this offering;
- no exercise of the outstanding stock options described above;
- no exercise by the underwriters of their option to purchase up to additional shares of common stock in this offering;
- a one-for- reverse split of our common stock, which will become effective prior to the completion of this offering; and
- the filing of our fourth amended and restated certificate of incorporation and the effectiveness of our amended and restated bylaws immediately prior to the completion of this offering.

SUMMARY FINANCIAL DATA

You should read the following summary financial data together with our financial statements and the related notes appearing elsewhere in this prospectus and the "Selected Financial Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" sections of this prospectus. We have derived the statement of operations data for the years ended December 31, 2019 and 2020 from our audited financial statements appearing elsewhere in this prospectus. The statement of operations data for the six months ended June 30, 2020 and 2021 and the balance sheet data as of June 30, 2021 have been derived from our unaudited financial statements appearing elsewhere in this prospectus and have been prepared on the same basis as the audited financial statements. In the opinion of management, the unaudited data reflects all adjustments, consisting only of normal recurring adjustments, necessary for a fair statement of the financial information in those statements. Our historical results are not necessarily indicative of the results that may be expected in the future.

	Year Ended December 31,		Six Months Ended June 30,	
	2019	2020	2020	2021
	(In thousands, except share and per share data)			
Operating expenses:				
Research and development	$ 8,216	$ 21,102	$	$
General and administrative	3,608	5,565		
Total operating expenses	11,824	26,667		
Loss from operations	(11,824)	(26,667)		
Other income:				
Interest and other income, net	451	144		
Change in fair value of preferred stock tranche liability	6,273	—		
Total other income, net	6,724	144		
Net loss	$ (5,100)	$ (26,523)	$	$
Net loss per share attributable to common stockholders, basic and diluted[1]	$ (0.76)	$ (3.32)	$	$
Weighted average shares of common stock outstanding, basic and diluted[1]	6,751,615	7,997,542		
Pro forma net loss per share attributable to common stockholders, basic and diluted[2]		$ (0.34)		$
Pro forma weighted average shares of common stock outstanding, basic and diluted[2]		77,221,566		

(1) See Note 11 to our financial statements appearing elsewhere in this prospectus for further details on the calculation of basic and diluted net loss per share attributable to common stockholders and the weighted average number of shares used in the computation of the per share amounts.

(2) The pro forma basic and diluted net loss per share for the six months ended June 30, 2021 and the year ended December 31, 2020 have been computed to give effect to the automatic conversion of all outstanding shares of our preferred stock into shares of common stock. The unaudited pro forma basic and diluted net loss per share for the six months ended June 30, 2021 and the year ended December 31, 2020 were computed using the weighted average number of shares of common stock outstanding, including the pro forma effect of the conversion of all outstanding shares of our preferred stock into shares of common stock, as if the conversion had occurred on the later of the first day of the period presented or the original issuance dates of the respective preferred stock.

	As of June 30, 2021		
	Actual	Pro Forma[2]	Pro Forma As Adjusted[3]
		(in thousands)	
Balance Sheet Data:			
Cash	$	$	$
Working capital[1]			
Total assets			
Redeemable convertible preferred stock			
Total stockholders' (deficit) equity			

(1) We define working capital as current assets less current liabilities. See our financial statements and the related notes included elsewhere in this prospectus for further details regarding our current assets and current liabilities.

(2) The pro forma balance sheet data give effect to the automatic conversion of all outstanding shares of redeemable convertible preferred stock into 138,821,984 shares of our common stock in connection with the closing of this offering.

(3) The pro forma as adjusted balance sheet data reflect the adjustments described in footnote (2) and gives further effect to our issuance and sale of shares of our common stock offered in this offering at 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 estimated underwriting discounts and commissions and estimated offering expenses payable by us. A $1.00 increase (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 (decrease) the pro forma as adjusted amount of each of cash, working capital, total assets and total stockholders' equity (deficit) by $ 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. Similarly, an increase (decrease) of 1,000,000 shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted amount of each of cash, working capital, total assets and total stockholders' equity (deficit) equity by $ million, assuming no change in the assumed initial public offering price per share and after deducting estimated underwriting discounts and commissions. This pro forma as adjusted information is illustrative only and will depend on the actual initial public offering price and other terms of this offering determined at pricing.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should consider carefully the risks and uncertainties described below, together with all of the other information in this prospectus, including our financial statements and related notes included elsewhere in this prospectus and in "Management's Discussion and Analysis of Financial Condition and Results of Operations," before making an investment decision. If any of the following risks are realized, our business, financial condition, results of operations and prospects could be materially and adversely affected. In that event, the trading price of our common stock could decline and you could lose part or all of your investment.

Risks Related to Our Limited Operating History, Financial Position and Capital Requirements

We have a limited operating history, have incurred significant operating losses since our inception and expect to incur significant losses for the foreseeable future. We may never generate any revenue or become profitable or, if we achieve profitability, we may not be able to sustain it.

Biopharmaceutical product development is a highly speculative undertaking and involves a substantial degree of risk. We are a preclinical-stage biopharmaceutical company with a limited operating history upon which you can evaluate our business and prospects. All of our development programs, including our lead therapeutic candidate, ENTR-601-44, are in preclinical development or in the drug discovery stage. We commenced operations in 2016, and to date, we have focused primarily on organizing and staffing our company, business planning, raising capital, developing our proprietary, highly versatile and modular EEV platform (EEV Platform), identifying EEV therapeutic candidates, establishing our intellectual property portfolio and conducting research and preclinical studies. Our approach to the discovery and development of therapeutic candidates based on our EEV Platform is unproven, and we do not know whether we will be able to conduct clinical studies on our therapeutic candidates, develop any therapeutic candidates that succeed in clinical development or produce products of commercial value. As an organization, we have not yet initiated or completed any clinical trials, obtained regulatory approvals, manufactured a clinical- or commercial-scale product, or arranged for a third party to do so on our behalf, or conducted sales and marketing activities necessary for successful product commercialization. Consequently, any predictions made about our future success or viability may not be as accurate as they could be if we had a history of successfully developing and commercializing biopharmaceutical products.

We have incurred significant operating losses since our inception. We do not have any products approved for sale and have not generated any product revenue since our inception. If our therapeutic candidates are not successfully developed and approved, we may never generate any significant revenue. Our net losses were $5.1 million and $26.5 million for the years ended December 31, 2019 and December 31, 2020, respectively. As of December 31, 2020, we had an accumulated deficit of $42.5 million. Substantially all of our losses have resulted from expenses incurred in connection with our research and development programs and from general and administrative costs associated with our operations. All of our therapeutic candidates will require substantial additional development time and resources before we would be able to apply for or receive regulatory approvals and begin generating revenue from product sales. We expect to continue to incur losses for the foreseeable future, and we anticipate these losses will increase substantially as we continue our development of, seek regulatory approval for and potentially commercialize any of our therapeutic candidates.

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 studies and clinical trials of our therapeutic candidates, identifying lead therapeutic candidates, discovering additional therapeutic candidates, conducting preclinical studies prior to submitting an IND, obtaining clearance for an IND, obtaining regulatory approval for these therapeutic candidates and manufacturing, marketing and selling any products for which we may obtain regulatory approval. We are only in the preliminary stages of most of these activities. We may never succeed in these activities and, even if we do, may never generate revenues that are significant enough to achieve profitability. In addition, we have not yet demonstrated an ability to successfully overcome many of the risks and uncertainties frequently encountered by companies in

new and rapidly evolving fields, particularly in the biopharmaceutical industry. Because of the numerous risks and uncertainties associated with biopharmaceutical product 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. Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable may have an adverse effect on the value of our company and could impair our ability to raise capital, expand our business, maintain our research and development efforts, diversify our therapeutic candidates or even continue our operations. A decline in the value of our company could also cause you to lose all or part of your investment.

Our limited operating history may make it difficult to evaluate our technology and industry and predict our future performance. Though several groups have conducted or are conducting studies involving the intracellular delivery of therapeutic molecules, the relevance of those studies to the evaluation of therapeutic candidates developed using our EEV Platform may be difficult to ascertain. Our short history as an operating company and novel therapeutic approach make any assessment of our future success or viability subject to significant uncertainty. We will encounter risks and difficulties frequently experienced by early-stage companies in rapidly evolving fields. Failure to address these risks successfully will cause our business to suffer. Similarly, we expect that our financial condition and operating results will fluctuate significantly from quarter to quarter and year to year due to a variety of factors, many of which are beyond our control. As a result, our stockholders should not rely upon the results of any quarterly or annual period as an indicator of future operating performance.

In addition, as an early-stage company, we have encountered unforeseen expenses, difficulties, complications, delays and other known and unknown circumstances. As we advance our EEV therapeutic candidates, we will need to transition from a company with a research focus to a company capable of supporting clinical development and if successful, commercial activities. We may not be successful in such a transition.

We will require additional financing to achieve our goals, and a failure to obtain this necessary capital when needed on acceptable terms, or at all, could force us to delay, limit, reduce or terminate our development programs, commercialization efforts or other operations.

The development of biopharmaceutical therapeutic candidates is capital-intensive. We expect our expenses to increase in connection with our ongoing activities, particularly as we conduct our ongoing and planned preclinical studies of our development programs, initiate clinical trials for our therapeutic candidates and seek regulatory approval for our current therapeutic candidates and any future therapeutic candidates we may develop. If we obtain regulatory approval for any of our therapeutic candidates, we also expect to incur significant commercialization expenses related to product manufacturing, marketing, sales and distribution. Because the outcome of any preclinical study or clinical trial is highly uncertain, we cannot reasonably estimate the actual amounts necessary to successfully complete the development and commercialization of our therapeutic candidates. Furthermore, following the completion 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. Failing to raise capital when needed or on attractive terms could force us to delay, reduce or eliminate our research and development programs or any future commercialization efforts.

We believe that the net proceeds from this offering, together with our existing cash, cash equivalents and marketable securities, will enable us to fund our operations 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. Our operating plans and other demands on our cash resources may change as a result of many factors currently unknown to us, and we may need to seek additional funds sooner than planned, through public or private equity or debt financings or other capital sources, including potentially additional collaborations, licenses and other similar arrangements. 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 therapeutic candidates.

Our future capital requirements will depend on many factors, including, but not limited to:

- the type, number, scope, progress, expansions, results, costs and timing of our preclinical studies and any clinical trials of the therapeutic candidates that we are pursuing or may choose to pursue in the future;
- the clinical development plans we establish for our EEV therapeutic candidates;
- the costs and timing of manufacturing for our therapeutic candidates and commercial manufacturing if any therapeutic candidate is approved;
- the costs of establishing and maintaining clinical and commercial supply for the development and manufacture of our therapeutic candidates;
- the costs, timing and outcome of regulatory review of our therapeutic candidates;
- the terms and timing of establishing and maintaining collaborations, licenses and other similar arrangements;
- the costs of obtaining, maintaining and enforcing our patents and other intellectual property rights;
- our efforts to enhance operational systems and hire additional personnel to satisfy our obligations as a public company, including enhanced internal controls over financial reporting;
- the costs associated with hiring additional personnel and consultants as our preclinical and clinical activities increase;
- the achievement of milestones or occurrence of other developments that trigger payments under any collaboration agreements, if any;
- the costs and timing of establishing or securing sales and marketing capabilities if any therapeutic candidate is approved;
- subject to receipt of regulatory approval, revenue, if any, received from commercial sales of our therapeutic candidates;
- our ability to achieve sufficient market acceptance, coverage and adequate reimbursement from third-party payors and adequate market share and revenue for any approved products;
- the terms and timing of establishing and maintaining collaborations, licenses and other similar arrangements;
- the costs of preparing, filing and prosecuting patent applications, maintaining and protecting our intellectual property rights, including enforcing and defending intellectual property related claims; and
- the ongoing costs of operating as a public company.

Identifying potential therapeutic candidates and conducting preclinical studies and clinical trials is a time-consuming, expensive and uncertain process that takes years to complete, and we may never generate the necessary data or results required to obtain regulatory approval and commercialize our therapeutic candidates. In addition, our therapeutic candidates, if approved, may not achieve commercial success. Our commercial revenues, if any, will be derived from sales of products that we do not expect to be commercially available for many years, if at all.

Accordingly, we will need to continue to rely on additional financing to achieve our business objectives. Adequate additional financing may not be available to us on acceptable terms, or at all.

Our operating results may fluctuate significantly, which makes our future operating results difficult to predict and could cause our operating results to fall below expectations or our guidance.

Our quarterly and annual operating results may fluctuate significantly in the future, which makes it difficult for us to predict our future operating results. From time to time, we may enter into license or

collaboration agreements or strategic partnerships with other companies that include development funding and significant upfront and milestone payments and/or royalties, which may become an important source of our revenue. These upfront and milestone payments may vary significantly from period to period and any such variance could cause a significant fluctuation in our operating results from one period to the next.

In addition, we measure compensation cost for stock-based awards made to employees at the grant date of the award, based on the fair value of the award as determined by our board of directors, and recognize the cost as an expense over the employee's requisite service period. As the variables that we use as a basis for valuing these awards change over time, including, after the closing of this offering, our underlying stock price and stock price volatility, the magnitude of the expense that we must recognize may vary significantly.

Furthermore, our operating results may fluctuate due to a variety of other factors, many of which are outside of our control and may be difficult to predict, including the following:

- the timing and cost of, and level of investment in, research and development activities relating to our programs, which will change from time to time;
- our ability to enroll patients in clinical trials and the timing of enrollment;
- the cost of manufacturing our current therapeutic candidates and any future therapeutic candidates, which may vary depending on FDA, EMA or other comparable foreign regulatory authority guidelines and requirements, the quantity of production and the terms of our agreements with manufacturers;
- expenditures that we will or may incur to acquire or develop additional therapeutic candidates and technologies or other assets;
- the timing and outcomes of preclinical studies and clinical trials for ENTR-601-44 and any therapeutic candidates from our discovery programs, or competing therapeutic candidates;
- the need to conduct unanticipated clinical trials or trials that are larger or more complex than anticipated;
- competition from existing and potential future products that compete with ENTR-601-44 or any of our discovery programs, and changes in the competitive landscape of our industry, including consolidation among our competitors or partners;
- any delays in regulatory review or approval of ENTR-601-44 or therapeutic candidates from any of our discovery programs;
- the level of demand for any of our therapeutic candidates, if approved, which may fluctuate significantly and be difficult to predict;
- the risk/benefit profile, cost and reimbursement policies with respect to our therapeutic candidates, if approved, and existing and potential future products that compete with ENTR-601-44 or any of our discovery programs;
- our ability to commercialize ENTR-601-44 or therapeutic candidates from any of our discovery programs, if approved, inside and outside of the U.S., either independently or working with third parties;
- our ability to establish and maintain collaborations, licensing or other arrangements;
- our ability to adequately support future growth;
- potential unforeseen business disruptions that increase our costs or expenses;
- future accounting pronouncements or changes in our accounting policies; and
- the changing and volatile global economic and political environment.

The cumulative effect of these factors could result in large fluctuations and unpredictability in our quarterly and annual operating results. As a result, comparing our operating results on a period-to-period basis may not be meaningful. Investors should not rely on our past results as an indication of

our future performance. This variability and unpredictability could also result in our failing to meet the expectations of industry or financial analysts or investors for any period. If our revenue or operating results fall below the expectations of analysts or investors or below any forecasts we may provide to the market, or if the forecasts we provide to the market are below the expectations of analysts or investors, the price of our common stock could decline substantially. Such a stock price decline could occur even when we have met any previously publicly stated guidance we may provide.

Risks Related to the Discovery, Development and Regulatory Approval of Our Therapeutic Candidates

We are early in our development efforts. We have not initiated clinical studies, and as a result it will be years before we commercialize a therapeutic candidate, if ever. If we are unable to identify and advance therapeutic candidates through preclinical studies and clinical trials, obtain marketing approval and ultimately commercialize them, or experience significant delays in doing so, our business will be materially harmed.

We are early in our development efforts and all our development programs, including our lead therapeutic candidate ENTR-601-44, are in the preclinical or drug discovery stage. We have invested substantially all of our research efforts to date in developing our EEV Platform, identifying potential therapeutic candidates and conducting preclinical studies. As an organization, we have never conducted any clinical trials or submitted an application for regulatory approval, and we may be unable to do so for our therapeutic candidates. We have not yet completed IND-enabling studies for ENTR-601-44, our lead candidate, and we will need to do so to support submission of an IND and progress ENTR-601-44 into and through clinical studies. In addition, we have a portfolio of programs that are in earlier stages of development and have not yet initiated or completed IND-enabling studies. We may never advance any therapeutic candidates through IND-enabling studies and receive authorization from the U.S. Food and Drug Administration (FDA), to proceed under an IND prior to initiating their clinical-stage development. Our ability to generate product revenue, which we do not expect will occur for many years, if ever, will depend heavily on the successful development and eventual commercialization of our therapeutic candidates, which may never occur. We currently generate no revenue from sales of any product, and we may never be able to develop or commercialize a marketable product.

Commencing clinical trials in the United States is subject to acceptance by the FDA of an IND and finalizing the trial design based on discussions with the FDA and other regulatory authorities. For the FDA to accept an IND, we must complete GLP studies, which may not be successful or may take longer than we expect. The FDA may require us to complete additional preclinical studies or we may be required to satisfy other FDA requests prior to commencing clinical trials, and such requests may not currently be known or anticipated, which may cause the start of our first clinical trials to be delayed or prevent us from conducting clinical trials. Even after we receive and incorporate guidance from these regulatory authorities, the FDA or other regulatory authorities could disagree that we have satisfied their requirements to commence any clinical trial or change their position on the acceptability of our trial design or the clinical endpoints selected, which may require us to complete additional preclinical studies or clinical trials, impose stricter approval conditions than we currently expect or may prevent us from conducting clinical trials. There are equivalent processes and risks applicable to clinical trial applications in other countries, including countries in the European Union (EU).

Commercialization of any therapeutic candidates we may develop will require preclinical and clinical development; regulatory and marketing approval in multiple jurisdictions, including by the FDA and the European Medicines Agency (EMA); manufacturing supply, capacity and expertise; a commercial organization; and significant marketing efforts. The success of therapeutic candidates we may identify and develop will depend on many factors, including:

- timely and successful completion of preclinical studies, including toxicology studies, biodistribution studies and minimally efficacious dose studies in animals, where applicable;
- sufficiency of our financial and other resources to complete the necessary preclinical studies and clinical trials;

- effective INDs or comparable foreign applications that allow commencement of our planned clinical trials or future clinical trials for any therapeutic candidates we may develop;
- successful enrollment and completion of clinical trials, including under the FDA's current Good Clinical Practices (cGCPs), current Good Laboratory Practices (cGLPs) and any additional regulatory requirements from foreign regulatory authorities;
- positive results from our future clinical trials that support a finding of safety and effectiveness and an acceptable risk-benefit profile in the intended populations;
- receipt of regulatory marketing approvals from applicable regulatory authorities;
- establishment of arrangements with third-party manufacturers for clinical supply and, where applicable, commercial manufacturing capabilities;
- establishment, maintenance, defense and enforcement of patent, trademark, trade secret and other intellectual property protection or regulatory exclusivity for any therapeutic candidates we may develop;
- patient recruitment and enrollment;
- commercial launch of any therapeutic candidates we may develop, if approved, whether alone or in collaboration with others;
- acceptance of the benefits and use of our therapeutic candidates we may develop, including method of administration, if and when approved, by patients, the medical community and third-party payors;
- our ability to compete effectively with other therapies and treatment options;
- maintenance of a continued acceptable safety, tolerability and efficacy profile of any therapeutic candidates we may develop following approval; and
- establishment and maintenance of healthcare coverage and adequate reimbursement by payors.

If we do not succeed in one or more of these factors in a timely manner or at all, we could experience significant delays or an inability to successfully commercialize any therapeutic candidates we may develop, which would materially harm our business. If we are unable to advance our therapeutic candidates to clinical development, obtain regulatory approval and ultimately commercialize our therapeutic candidates, or experience significant delays in doing so, our business will be materially harmed.

Our business is highly dependent on the clinical advancement of our programs and modalities and is especially dependent on the success of our lead EEV therapeutic candidate, ENTR-601-44. Delay or failure to advance programs or modalities, including ENTR-601-44 could adversely impact our business.

Using our platform, we are developing product features for medicines based on EEVs. Over time, our platform work led to commonalities, where a specific combination of EEV technologies, delivery technologies, and manufacturing processes generated a set of product features shared by multiple programs, for example, oligonucleotide-conjugated EEVs and antibody-conjugated EEVs. This is what we call a "modality." We are utilizing early programs in a modality, such as ENTR-601-44 for oligonucleotide-conjugated EEVs, to understand the technology risks within the modality, including manufacturing and pharmaceutical properties. Our lead therapeutic candidate, ENTR-601-44, is being developed to address DMD and we are highly dependent on the success of the future clinical trials of ENTR-601-44, the outcomes of which are uncertain, to further develop a second lead therapeutic candidate for patients with DMD with exon 45 skipping amenable mutations. Because ENTR-601-44 is our first EEV therapeutic candidate, if ENTR-601-44 encounters safety, efficacy, supply or manufacturing problems, developmental delays, regulatory or commercialization issues or other problems, the value of our EEV Platform could be greatly diminished and our development plans and business would be significantly harmed.

Even if our earlier programs in a modality are successful in any phase of development any of such earlier programs may fail at a later phase of development, and other programs within the same modality may still fail at any phase of development including at phases where earlier programs in that modality were successful. This may be a result of technical challenges unique to that program or due to biology risk, which is unique to every program. As we progress our programs through clinical development, there may be new technical challenges that arise that cause an entire modality to fail.

Our EEV therapeutic candidates are based on a novel therapeutic approach, which makes it difficult to predict the time and cost of development and of subsequently obtaining regulatory approval, if at all.

Using EEV technology to develop therapeutic candidates is a new therapeutic approach and no products based on EEVs have been approved to date in the United States, the United Kingdom or the EU. As such, it is difficult to accurately predict the developmental challenges we may face for our EEV therapeutic candidates as they proceed through development. In addition, because we have not yet commenced any clinical trials with our EEV therapeutic candidates, we have not yet been able to assess safety in humans and there may be short-term or long-term effects from treatment with any therapeutic candidates that we develop that we cannot predict at this time. Also, animal models may not exist for some of the diseases we choose to pursue in our programs. As a result of these factors, it is more difficult for us to predict the time and cost of therapeutic candidate development and we cannot predict whether our EEV Platform, or any similar or competitive intracellular delivery technologies, will enable the identification, development and regulatory approval of any products. There can be no assurance that any development problems we experience in the future related to our EEV Platform or any of our research programs will not cause significant delays or unanticipated costs or that such development problems can be solved. Any of these factors may prevent us from completing our preclinical studies or any clinical trials that we may initiate or commercializing any therapeutic candidates we may develop on a timely or profitable basis, if at all.

The clinical trial requirements of the FDA and other regulatory authorities and the criteria these regulators use to determine the safety and efficacy of a therapeutic candidate vary substantially according to the type, complexity, novelty and intended use and market of the therapeutic candidate. No products based on EEVs have been approved to date by regulators. As a result, the regulatory approval process for therapeutic candidates such as ours is uncertain and may be more expensive and take longer than the approval process for therapeutic candidates based on other, better known or more extensively studied technologies. For example, the general approach for FDA approval of a new biologic or drug is for sponsors to seek licensure or approval based on dispositive data from well-controlled, Phase 3 clinical trials of the relevant therapeutic candidate in the relevant patient population. Phase 3 clinical trials typically involve hundreds of patients, have significant costs and take years to complete. It is difficult to determine how long it will take or how much it will cost to obtain regulatory approvals for our therapeutic candidates in the U.S., the UK, the EU or other regions of the world or how long it will take to commercialize our therapeutic candidates. Delay or failure to obtain or unexpected costs in obtaining the regulatory approvals necessary to bring a potential therapeutic candidate to market could decrease our ability to generate sufficient product revenue and our business, financial condition, results of operations and prospects may be harmed.

Preclinical and clinical development involves a lengthy and expensive process with an uncertain outcome, and the results of preclinical studies are not necessarily predictive of the results of later preclinical studies and any clinical trials of our therapeutic candidates. We have not tested any of our therapeutic candidates in clinical trials and our therapeutic candidates may not have favorable results in clinical trials, if any, or receive regulatory approval on a timely basis, if at all.

Preclinical and clinical development is expensive and can take many years to complete, and its outcome is inherently uncertain. We cannot guarantee that any preclinical studies or clinical trials will be conducted as planned or completed on schedule, if at all, and failure can occur at any time during the preclinical study or clinical trial process. Any positive results from our preclinical studies of our EEV therapeutic candidates may not necessarily be predictive of the results in later preclinical studies and

clinical trials. Similarly, even if we are able to complete our planned preclinical studies or clinical trials of our therapeutic candidates according to our current development timeline, the positive results from such preclinical studies and clinical trials may not be replicated in our subsequent preclinical studies or later-stage clinical trials. Despite promising preclinical or clinical results, any therapeutic candidate can unexpectedly fail at any stage of preclinical or clinical development. The historical failure rate for therapeutic candidates in our industry is high.

The results from preclinical studies or clinical trials of a therapeutic candidate may not predict the results of later clinical trials of the therapeutic candidate, and interim, topline, or preliminary results of a clinical trial are not necessarily indicative of final results. Therapeutic candidates in later stages of clinical trials may fail to show the desired safety and efficacy characteristics despite having progressed through preclinical studies and initial clinical trials. In particular, while we have conducted certain preclinical studies of ENTR-601-44 and other potential therapeutic candidates, we do not know whether ENTR-601-44 or the other potential therapeutic candidates will perform in future clinical trials as they have performed in these prior studies. The positive results we have observed for our therapeutic candidates in early, non-GLP preclinical studies and animal models may not be predictive of our future clinical trials in humans. Furthermore, for some indications that we are pursuing there are no animal models that adequately mirror the human disease to predict any level of positive results. It is not uncommon to observe results in clinical trials that are unexpected based on preclinical studies and early clinical trials, and many therapeutic candidates fail in clinical trials despite very promising early results. We are currently conducting IND-enabling studies for ENTR-601-44. Unexpected observations or toxicities observed in these studies, or in IND-enabling studies for any of our other development programs, could delay clinical trials for ENTR-601-44 or our other development programs. Moreover, preclinical and clinical data may be susceptible to varying interpretations and analyses. A number of companies in the biopharmaceutical and biotechnology industries have suffered significant setbacks in clinical development even after achieving promising results in earlier studies, and companies that have believed their therapeutic candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain FDA approval. Additionally, we may conduct clinical trials that utilize an “open-label” trial design. An “open-label” clinical trial is one where both the patient and investigator know whether the patient is receiving the investigational therapeutic candidate or either an existing approved drug or placebo. Most typically, open-label clinical trials test only the investigational therapeutic candidate and sometimes may do so at different dose levels. 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. Open-label clinical trials may be subject to a “patient bias” where patients perceive their symptoms to have improved merely due to their awareness of receiving an experimental 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. The results from an open-label trial may not be predictive of future clinical trial results with any of our therapeutic candidates for which we include an open-label clinical trial when studied in a controlled environment with a placebo or active control.

For the foregoing reasons, we cannot be certain that our ongoing and planned preclinical studies and planned clinical trials will be successful. Any safety concerns observed in any one of our clinical trials in our targeted indications could limit the prospects for regulatory approval of our therapeutic candidates in those and other indications, which could have a material adverse effect on our business, financial condition and results of operations.

We may encounter substantial delays in the commencement, enrollment or completion of our planned clinical trials or we may fail to demonstrate safety and efficacy to the satisfaction of applicable regulatory authorities, which could prevent us from commercializing any therapeutic candidates we determine to develop on a timely basis, if at all.

The risk of failure in developing therapeutic candidates is high. It is impossible to predict when or if any therapeutic candidate would prove effective or safe in humans or will receive regulatory approval. Before obtaining marketing approval from regulatory authorities for the sale of any therapeutic candidate, we must complete preclinical development, submit an IND or foreign equivalent to permit initiation of

clinical studies, and then conduct extensive clinical trials to demonstrate the safety and efficacy of therapeutic candidates in humans. We have not yet conducted a clinical trial of any therapeutic candidate. As an organization, we plan to advance ENTR-601-44 to IND submission in 2022 and to advance our EEV therapeutic candidate targeting exon 45 to IND submission in 2023. We have not previously conducted any clinical trials of any therapeutic candidates, have limited experience as a company in preparing, submitting and prosecuting regulatory filings and have not previously submitted an IND, NDA or BLA or other comparable foreign regulatory submission for any therapeutic candidate. In addition, we have had limited interactions with the FDA and cannot be certain how many clinical trials of ENTR-601-44 or any other therapeutic candidates will be required or how such trials should be designed. Consequently, we may be unable to successfully and efficiently execute and complete necessary clinical trials in a way that leads to regulatory submission and approval of any of our therapeutic candidates. Clinical trials may fail to demonstrate that our therapeutic candidates are safe for humans and effective for indicated uses. Even if the clinical trials are successful, changes in marketing approval policies during the development period, changes in or the enactment or promulgation of additional statutes, regulations or guidance or changes in regulatory review for each submitted product application may cause delays in the approval or rejection of an application.

Before we can commence clinical trials for a therapeutic candidate, we must complete extensive preclinical testing and studies that support our INDs and other regulatory filings. We cannot be certain of the timely identification of a therapeutic candidate or the completion or outcome of our preclinical testing and studies and cannot predict whether the FDA will accept our proposed clinical programs or whether the outcome of our preclinical testing and studies will ultimately support the further development of any therapeutic candidates. Conducting preclinical testing is a lengthy, time-consuming and expensive process. The length of time may vary substantially according to the type, complexity and novelty of the program, and often can be several years or more per program. As a result, we cannot be sure that we will be able to submit INDs for our preclinical programs on the timelines we expect, if at all, and we cannot be sure that submission of INDs will result in the FDA allowing clinical trials to begin.

Furthermore, therapeutic candidates are subject to continued preclinical safety studies, which may be conducted concurrently with our clinical testing. The outcomes of these safety studies may delay the launch of or enrollment in future clinical trials and could impact our ability to continue to conduct our clinical trials.

Clinical testing is expensive, is difficult to design and implement, can take many years to complete and is uncertain as to outcome. We cannot guarantee that any clinical trials will be conducted as planned or completed on schedule, or at all. A failure of one or more clinical trials can occur at any stage of testing, which may result from a multitude of factors, including, but not limited to, flaws in trial design, dose selection issues, patient enrollment criteria and failure to demonstrate favorable safety or efficacy traits.

Other events that may prevent successful enrollment, initiation or timely completion of clinical development include:

- we may be unable to generate sufficient preclinical, toxicology or other in vivo or in vitro data to support the initiation of clinical trials;
- delays in reaching a consensus with regulatory authorities on trial design;
- delays in reaching agreement on acceptable terms with prospective clinical research organizations (CROs) and clinical trial sites;
- delays in opening clinical trial sites or obtaining required institutional review board (IRB) or independent ethics committee approval, or the equivalent review groups for sites outside the United States, at each clinical trial site;
- we may need to add new or additional clinical trial sites;
- imposition of a clinical hold by regulatory authorities as a result of a serious adverse event or after an inspection of our clinical trial operations or trial sites;

- negative or inconclusive results observed in clinical trials, including failure to demonstrate statistical significance, safety, purity or potency, which could lead us, or cause regulators to require us, to conduct additional clinical trials or abandon product development programs;
- positive results from our preclinical studies of our therapeutic candidates may not necessarily be predictive of the results from required later preclinical studies and clinical trials and positive results from such preclinical studies and clinical trials of our therapeutic candidates may not be replicated in subsequent preclinical studies or clinical trial results;
- failure by us, any CROs we engage or any other third parties to adhere to clinical trial requirements;
- failure to perform in accordance with the FDA's cGCPs;
- failure by physicians to adhere to delivery protocols leading to variable results;
- delays in the testing, validation, manufacturing and delivery of any therapeutic candidates we may develop to the clinical sites, including delays by third parties with whom we have contracted to perform certain of those functions;
- failure of our third-party contractors to comply with regulatory requirements or to meet their contractual obligations to us in a timely manner, or at all;
- delays in having patients complete participation in a trial or return for post-treatment follow-up;
- clinical trial sites or patients dropping out of a trial;
- selection of clinical endpoints that require prolonged periods of clinical observation or analysis of the resulting data;
- occurrence of serious adverse events associated with the therapeutic candidate that are viewed to outweigh its potential benefits;
- occurrence of serious adverse events associated with a therapeutic candidate in development by another company, which are viewed to outweigh its potential benefits, and which may negatively impact the perception of our product due to a similarity in technology or approach;
- changes in regulatory requirements and guidance that require amending or submitting new clinical protocols;
- the FDA or other regulatory authorities may require us to submit additional data such as long-term toxicology studies or impose other requirements before permitting us to initiate a clinical trial;
- changes in the legal or regulatory regimes domestically or internationally related to patient rights and privacy; or
- lack of adequate funding to continue the clinical trial.

We could also encounter delays if a clinical trial is suspended, placed on clinical hold or terminated by us, the IRBs of the institutions in which such trials are being conducted, or the FDA or other regulatory authorities or recommended for suspension or termination by the Data Safety Monitoring Board (DSMB) for such trial. A suspension or termination may be imposed 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 product or treatment, failure to establish or achieve clinically meaningful trial endpoints, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. Many 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 therapeutic candidates. Further, the FDA or other regulatory authorities may disagree with our clinical trial design and our interpretation of data from clinical trials, or may change the requirements for approval even after they have reviewed and commented on the design for our clinical trials. Moreover, preclinical

and clinical data are often susceptible to varying interpretations and analyses and many companies that believed their therapeutic candidates performed satisfactorily in preclinical studies and clinical trials nonetheless failed to obtain FDA approval.

Any inability to successfully complete preclinical studies and clinical trials could result in additional costs to us or impair our ability to generate revenues from product sales, regulatory and commercialization milestones and royalties. In addition, manufacturing or formulation changes to any therapeutic candidates we may develop may require us to conduct additional studies or trials to bridge our modified therapeutic candidates to earlier versions. Clinical trial delays also could shorten any periods during which we may have the exclusive right to commercialize any therapeutic candidates we may develop or allow our competitors to bring products to market before we do, which could impair our ability to successfully commercialize any therapeutic candidates we may develop and may harm our business, financial condition, results of operations and prospects.

Additionally, if the results of future clinical trials are inconclusive or if there are safety concerns or serious adverse events associated with any therapeutic candidates we may develop, we may:

- be delayed in obtaining marketing approval for therapeutic candidates, if at all;
- obtain approval for indications or patient populations that are not as broad as intended or desired;
- obtain approval with labeling that includes significant use or distribution restrictions or safety warnings;
- be subject to changes in the way the product is administered;
- be required to perform additional clinical trials to support approval or be subject to additional post-marketing testing requirements;
- have regulatory authorities withdraw, or suspend, their approval of the product or impose restrictions on its distribution in the form of a modified risk evaluation and mitigation strategy;
- be subject to the addition of labeling statements, such as warnings or contraindications;
- be sued; or
- experience damage to our reputation.

Any delays or difficulties in the enrollment of patients in clinical trials could delay or prevent our receipt of necessary regulatory approvals.

Failure to locate and enroll a sufficient number of eligible patients to participate in these trials as required by the FDA or similar regulatory authorities outside the U.S. may delay or prevent us from initiating or continuing clinical trials for our therapeutic candidates. Because the target patient populations for some of our therapeutic candidates are relatively small, it may be difficult to successfully identify patients. Although we may enter into agreements with third parties to develop companion diagnostic tests for use in some of our future clinical trials in order to help identify eligible patients in certain indications, we may experience delays in reaching, or fail to reach, agreement on acceptable terms to develop such companion diagnostic tests. Any third parties whom we engage to develop companion diagnostic tests may experience delays or may not be successful in developing such companion diagnostic tests, furthering the difficulty in identifying patients for our clinical trials. In addition, current commercially available diagnostic tests to identify appropriate patients for our clinical trials or any approved therapeutic candidates may become unavailable in the future.

In addition, we may experience delays or disruptions in the initiation of or enrollment in our planned clinical trials due to the COVID-19 pandemic and changes in local site or IRB policies availabilities of site staff reprioritization of hospital resources, restricted access to healthcare professionals and testing sites and other containment measures or concerns among patients about participating in clinical trials during a pandemic. Furthermore, some of our competitors have ongoing clinical trials for therapeutic

candidates that treat the same indications as our therapeutic candidates, and patients who would otherwise be eligible for our clinical trials may instead enroll in clinical trials of our competitors' therapeutic candidates.

In addition, the pediatric population is an important patient population for certain of the indications we are targeting, including DMD, and our addressable patient population estimates include pediatric populations. However, it may be more challenging to conduct studies in this population, and to locate and enroll pediatric patients. Additionally, it may be challenging to ensure that pediatric or adolescent patients adhere to clinical trial protocols.

Patient enrollment and trial competition may be affected by other factors including:

- clinicians' and patients' perceived risks and benefits of the therapeutic candidate under trial, particularly therapeutic candidates developed using a novel and unproven therapeutic approach, like our EEV therapeutic candidates in relation to available or investigational drugs;
- size of the patient population, in particular for rare diseases such as the diseases on which we are initially focused, and process for identifying patients;
- design of the trial protocol;
- efforts to facilitate timely enrollment in clinical trials;
- eligibility and exclusion criteria;
- availability of competing therapies and clinical trials;
- severity of the disease or disorder under investigation;
- proximity and availability of clinical trial sites for prospective patients;
- ability to obtain and maintain patient consent;
- risk that enrolled patients will drop out before completion of the trial;
- patient referral practices of physicians; and
- ability to monitor patients adequately during and after treatment.

Our inability to identify patients appropriate for enrollment in our clinical trials, or to enroll a sufficient number of patients in our clinical trials, would result in significant delays and could require us to abandon one or more clinical trials altogether. Enrollment delays in our clinical trials may result in increased development costs for our therapeutic candidates, which would cause the value of our company to decline and limit our ability to obtain additional financing. If we are unable to include patients with the driver of the disease, including the applicable genomic alteration for diseases in genomically defined patient populations, this could limit our ability to seek participation in the FDA's expedited development programs, including Breakthrough Therapy Designation and Fast Track Designation, or otherwise to seek to accelerate clinical development and regulatory timelines.

Even if we are able to enroll a sufficient number of patients for our clinical trials, we may have difficulty maintaining patients in our clinical trials. In our planned clinical trials that will include a placebo group, some of the patients who end up receiving placebo may perceive that they are not receiving the therapeutic candidate being tested, and they may decide to withdraw from our clinical trials to pursue other alternative therapies rather than continue the trial with the perception that they are receiving placebo. Difficulty enrolling or maintaining a sufficient number of patients to conduct our clinical trials, may require us to delay, limit or terminate clinical trials, any of which would harm our business, financial condition, results of operations and prospects.

Use of our therapeutic candidates could be associated with side effects, adverse events or other properties or safety risks, which could delay or preclude approval, cause us to suspend or discontinue clinical trials, abandon a therapeutic candidate, limit the commercial profile of an approved label or result in other significant negative consequences that could severely harm our business, prospects, operating results and financial condition.

We have not evaluated any therapeutic candidates in human clinical trials, and we have not yet completed preclinical studies to assess the safety of our lead candidate, ENTR-601-44. Although other

oligonucleotide therapeutics, enzyme replacement therapies and gene therapies have received regulatory approval, our EEV-based therapeutics are a novel approach to the delivery of biological therapeutics, which may present enhanced uncertainty associated with the safety profile of ENTR-601-44 and other EEV-based therapeutics compared to more well-established classes of therapies. Moreover, it is impossible to predict when or if any therapeutic candidates we may develop will prove safe in humans. As is the case with biopharmaceuticals generally, it is likely that there may be side effects and adverse events associated with our therapeutic candidates' use. Results of our clinical trials could reveal a high and unacceptable severity and prevalence of side effects or unexpected characteristics. Undesirable side effects caused by our therapeutic 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 comparable foreign regulatory authorities. The drug-related side effects could affect patient recruitment or the ability of enrolled patients to complete the 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 therapeutic candidates may only be uncovered with a significantly larger number of patients exposed to the therapeutic candidate. Any undesirable side effects or unexpected characteristics associated with our therapeutic candidates in clinical trials may lead us to elect to abandon their development or limit their development to more narrow uses or subpopulations in which the undesirable side effects or other characteristics are less prevalent, less severe or more acceptable from a risk-benefit perspective, which may limit the commercial expectations for the therapeutic candidate if approved. We may also be required to modify our study plans based on findings after we commence our clinical trials. Many compounds that initially showed promise in early-stage testing have later been found to cause side effects that prevented further development of the compound. In addition, regulatory authorities may draw different conclusions or require additional testing to confirm these determinations.

It is possible that as we test our therapeutic candidates in larger, longer and more extensive clinical trials, or as the use of these therapeutic candidates becomes more widespread if they receive regulatory approval, illnesses, injuries, discomforts and other adverse events that were observed in earlier trials, as well as conditions that did not occur or went undetected in previous trials, may be reported by subjects. Any findings of such side effects later in development or upon approval, if any, may harm our business, financial condition and prospects significantly.

Patients treated with our therapeutics, if approved, may experience previously unreported adverse reactions, and it is possible that the FDA or other regulatory authorities may ask for additional safety data as a condition of, or in connection with, our efforts to obtain approval of our therapeutic candidates. If safety problems occur or are identified after our therapeutics, if any, reach the market, we may make the decision or be required by regulatory authorities to amend the labeling of our therapeutics, recall our therapeutics or even withdraw approval for our therapeutics.

Our therapeutic candidates are subject to extensive regulation and compliance, which is costly and time-consuming, and such regulation may cause unanticipated delays or prevent the receipt of the required approvals to commercialize our therapeutic candidates.

The clinical development, manufacturing, labeling, packaging, storage, record-keeping, advertising, promotion, import, export, marketing, distribution and adverse event reporting, including the submission of safety and other information, of our therapeutic candidates are subject to extensive regulation by the FDA in the United States and by comparable foreign regulatory authorities in foreign markets. In the United States, we are not permitted to market our therapeutic candidates until we receive regulatory approval from the FDA. 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 therapeutic candidates involved, as well as the target indications and patient population. Approval policies or regulations may change, and the FDA has substantial discretion in the drug approval process, including the ability to delay, limit or deny approval of a therapeutic candidate for many reasons. Despite the time and expense invested in clinical development of therapeutic

candidates, regulatory approval is never guaranteed. Neither we nor any current or future collaborator is permitted to market any of our therapeutic candidates in the United States until we receive approval from the FDA.

Prior to obtaining approval to commercialize a therapeutic candidate in the United States or abroad, we or our 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 therapeutic candidates are safe and effective for their intended uses. Results from preclinical studies and clinical trials can be interpreted in different ways. Even if we believe the preclinical or clinical data for our therapeutic candidates are promising, such data may not be sufficient to support approval by the FDA and comparable foreign regulatory authorities. The FDA or comparable foreign regulatory authorities, as the case may be, may also require us to conduct additional preclinical studies or clinical trials for our therapeutic candidates either prior to or post-approval, or may object to elements of our clinical development program.

The FDA or comparable foreign regulatory authorities can delay, limit or deny approval of a therapeutic candidate for many reasons, including:

- such authorities may disagree with the design or implementation of our or our current or future collaborators' clinical trials;
- negative or ambiguous results from our clinical trials or results may not meet the level of statistical significance required by the FDA or comparable foreign regulatory agencies for approval;
- serious and unexpected drug-related side effects may be experienced by participants in our clinical trials or by individuals using drugs similar to our therapeutic candidates;
- such authorities may not accept clinical data from trials which are conducted at clinical facilities or in countries where the standard of care is potentially different from that of the United States;
- we or any of our current or future collaborators may be unable to demonstrate that a therapeutic candidate is safe and effective, and that therapeutic candidate's clinical and other benefits outweigh its safety risks;
- such authorities may disagree with our interpretation of data from preclinical studies or clinical trials;
- such authorities may not agree that the data collected from clinical trials of our therapeutic candidates are acceptable or sufficient to support the submission of an NDA or BLA or other submission or to obtain regulatory approval in the United States or elsewhere, and such authorities may impose requirements for additional preclinical studies or clinical trials;
- such authorities may disagree regarding the formulation, labeling and/or the specifications of our therapeutic candidates;
- approval may be granted only for indications that are significantly more limited than what we apply for and/or with other significant restrictions on distribution and use;
- such authorities may find deficiencies in the manufacturing processes, approval policies or facilities of our third-party manufacturers with which we or any of our current or future collaborators contract for clinical and commercial supplies;
- regulations of such authorities may significantly change in a manner rendering our or any of our potential future collaborators' clinical data insufficient for approval; or
- such authorities may not accept a submission due to, among other reasons, the content or formatting of the submission.

With respect to foreign markets, approval procedures vary among countries and, in addition to the foregoing risks, may involve additional product testing, administrative review periods and agreements with pricing authorities. In addition, events raising questions about the safety of certain marketed

biopharmaceuticals may result in increased cautiousness by the FDA and comparable foreign regulatory authorities in reviewing new drugs based on safety, efficacy or other regulatory considerations and may result in significant delays in obtaining regulatory approvals. Any delay in obtaining, or inability to obtain, applicable regulatory approvals would prevent us or any of our potential future collaborators from commercializing our therapeutic candidates.

Our approach to the discovery and development of therapeutic candidates based on our EEV Platform is unproven, and we do not know whether we will be able to develop any products of commercial value, or if competing technological approaches will limit the commercial value of our therapeutic candidates or render our EEV Platform obsolete.

The success of our business depends primarily upon our ability to identify, develop and commercialize products based on our proprietary EEV Platform, which leverages a novel and unproven approach. While we have observed favorable preclinical study results based on our EEV Platform, we have not yet succeeded and may not succeed in demonstrating efficacy and safety for any therapeutic candidates in clinical trials or in obtaining marketing approval thereafter. Our lead therapeutic candidate, ENTR-601-44, is in preclinical development and we have not yet submitted an IND or initiated any clinical trials for any therapeutic candidate. Our research methodology and novel approach to intracellular therapeutics may be unsuccessful in identifying additional therapeutic candidates, and any therapeutic candidates based on our EEV Platform may be shown to have harmful side effects or may have other characteristics that may necessitate additional clinical testing, or make the therapeutic candidates unmarketable or unlikely to receive marketing approval. Further, because all of our therapeutic candidates and development programs are based on our EEV Platform, adverse developments with respect to one of our programs may have a significant adverse impact on the actual or perceived likelihood of success and value of our other programs.

In addition, the biotechnology and biopharmaceutical industries are characterized by rapidly advancing technologies. Our future success will depend in part on our ability to maintain a competitive position with our EEV approach. Failure to stay at the forefront of technological change in utilizing our EEV Platform to create and develop therapeutic candidates may prevent us from competing effectively. Our competitors may render our EEV approach obsolete, or limit the commercial value of our therapeutic candidates, by advances in existing technological approaches or the development of new or different approaches, potentially eliminating the advantages in our drug discovery process that we believe we derive from our research approach and proprietary technologies. By contrast, adverse developments with respect to other companies that attempt to use a similar approach to our approach may adversely impact the actual or perceived value of our EEV Platform and potential of our therapeutic candidates.

The occurrence of any of these events may force us to abandon our development efforts for a program or programs, which would have a material adverse effect on our business and could potentially cause us to cease operations.

Interim, topline and preliminary data from our preclinical studies and planned clinical trials that we announce or publish from time to time may change as more patient data become 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 interim, preliminary or topline data from our preclinical studies and planned clinical trials, which are 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 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. 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, preliminary or topline data from our clinical studies. Interim, topline or preliminary 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, topline or interim data and final data could significantly harm our business prospects.

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 therapeutic candidate or product and the value of our company in general. In addition, the information we choose to publicly disclose regarding a particular study or clinical trial will be based on what is typically extensive information, and you or others may not agree with what we determine is the material or otherwise appropriate information to include in our disclosure, and any information we determine not to disclose may ultimately be deemed significant with respect to future decisions, conclusions, views, activities or otherwise regarding a particular product, therapeutic candidate or our business. If the topline 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 therapeutic candidates may be harmed, which could harm our business, operating results, prospects or financial condition.

We may expend our limited resources to pursue a particular therapeutic candidate or indication, such as our initial focus on developing ENTR-601-44, and fail to capitalize on therapeutic candidates or indications that may be more profitable or for which there is a greater likelihood of success.

Because we have limited human capital and financial resources, we focus on research programs and therapeutic candidates that we identify for specific indications. As a result, we may forego or delay pursuit of opportunities with other therapeutic 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 and therapeutic candidates for specific indications may not yield any commercially viable therapeutic candidates. If we do not accurately evaluate the commercial potential or target market for a particular therapeutic candidate, we may relinquish valuable rights to that therapeutic 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 to such therapeutic candidate.

At any time and for any reason, we may determine that one or more of our discovery programs or pre-clinical or clinical therapeutic candidates or programs does not have sufficient potential to warrant the allocation of resources toward such program or therapeutic candidate. Accordingly, we may choose not to develop a potential therapeutic candidate or elect to suspend, deprioritize or terminate one or more of our discovery programs or pre-clinical or clinical therapeutic candidates or programs. Suspending, deprioritizing or terminating a program or therapeutic candidate in which we have invested significant resources, we will have expended resources on a program that will not provide a full return on our investment and may have missed the opportunity to have allocated those resources to potentially more productive uses, including existing or future programs or therapeutic candidates. For example, in 2020, we made the strategic decision to explore partnership opportunities for our ENTR-501 program.

We may not be successful in our efforts to expand our pipeline of therapeutic candidates.

A key element of our strategy is to use our novel EEV Platform to address intracellular targets that are drivers of diseases in genomically defined patient populations with high unmet medical need in order to build a pipeline of therapeutic candidates. Although our research and development efforts to date have resulted in a pipeline of potential programs and therapeutic candidates, we may not be able to continue to identify intracellular disease targets and develop therapeutic candidates. We may also pursue opportunities to acquire or in-license additional businesses, technologies or products, form strategic alliances or create joint ventures with third parties to complement or augment our existing business. However, we may not be able to identify any therapeutic candidates for our pipeline through such acquisition or in-license.

Even if we are successful in continuing to build and expand our pipeline, the potential therapeutic candidates that we identify may not be suitable for clinical development. For example, they may be shown to have harmful side effects or other characteristics that indicate that they are unlikely to be drugs that will be successful in clinical trials or receive marketing approval and achieve market acceptance. If we do not successfully develop and commercialize therapeutic candidates, we will not be able to obtain drug revenues in future periods, which likely would result in significant harm to our financial position and adversely affect our stock price.

Where appropriate, we plan to secure approval from the FDA, EMA or comparable foreign regulatory authorities through the use of accelerated approval pathways. If we are unable to obtain such approval, we may be required to conduct additional preclinical studies or clinical trials beyond those that we contemplate, which could increase the expense of obtaining, and delay the receipt of, necessary marketing approvals. Even if we receive accelerated approval from the FDA, EMA or comparable regulatory authorities, if our confirmatory trials do not verify clinical benefit, or if we do not comply with rigorous post-marketing requirements, the FDA, EMA or such other regulatory authorities may seek to withdraw accelerated approval.

Where possible, we plan to pursue accelerated development strategies in areas of high unmet need. We may seek an accelerated approval pathway for our one or more of our therapeutic candidates from the FDA, EMA or comparable foreign regulatory authorities. Under the accelerated approval provisions in the Federal Food, Drug, and Cosmetic Act, and the FDA's implementing regulations, the FDA may grant accelerated approval to a therapeutic candidate designed to treat a serious or life-threatening condition that provides meaningful therapeutic benefit over available therapies upon a determination that the therapeutic candidate has an effect on a surrogate endpoint or intermediate clinical endpoint that is reasonably likely to predict clinical benefit. The FDA considers a clinical benefit to be a positive therapeutic effect that is clinically meaningful in the context of a given disease, such as irreversible morbidity or mortality. For the purposes of accelerated approval, a surrogate endpoint is a marker, such as a laboratory measurement, radiographic image, physical sign, or other measure that is thought to predict clinical benefit, but is not itself a measure of clinical benefit. An intermediate clinical endpoint is a clinical endpoint that can be measured earlier than an effect on irreversible morbidity or mortality that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit. The accelerated approval pathway may be used in cases in which the advantage of a new drug over available therapy may not be a direct therapeutic advantage, but is a clinically important improvement from a patient and public health perspective. If granted, accelerated approval is usually contingent on the sponsor's agreement to conduct, in a diligent manner, additional post-approval confirmatory studies to verify and describe the drug's clinical benefit. If such post-approval studies fail to confirm the drug's clinical benefit, the FDA may withdraw its approval of the drug.

Prior to seeking accelerated approval, we will seek feedback from the FDA, EMA or comparable foreign regulatory authorities and will otherwise evaluate our ability to seek and receive such accelerated approval. There can be no assurance that after our evaluation of the feedback and other factors we will decide to pursue or submit an NDA or BLA for accelerated approval or any other form of expedited development, review or approval. Similarly, there can be no assurance that after subsequent feedback from the FDA, EMA or comparable foreign regulatory authorities, we will continue to pursue or apply for accelerated approval or any other form of expedited development, review or approval, even if we initially decide to do so. Furthermore, if we decide to submit an application for accelerated approval, there can be no assurance that such application will be accepted or that any approval will be granted on a timely basis, or at all. The FDA, EMA or other comparable foreign regulatory authorities could also require us to conduct further studies prior to considering our application or granting approval of any type, including, for example, if other products are approved via the accelerated pathway and subsequently converted by FDA to full approval. A failure to obtain accelerated approval or any other form of expedited development, review or approval for our therapeutic candidate would result in a longer time period to commercialization of such therapeutic candidate, could increase the cost of development of such therapeutic candidate and could harm our competitive position in the marketplace.

We may seek Fast Track designation, Breakthrough Therapy designation and/or orphan drug designation from the FDA or similar designations from other regulatory authorities for one or more of our therapeutic candidates. Even if one or more of our therapeutic candidates receive any of these designations, we may be unable to obtain or maintain the benefits associated with such designation.

The FDA has established various designations to facilitate more rapid and efficient development and approval of certain types of drugs. Such designations include Fast Track designation, Breakthrough Therapy designation, and orphan drug designation. Fast Track designation is designed to facilitate the development and expedite the review of therapies for serious conditions that fill an unmet medical need. Programs with Fast Track designation may benefit from early and frequent communications with the FDA, potential priority review and the ability to submit a rolling application for regulatory review. Fast Track designation applies to both the therapeutic candidate and the specific indication for which it is being studied. If any of our therapeutic candidates receive Fast Track designation but do not continue to meet the criteria for Fast Track designation, or if our clinical trials are delayed, suspended or terminated, or put on clinical hold due to unexpected adverse events or issues with clinical supply, we will not receive the benefits associated with the Fast Track program. Fast Track designation alone does not guarantee qualification for the FDA's priority review procedures.

A Breakthrough Therapy, on the other hand, is defined as a drug or biologic that is intended, alone or in combination with one or more other drugs or biologics, to treat a serious or life-threatening disease or condition and preliminary clinical evidence indicates that the drug or biologic may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints. For therapeutic candidates that have been designated as Breakthrough Therapies, interaction and communication between the FDA and the sponsor of the trial can help to identify the most efficient path for clinical development while minimizing the number of patients placed in ineffective control regimens. Designation as a Breakthrough Therapy is within the discretion of the FDA, and drugs designated as Breakthrough Therapies by the FDA may also be eligible for other expedited approval programs, including accelerated approval. Even if one or more of our therapeutic candidates qualify as Breakthrough Therapies pursuant to FDA standards, the FDA may later decide that the product no longer meets the conditions for qualification. Thus, even though we may seek Breakthrough Therapy designation for one or more of our current or future therapeutic candidates, there can be no assurance that we will receive Breakthrough Therapy designation.

Regulatory authorities in some jurisdictions, including the United States and the EU, may also designate drugs for relatively small patient populations as orphan drugs. Under the Orphan Drug Act, the FDA may designate a therapeutic candidate as an orphan drug if it is a drug intended to treat a rare condition, which is generally defined as a patient population of fewer than 200,000 individuals annually in the United States, or a patient population greater than 200,000 in the United States where there is no reasonable expectation that the cost of developing the drug will be recovered from sales in the United States. In the EU, the EMA's Committee for Orphan Medicinal Products (COMP) evaluates orphan drug designation to promote the development of products that are intended for the diagnosis, prevention or treatment of a life-threatening or chronically debilitating condition affecting not more than five in 10,000 persons in the EU. In the United States, orphan drug designation entitles a party to financial incentives such as opportunities for grant funding towards clinical trial costs, tax advantages and user-fee waivers, and it may entitle the therapeutic to exclusivity in the United States and the EU. Even if we obtain orphan drug designation for a therapeutic candidate, we may not be able to obtain or maintain orphan drug exclusivity for that therapeutic candidate.

If any of our programs or therapeutic candidates receive Fast Track, Breakthrough Therapy or orphan drug designation by the FDA or similar designations by other regulatory authorities, there is no assurance that we will receive any benefits from such programs or that we will continue to meet the criteria to maintain such designation. Even if we obtain such designations, we may not experience a faster development process, review or approval compared to conventional FDA procedures. A Fast Track, Breakthrough Therapy, or orphan drug designation does not ensure that a product candidate will receive marketing approval or that approval will be granted within any particular timeframe.

Obtaining and maintaining marketing approval or commercialization of our therapeutic candidates in the United States does not mean that we will be successful in obtaining marketing approval of our therapeutic candidates in other jurisdictions. Failure to obtain marketing approval in foreign jurisdictions would prevent any therapeutic candidates we may develop from being marketed in such jurisdictions, which, in turn, would materially impair our ability to generate revenue.

In order to market and sell any therapeutic candidates we may develop in the EU and many other foreign jurisdictions, we or our collaborators must obtain separate marketing approvals and comply with numerous and varying regulatory requirements. The approval procedure varies among countries and can involve additional testing. The time required to obtain approval may differ substantially from that required to obtain FDA approval. The regulatory approval process outside the United States generally includes all of the risks associated with obtaining FDA approval. In addition, in many countries outside the United States, it is required that the product be approved for reimbursement before the product can be approved for sale in that country. We or these third parties may not obtain approvals from regulatory authorities outside the United States on a timely basis, if at all. Approval by the FDA does not ensure approval by regulatory authorities in other countries or jurisdictions, and approval by one regulatory authority outside the United States does not ensure approval by regulatory authorities in other countries or jurisdictions or by the FDA. We may not be able to file for marketing approvals and may not receive necessary approvals to commercialize our medicines in any jurisdiction, which would materially impair our ability to generate revenue.

Additionally, we could face heightened risks with respect to seeking marketing approval in the United Kingdom as a result of the withdrawal of the United Kingdom from the EU, commonly referred to as Brexit. On December 24, 2020, the United Kingdom and the EU entered into a Trade and Cooperation Agreement, which became provisionally applicable on January 1, 2021 and has been formally applicable since May 1, 2021. This agreement is comprehensive and provides some details on how aspects of the United Kingdom and EU's relationship regarding medicinal products will operate, particularly in relation to Good Manufacturing Practice, however it does not cover many areas of regulation pertinent to the biopharmaceutical industry, so many complexities remain. For instance, Great Britain will now no longer be covered by the centralized procedure for obtaining EU-wide marketing authorizations from the EMA for medicinal products (under the Northern Ireland Protocol, the EU regulatory framework will continue to apply in Northern Ireland and centralized EU authorizations will continue to be recognized) and a separate process for authorization of drug products will be required in the Great Britain. For a period of two years from January 1, 2021, the Medicines and Healthcare Products Regulatory Agency may rely on a decision taken by the European Commission on the approval of a new marketing authorization in the centralized procedure, in order to more quickly grant a new Great Britain marketing authorization, however a separate application will still be required.

Any delay in obtaining, or an inability to obtain, any marketing approvals, as a result of the Trade and Cooperation Agreement or otherwise, would prevent us from commercializing any therapeutic candidates in the United Kingdom and/or the EU and restrict our ability to generate revenue and achieve or sustain profitability. If any of these outcomes occur, we may be forced to restrict or delay efforts to seek regulatory approval in the United Kingdom and/or the EU for any therapeutic candidates that we may develop, which could significantly and materially harm our business.

The FDA, EMA and other comparable foreign regulatory authorities may not accept data from trials conducted in locations outside of their jurisdiction.

We anticipate we will initially conduct clinical trials of our therapeutic candidates in the United States and we may choose to conduct our clinical trials internationally as well. The acceptance of study data by the FDA, EMA or other comparable foreign regulatory authority from clinical trials conducted outside of their respective jurisdictions may be subject to certain conditions. In cases where data from United States clinical trials are intended to serve as the basis for marketing approval in the foreign countries outside the United States, the standards for clinical trials and approval may be different. There can be no assurance that any United States or foreign regulatory authority would accept data from trials conducted outside of its applicable jurisdiction. If the FDA, EMA or any applicable foreign

regulatory authority does not accept such data, it would result in the need for additional trials, which would be costly and time-consuming and delay aspects of our business plan, and which may result in our therapeutic candidates not receiving approval or clearance for commercialization in the applicable jurisdiction.

Changes in methods of therapeutic candidate manufacturing or formulation may result in additional costs or delay, which could adversely affect our business, results of operations and financial condition.

As therapeutic candidates progress through preclinical and clinical trials to marketing approval and commercialization, it is common that various aspects of the development program, such as manufacturing methods and formulation, are altered along the way in an effort to optimize yield and manufacturing batch size, minimize costs and achieve consistent quality and results. For example, we may introduce an alternative formulation of one or more of our therapeutic candidates during the course of our planned clinical trials. Such changes carry the risk that they will not achieve these intended objectives. Any of these changes could cause our therapeutic candidates to perform differently and affect the results of planned clinical trials or other future clinical trials conducted with the altered materials. This could delay completion of clinical trials, require the conduct of bridging clinical trials or the repetition of one or more clinical trials, increase clinical trial costs, delay approval of our therapeutic candidates and jeopardize our ability to commercialize our therapeutic candidates, if approved, and generate revenue.

Even if we, or any collaborators we may have, obtain marketing approvals for any therapeutic candidates we may develop, the terms of approvals and ongoing regulation of our therapeutics could require the substantial expenditure of resources and may limit how we, or they, manufacture and market our therapeutics, which could materially impair our ability to generate revenue.

Any therapeutic candidate for which we obtain marketing approval, if ever, along with the manufacturing processes, post-approval clinical data, labeling, advertising and promotional activities for such medicine, will be subject to continual requirements of and review by the FDA and other regulatory authorities. These requirements include submissions of safety and other post-marketing information and reports, registration and listing requirements, cGMP requirements relating to quality control, quality assurance and corresponding maintenance of records and documents, compliance with applicable product tracking and tracing requirements, and requirements regarding the distribution of samples to physicians and recordkeeping. For example, the holder of an approved BLA is obligated to monitor and report adverse events and any failure of a product to meet the specifications in the BLA. The FDA typically advises that patients treated with genetic medicine undergo follow-up observations for potential adverse events for a 15-year period. The holder of an approved BLA must also submit new or supplemental applications and obtain FDA approval for certain changes to the approved product, product labeling or manufacturing process. Even if marketing approval of a therapeutic candidate is granted, the approval may be subject to limitations on the indicated uses for which the medicine may be marketed or to the conditions of approval, or contain requirements for costly post-marketing testing and surveillance to monitor the safety or efficacy of the medicine.

Accordingly, assuming we, or any third parties we may collaborate with, receive marketing approval for one or more therapeutic candidates we may develop, we, and such collaborators, and our and their contract manufacturers will continue to expend time, money and effort in all areas of regulatory compliance, including manufacturing, production, product surveillance and quality control. If we and such collaborators are not able to comply with post-approval regulatory requirements, we and such collaborators could have the marketing approvals for our therapeutics withdrawn by regulatory authorities and our, or such collaborators', ability to market any future products could be limited, which could adversely affect our ability to achieve or sustain profitability. Further, the cost of compliance with post-approval regulations may have a negative effect on our business, operating results, financial condition and prospects.

If we fail to comply with applicable regulatory requirements following approval of any therapeutic candidates we may develop, a regulatory agency may:

- issue a warning letter asserting that we are in violation of the law;

- seek an injunction or impose civil or criminal penalties or monetary fines;
- suspend or withdraw regulatory approval;
- suspend any ongoing clinical trials;
- refuse to approve a pending BLA or supplements to a BLA submitted by us;
- seize product; or
- refuse to allow us to enter into supply contracts, including government contracts.

Any government investigation of alleged violations of law could require us to expend significant time and resources in response and could generate negative publicity. The occurrence of any event or penalty described above may inhibit our ability to commercialize any therapeutic candidates we may develop and generate revenues.

Clinical trial and product liability lawsuits against us could divert our resources, could cause us to incur substantial liabilities and could limit commercialization of any therapeutic candidates we may develop.

We will face an inherent risk of clinical trial and product liability exposure related to the testing of any therapeutic candidates we may develop in clinical trials, and we will face an even greater risk if we commercially sell any products that we may develop. While we currently have no therapeutic candidates in clinical trials or that have been approved for commercial sale, the future use of therapeutic candidates by us 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 or others selling such products. If we cannot successfully defend ourselves against claims that our therapeutic candidates or products caused injuries, we will incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for any therapeutic candidates we may develop;
- injury to our reputation and significant negative media attention;
- withdrawal of clinical trial participants and inability to continue clinical trials;
- initiation of investigations by regulators;
- significant costs to defend any related litigation;
- 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;
- decline in our stock price;
- reduced resources of our management to pursue our business strategy; and
- the inability to commercialize any therapeutic candidates we may develop.

We will need to increase our insurance coverage if we commence clinical trials or if we commence commercialization of any therapeutic candidates. Insurance coverage is increasingly expensive. We may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise. If and when coverage is secured, our insurance policies may also have various exclusions and we may be subject to a product liability claim for which we have no coverage. Even if our agreements with any future corporate collaborators entitle us to indemnification against losses, such indemnification may not be available or adequate should any claim arise. If a successful clinical trial or 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.

We may develop our current or future therapeutic candidates in combination with other therapies, which would expose us to additional risks.

We may develop our current or potential future therapeutic candidates in combination with one or more currently approved therapies or therapies in development. Even if any of our current or future therapeutic candidates were to receive marketing approval or be commercialized for use in combination with other existing therapies, we would continue to be subject to the risks that the FDA, EMA or other comparable foreign regulatory authorities could revoke approval of the therapy used in combination with any of our therapeutic candidates, or safety, efficacy, manufacturing or supply issues could arise with these existing therapies. In addition, it is possible that existing therapies with which our therapeutic candidates are approved for use could themselves fall out of favor or be relegated to later lines of treatment. This could result in the need to identify other combination therapies for our therapeutic candidates or our own products being removed from the market or being less successful commercially.

We may also evaluate our current or future therapeutic candidates in combination with one or more other therapies that have not yet been approved for marketing by the FDA, EMA or comparable foreign regulatory authorities. We will not be able to market and sell any therapeutic candidate in combination with any such unapproved therapies that do not ultimately obtain marketing approval.

Furthermore, we cannot be certain that we will be able to obtain a steady supply of such therapies for use in developing combinations with our therapeutic candidates on commercially reasonable terms or at all. Any failure to obtain such therapies for use in clinical development and the expense of purchasing therapies in the market may delay our development timelines, increase our costs and jeopardize our ability to develop our therapeutic candidates as commercially viable therapies.If the FDA, EMA or other comparable foreign regulatory authorities do not approve or withdraw their approval of these other therapies, or if safety, efficacy, commercial adoption, manufacturing or supply issues arise with the therapies we choose to evaluate in combination with any of our current or future therapeutic candidates, we may be unable to obtain approval of or successfully market any one or all of the current or future therapeutic candidates we develop. Additionally, if the third-party providers of therapies or therapies in development used in combination with our current or future therapeutic candidates are unable to produce sufficient quantities for clinical trials or for commercialization of our current or future therapeutic candidates, or if the cost of combination therapies are prohibitive, our development and commercialization efforts would be impaired, which would have an adverse effect on our business, financial condition, results of operations and growth prospects.

Risks Related to Our Reliance on Third Parties

We rely, and expect to continue to rely, on third parties to conduct some or all aspects of our product manufacturing, research and preclinical and clinical testing, and these third parties may not perform satisfactorily.

We do not expect to independently conduct all aspects of our product manufacturing, research and preclinical and clinical testing. We currently rely, and expect to continue to rely, on third parties with respect to many of these items, including contract manufacturing organizations (CMOs) for the manufacturing of any therapeutic candidates we test in preclinical or clinical development, as well as CROs for the conduct of our animal testing and research and CROs for the conduct of our planned clinical trials. Any of these third parties may terminate their engagements with us at any time. A need to enter into alternative arrangements could delay our product development activities.

Our reliance on these third parties for research and development activities will reduce our control over these activities but will not relieve us of our responsibility to ensure compliance with all required regulations and study protocols. For example, for therapeutic candidates that we develop and commercialize on our own, we will remain responsible for ensuring that each of our IND-enabling studies and clinical trials are conducted in accordance with the study plan and protocols. Moreover, the FDA requires us to comply with cGCPs for conducting, recording and reporting the results of clinical trials to assure that data and reported results are credible and accurate and that the rights, integrity and confidentiality of trial participants are protected. We also are required to register ongoing clinical trials and post the results of completed clinical trials on a government-sponsored database, ClinicalTrials.gov,

within specified timeframes. Failure to do so can result in fines, adverse publicity and civil and criminal sanctions. If we or any of our CROs or other third parties, including trial sites, fail to comply with applicable cGCPs, the clinical data generated in our clinical trials may be deemed unreliable and the FDA, EMA 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 complies with cGCP regulations. In addition, our clinical trials must be conducted with product produced under conditions that comply with the FDA's current Good Manufacturing Practices. Our failure to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory approval process.

Although we intend to design the clinical trials for any therapeutic candidates we may develop, CROs will conduct some or all of the clinical trials. As a result, many important aspects of our development programs, including their conduct and timing, will be outside of our direct control. Our reliance on third parties to conduct future preclinical studies and clinical trials will also result in less direct control over the management of data developed through preclinical studies and clinical trials than would be the case if we were relying entirely upon our own staff. Communicating with outside parties can also be challenging, potentially leading to mistakes as well as difficulties in coordinating activities. Outside parties may:

- have staffing difficulties;
- fail to comply with contractual obligations;
- experience regulatory compliance issues;
- undergo changes in priorities or become financially distressed; or
- form relationships with other entities, some of which may be our competitors.

These factors may materially adversely affect the willingness or ability of third parties to conduct our preclinical studies and clinical trials and may subject us to unexpected cost increases that are beyond our control. We expect to have to negotiate budgets and contracts with CROs and trial sites, which may result in delays to our development timelines and increased costs. In addition, any third parties conducting our clinical trials will not be our employees, and except for remedies available to us under our agreements with such third parties, we cannot control whether or not they devote sufficient time and resources to our clinical programs. If these CROs, and any other third parties we engage do not perform preclinical studies and future clinical trials in a satisfactory manner, if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols, or if they breach their obligations to us or fail to comply with regulatory requirements, the development, regulatory approval and commercialization of any therapeutic candidates we may develop may be delayed, we may not be able to obtain regulatory approval and commercialize our therapeutic candidates or our development programs may be materially and irreversibly harmed. If we are unable to rely on preclinical and clinical data collected by our CROs and other third parties, we could be required to repeat, extend the duration of or increase the size of any preclinical studies or clinical trials we conduct and this could significantly delay commercialization and require greater expenditures.

Nevertheless, we are responsible for ensuring that each of our clinical trials is conducted in accordance with the applicable protocol, legal and regulatory requirements and scientific standards and our reliance on third parties does not relieve us of our regulatory responsibilities. We and these third parties are required to comply with GCP requirements, which are regulations and guidelines enforced by the FDA and other regulatory authorities for therapeutic candidates in clinical development. Regulatory authorities enforce these GCP requirements through periodic inspections of trial sponsors, clinical investigators and trial sites. If we or any of these third parties fail to comply with applicable GCP requirements, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or other regulatory authorities may require us to suspend, place on clinical hold or terminate these trials or perform additional preclinical studies or clinical trials before approving our marketing applications. We cannot be certain that, upon inspection, such regulatory authorities will determine that any of our clinical trials comply with the GCP requirements. In addition, our clinical trials must be conducted with biologic product produced under cGMP requirements and may require a large number of patients. In the

U.S., we also are required to register ongoing clinical trials and post the results of completed clinical trials on a government-sponsored database, clinicaltrials.gov, within certain timeframes. Failure to do so can result in fines, adverse publicity and civil and criminal sanctions.

These third parties may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical trials or other product development activities, which could affect their performance on our behalf. If these third parties 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 clinical protocols or regulatory requirements or for other reasons, our clinical trials may be extended, delayed or terminated and we may not be able to complete development of, obtain regulatory approval of or successfully commercialize our therapeutic candidates. As a result, our financial results and the commercial prospects for our therapeutic candidates would be harmed, our costs could increase and our ability to generate revenue could be delayed.

Our failure or any failure by these third parties to comply with these regulations or to recruit a sufficient number of patients may require us to repeat clinical trials, which would delay the regulatory approval process. Moreover, our business may be implicated if any of these third parties violates federal or state fraud and abuse or false claims laws and regulations or healthcare privacy and security laws. For any violations of laws and regulations during the conduct of our preclinical studies and clinical trials, we could be subject to warning letters or enforcement action that may include civil penalties up to and including criminal prosecution.

If any of our relationships with these third-party CROs or others terminate, we may not be able to enter into arrangements with alternative CROs or other third parties or to do so on commercially reasonable terms. Switching or adding additional CROs involves additional cost and requires management time and focus. In addition, there is a natural transition period when a new CRO begins work. As a result, delays may occur, which can materially impact our ability to meet our desired clinical development timelines. Though we carefully manage our relationships with our 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.If third parties do not successfully carry out their contractual duties, meet expected deadlines or conduct our studies in accordance with regulatory requirements or our stated study plans and protocols, we will not be able to complete, or may be delayed in completing, the preclinical studies and clinical trials required to support future IND submissions and approval of any therapeutic candidates we may develop.

We are dependent on third-party vendors to provide certain licenses, products and services and our business and operations, including clinical trials, could be disrupted by any problems with our significant third-party vendors.

We engage a number of third-party suppliers and service providers to supply critical goods and services, such as contract research services, contract manufacturing services and IT services. Disruptions to the business, financial stability or operations of these suppliers and service providers, including due to strikes, labor disputes or other disruptions to the workforce, for instance, if, as a result of the COVID-19 pandemic, employees are not able to come to work, or to their willingness and ability to produce or deliver such products or provide such services in a manner that satisfies the requirements put forth by the authorities, or in a manner that satisfies our own requirements, could affect our ability to develop and market our future therapeutic candidates on a timely basis. If these suppliers and service providers were unable or unwilling to continue to provide their products or services in the manner expected, or at all, we could encounter difficulty finding alternative suppliers. Even if we are able to secure appropriate alternative suppliers in a timely manner, costs for such products or services could increase significantly. Additionally, three vaccines for COVID-19 were granted Emergency Use Authorization by the FDA in late 2020 and early 2021, and more may be authorized in the future. The resultant demand for vaccines and potential for manufacturing facilities and materials to be commandeered under the Defense Production Act of 1950, or equivalent foreign legislation, may make it more difficult to obtain materials or manufacturing slots for the products needed for our clinical trials, which could lead to delays in these trials. Any of these events could adversely affect our results of operations and our business.

Our EEV-based therapeutic candidates are based on novel technologies and any therapeutic candidates we develop may be complex and difficult to manufacture. We may encounter difficulties in manufacturing, product release, shelf life, testing, storage, supply chain management or shipping. If we or any of our third-party manufacturers encounter such difficulties, our ability to supply material for clinical trials or any approved product could be delayed or stopped.

The manufacturing processes for our therapeutic candidates are novel. There are no medicines incorporating or utilizing our EEV Platform that have been commercialized to date or manufactured at such scale. Due to the novel nature of this technology and limited experience at larger scale production, we may encounter difficulties in manufacturing, product release, shelf life, testing, storage and supply chain management, or shipping. These difficulties could be due to any number of reasons including, but not limited to, complexities of producing batches at larger scale, equipment failure, choice and quality of raw materials and excipients, analytical testing technology, and product instability. In an effort to optimize product features, we have in the past and may in the future make changes to our therapeutic candidates in their manufacturing and stability formulation and conditions. This has in the past resulted in and may in the future result in our having to resupply batches for preclinical or clinical activities when there is insufficient product stability during storage and insufficient supply. Insufficient stability or shelf life of our therapeutic candidates could materially delay our or our strategic collaborators' ability to continue the clinical trial for that therapeutic candidate or require us to begin a new clinical trial with a newly formulated drug product, due to the need to manufacture additional preclinical or clinical supply.

Our rate of innovation is high, which has resulted in and will continue to cause a high degree of technology change that can negatively impact product comparability during and after clinical development. Furthermore, technology changes may drive the need for changes in, modification to, or the sourcing of new manufacturing infrastructure or may adversely affect third-party relationships.

The process to generate our EEV-based therapeutics is complex and, if not developed and manufactured under well-controlled conditions, can adversely impact pharmacological activity. Furthermore, we have not manufactured our EEV-based therapeutics at commercial scale. We may encounter difficulties in scaling up our manufacturing process, thereby potentially impacting clinical and commercial supply.

During clinical development of our EEV-based therapeutics, in many cases, we may have to utilize multiple batches of drug substance and drug product to meet the clinical supply requirement of a single clinical trial. Failure in our ability to scale up batch size or failure in any batch may lead to a substantial delay in our clinical trials.

As we continue developing new manufacturing processes for our drug substance and drug product, the changes we implement to manufacturing process may in turn impact specification and stability of the drug product. Changes in our manufacturing processes may lead to failure of lots and this could lead to a substantial delay in our clinical trials. Our EEV-based therapeutic candidates may prove to have a stability profile that leads to a lower than desired shelf life of our final approved EEV-based product. This poses risk in supply requirements, wasted stock, and higher cost of goods.

Due to the number of different programs, we may have cross contamination of products inside of our factories, CROs, suppliers, or in the clinic that affect the integrity of our therapeutics.

As we scale the manufacturing output for particular programs, we plan to continuously improve yield, purity, and the pharmaceutical properties of our development candidates from IND-enabling studies through commercial launch, including shelf life stability, and solubility properties of drug product and drug substance. Because of continuous improvement in manufacturing processes, we may switch processes for a particular program during development. However, after the change in process, more time is required for pharmaceutical property testing, such as 6 or 12 month stability testing. That may require resupplying clinical material, or making additional cGMP batches to keep up with clinical trial demand before such pharmaceutical property testing is completed.

We are utilizing a number of raw materials and excipients that are either new to the pharmaceutical industry or are being employed in a novel manner. Some of these raw materials and excipients have not been scaled to a level to support commercial supply and could experience unexpected manufacturing

or testing failures, or supply shortages. Such issues with raw materials and excipients could cause delays or interruptions to clinical and commercial supply of our therapeutic candidates. Further, now and in the future one or more of our programs may have a single source of supply for raw materials and excipients.

We may establish a number of analytical assays to assess the quality of our EEV-based therapeutic candidates. We may identify gaps in our analytical testing strategy that might prevent release of product or could require product withdrawal or recall. For example, we may discover new impurities that have an impact on product safety, efficacy, or stability. This may lead to an inability to release our therapeutic candidates until the manufacturing or testing process is rectified.

We may find that our therapeutic candidates are extremely temperature sensitive, and we may learn that any or all of our therapeutics are less stable than desired. We may also find that transportation conditions negatively impact product quality. This may require changes to the formulation or manufacturing process for one or more of our therapeutic candidates and result in delays or interruptions to clinical or commercial supply. In addition, the cost associated with such transportation services and the limited pool of vendors may also add additional risks of supply disruptions.

Our reliance on third parties requires us to share our trade secrets, which increases the possibility that a competitor will discover them or that our trade secrets will be misappropriated or disclosed.

Because we currently rely on third parties to manufacture our therapeutic candidates and to perform quality testing, we must, at times, share our proprietary technology and confidential information, including trade secrets, with them. We seek to protect our proprietary technology, in part, by entering into confidentiality agreements, and, if applicable, material transfer agreements, collaborative research agreements, consulting agreements or other similar agreements with our collaborators, advisors, employees and consultants prior to beginning research or disclosing proprietary information. These agreements typically limit the rights of the third parties to use or disclose our confidential information. Despite the contractual provisions employed when working with third parties, the need to share trade secrets and other confidential information increases the risk that such trade secrets become known by our competitors, are intentionally or inadvertently incorporated into the technology of others or are disclosed or used in violation of these agreements. Given that our proprietary position is based, in part, on our know-how and trade secrets and despite our efforts to protect our trade secrets, a competitor's discovery of our proprietary technology and confidential information or other unauthorized use or disclosure would impair our competitive position and may have a material adverse effect on our business, financial condition, results of operations and prospects.

We may from time to time be dependent on single-source suppliers for some of the components and materials used in the therapeutic candidates we may develop.

We may from time to time depend on single-source suppliers for some of the components and materials used in any therapeutic candidates we may develop. We cannot ensure that these suppliers or service providers will remain in business, have sufficient capacity or supply to meet our needs or that they will not be purchased by one of our competitors or another company that is not interested in continuing to work with us. Our use of single-source suppliers of raw materials, components, key processes and finished goods could expose us to several risks, including disruptions in supply, price increases or late deliveries. There are, in general, relatively few alternative sources of supply for substitute components. These vendors may be unable or unwilling to meet our future demands for our clinical trials or commercial sale. Establishing additional or replacement suppliers for these components, materials and processes could take a substantial amount of time and it may be difficult to establish replacement suppliers who meet regulatory requirements. Any disruption in supply from any single-source supplier or service provider could lead to supply delays or interruptions which would damage our business, financial condition, results of operations and prospects.

If we have to switch to a replacement supplier, the manufacture and delivery of any therapeutic candidates we may develop could be interrupted for an extended period, which could adversely affect our business. Establishing additional or replacement suppliers, if required, may not be accomplished

quickly. If we are able to find a replacement supplier, the replacement supplier would need to be qualified and may require additional regulatory authority approval, which could result in further delay. While we seek to maintain adequate inventory of the single source components and materials used in our therapeutics, any interruption or delay in the supply of components or materials, or our inability to obtain components or materials from alternate sources at acceptable prices in a timely manner, could impair our ability to meet the demand for our investigational medicines.

We may enter into collaborations, licenses and other similar arrangements with third parties for the research, development and commercialization of certain of the therapeutic candidates we may develop. If any such arrangements are not successful, we may not be able to capitalize on the market potential of those therapeutic candidates.

We may seek third-party collaborators for the research, development and commercialization of certain of the therapeutic candidates we may develop.. If we enter into any such arrangements with any third parties, we will likely have limited control over the amount and timing of resources that our partners dedicate to the development or commercialization of any therapeutic candidates we may seek to develop with them. Our ability to generate revenues from these arrangements will depend on our abilities to successfully perform the functions assigned to them in these arrangements. We cannot predict the success of any arrangement that we enter into.

Collaborations involving our research programs or any therapeutic candidates we may develop pose numerous risks to us, including the following:

- collaborators would have significant discretion in determining the efforts and resources that they will apply to these collaborations;
- collaborators may not perform their obligations as expected;
- collaborators may not pursue development and commercialization of any therapeutic candidates we may develop or may elect not to continue or renew development or commercialization programs based on clinical trial results, changes in the collaborator's strategic focus or available funding or external factors such as an acquisition that diverts resources or creates competing priorities;
- collaborators may delay programs, preclinical studies or clinical trials, provide insufficient funding for programs, preclinical studies or clinical trials, stop a preclinical study or clinical trial or abandon a therapeutic candidate, repeat or conduct new clinical trials or require a new formulation of a therapeutic candidate for clinical testing;
- collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with any therapeutic candidates we may develop if the collaborators believe that competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours;
- collaborators may be acquired by a third party having competitive products or different priorities, causing the emphasis on our product development or commercialization program under such collaboration to be delayed, diminished or terminated;
- collaborators with marketing and distribution rights to one or more products may not commit sufficient resources to the marketing and distribution of such product or products;
- collaborators may not properly obtain, maintain, enforce or defend our intellectual property or proprietary rights or may use our proprietary information in such a way as to invite litigation that could jeopardize or invalidate our proprietary information or expose us to potential litigation;
- if a collaborator of ours is involved in a business combination, the collaborator might deemphasize or terminate the development or commercialization of any therapeutic candidate licensed to it by us;
- our collaborators' business or operations could be disrupted due to the COVID-19 pandemic or other reasons outside of our control, which could have an adverse impact on their development and commercialization efforts or the prospects of our collaboration;

- disputes may arise between the collaborators and us that result in the delay or termination of the research, development, or commercialization of any therapeutic candidates we may develop or that result in costly litigation or arbitration that diverts management attention and resources;
- we may lose certain valuable rights under certain circumstances, including if we undergo a change of control;
- collaborations may be terminated and, if terminated, may result in a need for additional capital to pursue further development or commercialization of the applicable therapeutic candidates we may develop; and
- collaboration agreements may not lead to development or commercialization of therapeutic candidates in the most efficient manner or at all.

If our collaborations do not result in the successful development and commercialization of therapeutic 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. If we do not receive the funding we expect under these agreements, our development of therapeutic candidates could be delayed, and we may need additional resources to develop therapeutic candidates. In addition, if one of our collaborators terminates its agreement with us, we may find it more difficult to find a suitable replacement collaborator or attract new collaborators, and our development programs may be delayed or the perception of us in the business and financial communities could be adversely affected. All of the risks relating to product development, regulatory approval and commercialization described in this prospectus apply to the activities of our collaborators.

These relationships, or those like them, may require us to incur non-recurring and other charges, increase our near- and long-term expenditures, issue securities that dilute our existing stockholders, or disrupt our management and business. In addition, we could face significant competition in seeking appropriate collaborators, and the negotiation process is time-consuming and complex. Our ability to reach a definitive collaboration agreement will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration, and the proposed collaborator's evaluation of several factors. If we license rights to any therapeutic candidates we or our collaborators may develop, 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.

If conflicts arise between us and our potential collaborators, these parties may act in a manner adverse to us and could limit our ability to implement our strategies.

If conflicts arise between us and our potential collaborators, the other party may act in a manner adverse to us and could limit our ability to implement our strategies. Our collaborators may develop, either alone or with others, products in related fields that are competitive with the therapeutic candidates we may develop that are the subject of these collaborations with us. Competing products, either developed by the collaborators or to which the collaborators have rights, may result in the withdrawal of support for our therapeutic candidates.

Some of our future collaborators could also become our competitors. Our collaborators could develop competing products, preclude us from entering into collaborations with their competitors, fail to obtain timely regulatory approvals, terminate their agreements with us prematurely, fail to devote sufficient resources to the development and commercialization of products, or merge with or be acquired by a third party who may do any of these things. Any of these developments could harm our product development efforts.

If we are not able to establish collaborations on commercially reasonable terms, we may have to alter our development and commercialization plans.

Our product development and research programs and the potential commercialization of any therapeutic candidates we may develop will require substantial additional cash to fund expenses. For some of the therapeutic candidates we may develop, we may decide to collaborate with other

pharmaceutical and biotechnology companies for the development and potential commercialization of those therapeutic candidates.

We face significant competition in seeking appropriate collaborators. Whether we reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration, and the proposed collaborator's evaluation of a number of factors. Those factors may include the design or results of clinical trials, the likelihood of approval by the FDA, the EMA or similar regulatory authorities outside the United States, the potential market for the subject therapeutic candidate, the costs and complexities of manufacturing and delivering such therapeutic candidate to patients, the potential of competing products, the existence of uncertainty with respect to our ownership of technology, which can exist if there is a challenge to such ownership without regard to the merits of the challenge, and industry and market conditions generally. The collaborator may also consider alternative therapeutic candidates or technologies for similar indications that may be available to collaborate on and whether such a collaboration could be more attractive than the one with us.

Collaborations are complex and time-consuming to negotiate and document. In addition, there have been a significant number of recent business combinations among large pharmaceutical companies that have resulted in a reduced number of potential future collaborators.

We may not be able to negotiate collaborations on a timely basis, on acceptable terms, or at all. If we are unable to do so, we may have to curtail the development of the therapeutic candidate for which we are seeking to collaborate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization, reduce the scope of any sales or marketing activities, or increase our own expenditures on the development of the therapeutic candidate.

Risks Related to Commercialization of Our Therapeutic Candidates

The commercial success of our therapeutic candidates will depend upon the degree of market acceptance of such therapeutic candidates by physicians, patients, healthcare payors and others in the medical community.

Our therapeutic candidates may not be commercially successful. Even if any of our therapeutic candidates receive regulatory approval, they may not gain market acceptance among physicians, patients, healthcare payors or the medical community. The commercial success of any of our current or future therapeutic candidates will depend significantly on the broad adoption and use of the resulting product by physicians and patients for approved indications. The degree of market acceptance of our therapeutics will depend on a number of factors, including:

- demonstration of clinical efficacy and safety compared to other more-established products;
- the indications for which our therapeutic candidates are approved;
- the limitation of our targeted patient population and other limitations or warnings contained in any FDA-approved labeling;
- acceptance of a new drug for the relevant indication by healthcare providers and their patients;
- the pricing and cost-effectiveness of our therapeutics, as well as the cost of treatment with our therapeutics in relation to alternative treatments and therapies;
- our ability to obtain and maintain sufficient third-party coverage and adequate reimbursement from government healthcare programs, including Medicare and Medicaid, private health insurers and other third-party payors;
- the willingness of patients to pay all, or a portion of, out-of-pocket costs associated with our therapeutics in the absence of sufficient third-party coverage and adequate reimbursement;
- any restrictions on the use of our therapeutics, and the prevalence and severity of any adverse effects;

- potential product liability claims;
- the timing of market introduction of our therapeutics as well as competitive drugs;
- the effectiveness of our or any of our current or potential future collaborators' sales and marketing strategies; and
- unfavorable publicity relating to the product.

If any therapeutic candidate is approved but does not achieve an adequate level of acceptance by physicians, hospitals, healthcare payors or patients, we may not generate sufficient revenue from that product and may not become or remain profitable. Our efforts to educate the medical community and third-party payors regarding the benefits of our therapeutics may require significant resources and may never be successful.

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

Our ability to commercialize any therapeutic candidates successfully also will depend in part on the extent to which coverage and reimbursement for these therapeutic candidates and related treatments will be available from government authorities, private health insurers and other organizations. In the U.S. and markets in other countries, patients generally rely on third-party payors to reimburse all or part of the costs associated with their treatment. Adequate coverage and reimbursement from governmental healthcare programs, such as Medicare and Medicaid, and commercial payors is critical to new product acceptance.

In the United States, the principal decisions about reimbursement for new medicines are typically made by the Centers for Medicare & Medicaid Services (CMS), an agency within the U.S. Department of Health and Human Services (HHS). CMS decides whether and to what extent a new medicine will be covered and reimbursed under Medicare and private payors tend to follow CMS to a substantial degree. The availability of coverage and extent of reimbursement by governmental and private payors is essential for most patients to be able to afford treatments. Sales of these or other products that we may identify will depend substantially, both domestically and abroad, on the extent to which the costs of our therapeutics will be paid by health maintenance, managed care, pharmacy benefit and similar healthcare management organizations, or reimbursed by government health administration authorities, private health coverage insurers and other third-party payors. If coverage and adequate reimbursement is not available, or is available only to limited levels, we may not be able to successfully commercialize our therapeutics. Even if coverage is provided, the approved reimbursement amount may not be high enough to allow us to establish or maintain pricing sufficient to realize a sufficient return on our investment.

Factors payors consider in determining reimbursement are based on whether the product is:

- a covered benefit under its health plan;
- safe, effective and medically necessary;
- appropriate for the specific patient;

- cost-effective; and
- neither experimental nor investigational.

A primary trend in the U.S. healthcare industry and elsewhere is cost containment. Government authorities and third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular products. Increasingly, third-party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for products. We cannot be sure that coverage will be available for any therapeutic candidate that we commercialize and, if coverage is available, the level of reimbursement.

Net prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. Increasingly, third-party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. We cannot be sure that reimbursement will be available for any therapeutic candidate that we commercialize and, if reimbursement is available, the level of reimbursement. In addition, many pharmaceutical manufacturers must calculate and report certain price reporting metrics to the government, such as average sales price (ASP) and best price. Penalties may apply in some cases when such metrics are not submitted accurately and timely. Further, these prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs.

In addition, in some foreign countries, the proposed pricing for a drug must be approved before it may be lawfully marketed. The requirements governing drug pricing vary widely from country to country. For example, the EU provides options for its Member States to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. To obtain reimbursement or pricing approval, some of these countries may require the completion of clinical trials that compare the cost effectiveness of a particular therapeutic candidate to currently available therapies. A Member State may approve a specific price for the medicinal product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market. There can be no assurance that any country that has price controls or reimbursement limitations for pharmaceutical products will allow favorable reimbursement and pricing arrangements for any of our therapeutic candidates. Historically, products launched in the EU do not follow price structures of the U.S. and generally prices tend to be significantly lower.

We face significant competition, and if our competitors develop technologies or therapeutic candidates more rapidly than we do or their technologies are more effective, our business and our ability to develop and successfully commercialize products may be adversely affected.

The biotechnology and biopharmaceutical industries are characterized by rapid advancing technologies, intense competition and a strong emphasis on proprietary and novel products and therapeutic candidates. Our competitors have developed, are developing or may develop products, therapeutic candidates and processes competitive with our therapeutic candidates. Any therapeutic candidates that we successfully develop and commercialize will compete with existing therapies and new therapies that may become available in the future. We believe that a significant number of products are currently under development, and may become commercially available in the future, for the treatment of conditions for which we may attempt to develop therapeutic candidates. Our competitors include larger and better funded pharmaceutical, biopharmaceutical, biotechnological and therapeutics companies. Moreover, we may also compete with universities and other research institutions who may be active in the indications we are targeting and could be in direct competition with us. We also compete with these organizations to recruit management, scientists and clinical development personnel, which could negatively affect our level of expertise and our ability to execute our business plan. We will also face competition in establishing clinical trial sites, enrolling subjects for clinical trials and in identifying and in-licensing new therapeutic candidates. Smaller or early stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies.

Currently, patients with DMD are treated with corticosteroids to manage the inflammatory component of the disease. EMFLAZA (deflazacort) is an FDA-approved corticosteroid marketed by PTC Therapeutics, Inc. (PTC). In addition, there are three FDA-approved exon skipping drugs: EXONDYS 51 (eteplirsen) and VYONDYS 53 (golodirsen), which are PMOs approved for the treatment of patients with DMD who are amenable to exon 51 and exon 53 skipping, respectively, and are marketed by Sarepta Therapeutics, Inc. (Sarepta), and VILTEPSO (vitolarsen), a PMO approved for the treatment of patients with DMD who are amenable to exon 53 skipping, which is marketed by Nippon Shinyaku Co. Ltd. Companies focused on developing treatments for DMD that target dystrophin mechanisms, as does our DMD program, include Sarepta with SRP-5051, a peptide-linked PMO currently being evaluated in a Phase 2 clinical trial for patients amenable to exon 51 skipping, PTC with ataluren, a small molecule targeting nonsense mutations in a Phase 3 clinical trial, Avidity Biosciences, Inc. (Avidity), which is in preclinical development with an antibody oligonucleotide conjugate for exons 44, 45 and 51 that targets dystrophin production, Wave Life Sciences Ltd., which is clinically evaluating WVE-N531, a splicing candidate that is designed to target exon 53 within the dystrophin gene, Dyne Therapeutics, Inc., which is pursuing antibody-oligonucleotide conjugates for exons 44, 45, 51, and 53, PepGen, Inc. with PGN-EDO51, a preclinical candidate designed to address exon 51, and BioMarin Pharmaceutical Inc., which is in preclinical development with BMN 351, an antisense oligonucleotide therapy for exon 51. In addition, several companies are developing gene therapies to treat DMD, including Pfizer Inc. (PF-06939926), Sarepta (SRP-9001 and Galgt2 gene therapy program), and Solid Biosciences Inc. (SGT-001). Gene editing treatments that are in preclinical development are also being pursued by Vertex Pharmaceuticals, Inc. (Vertex) and Sarepta. We are also aware of several companies targeting non-dystrophin mechanisms for the treatment of DMD.

We expect to face competition from existing products and products in development for each of our therapeutic candidates. The only currently-approved therapies for Pompe disease are alglucosidase alfa (Lumizyme in the United States, Myozyme in other geographies) and avalglucosidase alfa-ngpt (Nexviazyme in the United States), which are both forms of ERT delivered via IV infusions. There are two next-generation GAA enzymes in registration from Sanofi S.A. and Amicus Therapeutics Inc. (Amicus), respectively, and there are four gene therapies in the early stages of clinical development from Astellas Pharma Inc., Bayer AG, Roche Holding AG and Lacerta Therapeutics, Inc. There are four gene therapies in preclinical development from AVROBIO, Inc., Amicus, Provention Bio Inc. and Sarepta. There are two preclinical therapies targeting GYS1 inhibition from Maze Therapeutics, Inc. and Avidity, respectively. Denali has an ERT in preclinical development. There are currently no approved therapies to treat the underlying cause of DM1. Therapeutic candidates currently in development to treat DM1 include: tideglusib, a GSK3-ß inhibitor in late-stage clinical development by AMO Pharma Ltd. for the congenital phenotype of DM1; AT466, which is an AAVantisense exon 2 skipping candidate and AT751 and AT753 which are AAV-antisense exon 51 and 53 skipping candidates respectively in preclinical development by Audentes Therapeutics, Inc.; an antibody linked siRNA in preclinical development by Avidity; gene editing treatments in preclinical development by Vertex; an RNA-targeting gene therapy in preclinical development by Locana, Inc.; and small molecules interacting with RNA in preclinical development by Expansion Therapeutics, Inc.

Many of our competitors have significantly greater financial, technical, manufacturing, marketing, sales and supply resources or experience than we do. If we successfully obtain approval for any therapeutic candidate, we will face competition based on many different factors, including the safety and effectiveness of our therapeutics, the ease with which our therapeutics can be administered and the extent to which patients accept relatively new routes of administration, the timing and scope of regulatory approvals for these products, the availability and cost of manufacturing, marketing and sales capabilities, price, reimbursement coverage and patent position. Competing products could present superior treatment alternatives, including by being more effective, safer, more convenient, less expensive or marketed and sold more effectively than any products we may develop. Competitive products or technological approaches may make any products we develop, or our EEV Platform, obsolete or noncompetitive before we recover the expense of developing and commercializing our therapeutic candidates. If we are unable to compete effectively, our opportunity to generate revenue from the sale of our therapeutics we may develop, if approved, could be adversely affected.

Risks Related to Our Business Operations and Industry

Our future success depends on our ability to retain key employees and to attract, retain and motivate qualified personnel.

We are highly dependent on the research expertise of Natarajan Sethuraman, Ph.D., our Chief Scientific Officer, and the development and management expertise of Dipal Doshi, our President and Chief Executive Officer, as well as the other principal members of our management, scientific and clinical team. Although we have entered into employment agreements and/or offer letters with our executive officers, each of them may terminate their employment with us at any time.

Our industry has experienced a high rate of turnover in recent years. Our ability to compete in the highly competitive pharmaceuticals industry depends upon our ability to attract, retain and motivate highly skilled and experienced personnel with scientific, clinical, regulatory, manufacturing and management skills and experience. We conduct our operations in the Boston area, a region that is home to many other pharmaceutical companies as well as many academic and research institutions, resulting in fierce competition for qualified personnel. We may not be able to attract or retain qualified personnel in the future due to the intense competition for a limited number of qualified personnel among pharmaceutical companies. Many of the other pharmaceutical companies against which we compete have greater financial and other resources, different risk profiles and a longer history in the industry than we do. Our competitors may provide higher compensation, more diverse opportunities and/or better opportunities for career advancement. Any or all of these competing factors may limit our ability to continue to attract and retain high quality personnel, which could negatively affect our ability to successfully develop and commercialize our therapeutic candidates and to grow our business and operations as currently contemplated.

To induce valuable employees to remain at our company, in addition to salary and cash incentives, we have provided stock options that vest over time. The value to employees of stock options that vest over time may be significantly affected by movements in our stock price that are beyond our control and may at any time be insufficient to counteract more lucrative offers from other companies. Despite our efforts to retain valuable employees, members of our management, scientific and development teams may terminate their employment with us on short notice. For example, employment of our key employees is at-will, which means that any of our employees could leave our employment at any time, with or without notice.

In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us.

Our success also depends on our ability to continue to attract, retain and motivate highly skilled junior, mid-level and senior managers as well as junior, mid-level and senior scientific and medical personnel. Failure to succeed in clinical trials may make it more challenging to recruit and retain qualified scientific personnel.

We expect 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, 2021, we had 78 full-time employees. We expect to experience significant growth in the number of our employees and the scope of our operations, particularly in the areas of clinical development, clinical operations, manufacturing, regulatory affairs and, if any of our therapeutic candidates receives marketing approval, sales, marketing and distribution. 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 and with developing sales, marketing and distribution infrastructure, 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.

Further, we currently rely, and for the foreseeable future will continue to rely, in substantial part on certain third-party contract organizations, advisors and consultants to provide certain services, including assuming substantial responsibilities for the conduct of our clinical trials and the manufacture of ENTR-601-44 or any future therapeutic candidates. We cannot assure you that the services of such third-party contract 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 our vendors or consultants is compromised for any reason, our clinical trials may be extended, delayed or terminated, and we may not be able to obtain marketing approval of ENTR-601-44 or any future therapeutic candidates or otherwise advance our business. We cannot assure you that we will be able to properly manage our existing vendors or consultants or find other competent outside vendors and consultants on economically reasonable terms, or at all.

If we are not able to effectively manage growth and expand our organization, we may not be able to successfully implement the tasks necessary to further develop and commercialize ENTR-601-44, our other pipeline therapeutic candidates or any future therapeutic candidates and, accordingly, may not achieve our research, development and commercialization goals.

Recently enacted and future legislation may increase the difficulty and cost for us to obtain marketing approval of and commercialize our therapeutic candidates and decrease the prices we may obtain.

In the United States and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval of our therapeutic candidates, restrict or regulate post-approval activities and affect our ability to profitably sell any therapeutic candidates for which we obtain marketing approval.

For example, the ACA was passed in March 2010 and substantially changed the way healthcare is financed by both governmental and private insurers, and continues to significantly impact the U.S. pharmaceutical industry.

Among the provisions of the ACA of importance to our potential therapeutic candidates are the following:

- annual fees and taxes on manufacturers of certain branded prescription drugs;
- an annual, nondeductible fee on any entity that manufactures or imports specified branded prescription drugs and biologic products;
- a new Medicare Part D coverage gap discount program, in which manufacturers must now agree to offer 70% (increased pursuant to the Bipartisan Budget Act of 2018, effective as of January 1, 2019) point-of-sale discounts off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer’s outpatient drugs to be covered under Medicare Part D;
- 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;
- an increase in the statutory minimum rebates a manufacturer must pay under the Medicaid Drug Rebate Program and extended the rebate program to individuals enrolled in Medicaid managed care organizations;
- expansion of healthcare fraud and abuse laws, including the False Claims Act and the federal Anti-Kickback Statute, new government investigative powers, and enhanced penalties for noncompliance;
- extension of manufacturers’ Medicaid rebate liability;

- expansion of eligibility criteria for Medicaid programs;
- expansion of the entities eligible for discounts under the Public Health Service pharmaceutical pricing program;
- requirements to report financial arrangements with physicians and teaching hospitals;
- a requirement to annually report drug samples that manufacturers and distributors provide to physicians; and
- a Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research.

Since its enactment, there have been numerous judicial, administrative, executive, and legislative challenges to certain aspects of the ACA. On June 17, 2021, the U.S. Supreme Court dismissed the most recent judicial challenge to the ACA brought by several states without specifically ruling on the constitutionality of the ACA. Prior to the Supreme Court's decision, President Biden issued an Executive Order to initiate a special enrollment period from February 15, 2021 through August 15, 2021 for purposes of obtaining health insurance coverage through the ACA marketplace. The Executive Order also instructed certain governmental agencies to review and reconsider their existing policies and rules that limit access to healthcare, including among others, reexamining Medicaid demonstration projects and waiver programs that include work requirements, and policies that create unnecessary barriers to obtaining access to health insurance coverage through Medicaid or the ACA. It is unclear how other healthcare reform measures of the Biden administrations or other efforts, if any, to challenge repeal or replace the ACA, will impact our business.

In addition, other legislative changes have been proposed and adopted since the ACA was enacted. On August 2, 2011, the Budget Control Act of 2011 was signed into law, which, among other things, created the Joint Select Committee on Deficit Reduction to recommend to Congress proposals for spending reductions. The Joint Select Committee did not achieve a targeted deficit reduction, triggering the legislation's automatic reduction to several government programs. These changes include aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, starting in 2013, and due to subsequent legislative amendments to the statute, will remain in effect through 2030, except for a temporary suspension from May 1, 2020 through December 31, 2021 due to the COVID-19 pandemic, unless additional Congressional action is taken. In January 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, reduced Medicare payments to several providers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. In addition, on December 20, 2019, former President Trump signed into law the Further Consolidated Appropriations Act (H.R. 1865), which repeals the Cadillac tax, the health insurance provider tax, and the medical device excise tax. It is impossible to determine whether similar taxes could be instated in the future. Further, CMS published a final rule that would give states greater flexibility as of 2020 in setting benchmarks for insurers in the individual and small group marketplaces, which may have the effect of relaxing the essential health benefits required under the ACA for plans sold through such marketplaces. Additionally, in May 2019, CMS issued a final rule to allow Medicare Advantage Plans the option of using step therapy for Part B drugs beginning January 1, 2020. However, it is unclear whether the Biden administration will challenge, reverse, revoke or otherwise modify these executive and administrative actions.

Further, there has been heightened governmental scrutiny recently over the manner in which drug manufacturers set prices for their marketed products, which has resulted in several Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drug products. At a federal level, President Biden signed an Executive Order on July 9, 2021 affirming the administration's policy to (i) support legislative reforms that would lower the prices of prescription drug and biologics, including by allowing Medicare to negotiate drug prices, by imposing inflation caps, and, by supporting the development and market entry of lower-cost generic drugs and biosimilars; and (ii) support the enactment of a public health insurance option. Among other things, the Executive Order also directs

HHS to provide a report on actions to combat excessive pricing of prescription drugs, enhance the domestic drug supply chain, reduce the price that the Federal government pays for drugs, and address price gouging in the industry; and directs the FDA to work with states and Indian Tribes that propose to develop section 804 Importation Programs in accordance with the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, and the FDA's implementing regulations. FDA released such implementing regulations on September 24, 2020, which went into effect on November 30, 2020, providing guidance for states to build and submit importation plans for drugs from Canada. Further, on November 20, 2020 CMS issued an Interim Final Rule implementing the Most Favored Nation (MFN) Model under which Medicare Part B reimbursement rates will be calculated for certain drugs and biologicals based on the lowest price drug manufacturers receive in Organization for Economic Cooperation and Development countries with a similar gross domestic product per capita. The MFN Model regulations mandate participation by identified Part B providers and would have applied to all U.S. states and territories for a seven-year period beginning January 1, 2021, and ending December 31, 2027. The MFN is currently subject to ongoing litigation. Further, authorities in Canada have passed rules designed to safeguard the Canadian drug supply from shortages. If implemented, importation of drugs from Canada and the MFN Model may materially and adversely affect the price we receive for any of our therapeutic candidates. Additionally, on December 2, 2020, HHS published a regulation removing safe harbor protection for price reductions from pharmaceutical manufacturers to plan sponsors under Part D, either directly or through pharmacy benefit managers, unless the price reduction is required by law. The rule also creates a new safe harbor for price reductions reflected at the point-of-sale, as well as a safe harbor for certain fixed fee arrangements between pharmacy benefit managers and manufacturers. On December 2, 2020, HHS published a regulation removing safe harbor protection for price reductions from pharmaceutical manufacturers to plan sponsors under Part D, either directly or through pharmacy benefit managers, unless the price reduction is required by law. The rule also creates a new safe harbor for price reductions reflected at the point-of-sale, as well as a safe harbor for certain fixed fee arrangements between pharmacy benefit managers and manufacturers. Further, implementation of this change and new safe harbors for point-of-sale reductions in price for prescription pharmaceutical products and pharmacy benefit manager service fees are currently under review by the Biden administration and may be amended or repealed. Although a number of these and other proposed measures may require authorization through additional legislation to become effective, and the Biden administration may reverse or otherwise change these measures, both the Biden administration and Congress have indicated that it will continue to seek new legislative 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.

We expect that the ACA, as well as other healthcare reform measures that may be adopted in the future, may result in more rigorous coverage criteria and in additional downward pressure on the price that we receive for any approved product. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability, or commercialize our therapeutics. Legislative and regulatory proposals have been made to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical products. We cannot be sure whether additional legislative changes will be enacted, or whether the FDA regulations, guidance or interpretations will be changed, or what the impact of such changes on the marketing approvals of our therapeutic candidates, if any, may be. It is also possible that additional governmental action is taken in response to the COVID-19 pandemic.

Our internal information technology systems, or those of our third-party CROs or other vendors, contractors or consultants, may fail or suffer security breaches, loss or leakage of data and other disruptions, which could result in a material disruption of our development programs, compromise sensitive information related to our business or prevent us from accessing critical information, potentially exposing us to liability or otherwise adversely affecting our business.

We are increasingly dependent upon information technology systems, infrastructure and data to operate our business. In the ordinary course of business, we collect, store and transmit confidential

information (including but not limited to intellectual property, proprietary business information and personal information). It is critical that we do so in a secure manner to maintain the confidentiality and integrity of such confidential information. We also have outsourced elements of our operations to third parties, and as a result we manage a number of third-party CROs, vendors, and other contractors and consultants who have access to our confidential information.

Despite the implementation of security measures, given their size and complexity and the increasing amounts of confidential information that they maintain, our internal information technology systems and those of our third-party CROs, vendors and other contractors and consultants are potentially vulnerable to breakdown or other damage or interruption from service interruptions, system malfunction, natural disasters, terrorism, war and telecommunication and electrical failures, as well as security breaches from inadvertent or intentional actions by our employees, third-party CROs, vendors, contractors, consultants, business partners and/or other third parties, or from cyber-attacks by malicious third parties (including the deployment of harmful malware, ransomware, denial-of-service attacks, social engineering and other means to affect service reliability and threaten the confidentiality, integrity and availability of information), which may compromise our system infrastructure, or that of our third-party CROs, vendors and other contractors and consultants, or lead to data leakage. The risk of a security breach or disruption, particularly through cyber-attacks or cyber intrusion, including by computer hackers, foreign governments, and cyber terrorists, has generally increased as the number, intensity and sophistication of attempted attacks and intrusions from around the world have increased. We may not be able to anticipate all types of security threats, nor may we be able to implement preventive measures effective against all such security threats. The techniques used by cyber criminals change frequently, may not be recognized until launched and can originate from a wide variety of sources, including outside groups such as external service providers, organized crime affiliates, terrorist organizations or hostile foreign governments or agencies. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or those of our third-party CROs, vendors and other contractors and consultants, or inappropriate disclosure of confidential or proprietary information, we could incur liability and reputational damage and the further development and commercialization of ENTR-601-44 or any future therapeutic candidates could be delayed. The costs related to significant security breaches or disruptions could be material and exceed the limits of the cybersecurity insurance we maintain against such risks. If the information technology systems of our third-party CROs, vendors and other contractors and consultants become subject to disruptions or security breaches, we may have insufficient recourse against such third parties and we may have to expend significant resources to mitigate the impact of such an event, and to develop and implement protections to prevent future events of this nature from occurring.

While we have not experienced any such system failure, accident or security breach to date, and believe that our data protection efforts and our investment in information technology reduce the likelihood of such incidents in the future, we cannot assure you that our data protection efforts and our investment in information technology will prevent significant breakdowns, data leakages, breaches in our systems, or those of our third-party CROs, vendors and other contractors and consultants, or other cyber incidents that could have a material adverse effect upon our reputation, business, operations or financial condition. For example, if such an event were to occur and cause interruptions in our operations, or those of our third-party CROs, vendors and other contractors and consultants, it could result in a material disruption of our programs and the development of our therapeutic candidates could be delayed. In addition, the loss of clinical trial data for ENTR-601-44 or any other therapeutic candidates could result in delays in our marketing approval efforts and significantly increase our costs to recover or reproduce the data. Furthermore, significant disruptions of our internal information technology systems or those of our third-party CROs, vendors and other contractors and consultants, or security breaches could result in the loss, misappropriation and/or unauthorized access, use, or disclosure of, or the prevention of access to, confidential information (including trade secrets or other intellectual property, proprietary business information and personal information), which could result in financial, legal, business and reputational harm to us. For example, any such event that leads to unauthorized access, use, or disclosure of personal information, including personal information regarding our clinical trial subjects or employees, could harm our reputation directly, compel us to comply with federal and/or state breach notification laws and foreign law equivalents, subject us to mandatory corrective action, and otherwise subject us to liability under laws and regulations that protect the privacy and security of personal

information, which could result in significant legal and financial exposure and reputational damages that could potentially have an adverse effect on our business.

A pandemic, epidemic or outbreak of an infectious disease, such as COVID-19, may materially and adversely affect our business and could cause a disruption to the development of our therapeutic candidates.

The ongoing COVID-19 pandemic has broadly affected the global economy, resulted in significant travel and work restrictions in many regions and has put a significant strain on healthcare resources. The ultimate extent of the impact of the COVID-19 pandemic on our business, financial condition and results of operations is highly uncertain and will depend on continued developments and actions taken by government authorities and businesses to contain or prevent the further spread of COVID-19. The continuation of the worldwide COVID-19 pandemic may affect our ability to initiate and complete preclinical studies, delay the initiation of our planned clinical trials, disrupt regulatory activities or have other adverse effects on our business, results of operations, financial condition and prospects. In addition, the COVID-19 pandemic has adversely impacted economies worldwide and may cause substantial disruption in the financial markets, both of which could adversely affect our business, operations and ability to raise funds to support our operations.

To date, we have not experienced a material financial impact or significant business disruptions, including with our vendors, or impairments of any of our assets as a result of the COVID-19 pandemic. We are following, and plan to continue to follow, recommendations from federal, state and local governments regarding workplace policies, practices and procedures. We have taken temporary precautionary measures intended to help minimize the risk of the virus to our employees, including limiting on-site presence to essential employees, providing for social distancing, increased sanitization of our facilities and providing personal protective equipment for our employees. We expect to continue to take actions as may be required or recommended by government authorities or as we determine are in the best interests of our employees and other business partners. We are continuing to monitor the potential impact of the COVID-19 pandemic, but even though many states within the United States are easing COVID-19 related restrictions, we cannot be certain what the overall impact of the COVID-19 pandemic will be on our business, financial condition, results of operations and prospects.

If we fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could harm our business.

We are subject to numerous foreign, federal, state and local environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. Our operations involve the use of hazardous and flammable materials, including chemicals and biological materials. Our operations also produce hazardous waste products. We generally contract with third parties for the disposal of these materials and wastes. We cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from our use of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources, including any available insurance.

In addition, our leasing and operation of real property may subject us to liability pursuant to certain of these laws or regulations. Under existing U.S. environmental laws and regulations, current or previous owners or operators of real property and entities that disposed or arranged for the disposal of hazardous substances may be held strictly, jointly and severally liable for the cost of investigating or remediating contamination caused by hazardous substance releases, even if they did not know of and were not responsible for the releases.

We could incur significant costs and liabilities which may adversely affect our financial condition and operating results for failure to comply with such laws and regulations, including, among other things, civil or criminal fines and penalties, property damage and personal injury claims, costs associated with upgrades to our facilities or changes to our operating procedures, or injunctions limiting or altering our operations.

Although we maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials, this insurance may not provide adequate coverage against potential liabilities. We do not maintain insurance for environmental liability or toxic tort claims that may be asserted against us in connection with our storage or disposal of biological, hazardous or radioactive materials.

In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. These current or future laws and regulations, which are becoming increasingly more stringent, may impair our research, development or production efforts. Our failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions.

Our relationships with customers, third-party payors, physicians and healthcare providers will be subject to applicable anti-kickback, fraud and abuse, and other laws and regulations, which could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm, and diminished profits.

Healthcare providers, physicians and third-party payors will play a primary role in the recommendation and prescription of any therapeutic candidates for which we obtain regulatory approval. Our current and future arrangements with third-party payors and customers may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we conduct research and would market, sell and distribute our therapeutics. As a pharmaceutical company, even though we do not and will not control referrals of healthcare services or bill directly to Medicare, Medicaid or other third-party payors, federal and state healthcare laws and regulations pertaining to fraud and abuse and patients' rights are and will be applicable to our business. Restrictions under applicable federal and state healthcare laws and regulations that may affect our ability to operate include the following:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons or entities from knowingly and willfully soliciting, receiving, offering or paying any remuneration (including any kickback, bribe or rebate), directly or indirectly, overtly or covertly, in cash or in kind, to induce, or in return for, the purchase, lease, order, arrangement, or recommendation of any good, facility, item or service for which payment may be made, in whole or in part, under a federal healthcare program, such as the Medicare and Medicaid programs. A person or entity does not need to have actual knowledge of the federal Anti-Kickback Statute or specific intent to violate it to have committed a violation. Violations are subject to civil and criminal fines and penalties for each violation, plus up to three times the remuneration involved, imprisonment, and exclusion from government healthcare programs. In addition, the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal False Claims Act or federal civil money penalties;
- the federal civil and criminal false claims laws and civil monetary penalty laws, such as the federal False Claims Act, which impose criminal and civil penalties and authorize civil whistleblower or qui tam actions, against individuals or entities for, among other things: knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false or fraudulent; knowingly making, using or causing to be made or used, a false statement of record material to a false or fraudulent claim or obligation to pay or transmit money or property to the federal government or knowingly concealing or knowingly and improperly avoiding or decreasing an obligation to pay money to the federal government. Manufacturers can be held liable under the federal False Claims Act even when they do not submit claims directly to government payors if they are deemed to "cause" the submission of false or fraudulent claims. The federal False Claims Act also permits a private individual acting as a "whistleblower" to bring actions on behalf of the federal government alleging violations of the federal False Claims Act and to share in any monetary recovery;
- the federal Health Insurance Portability and Accountability Act of 1996 (HIPAA), which created new federal criminal statutes that prohibit a person from knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or obtain, by means

of false or fraudulent pretenses, representations or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of the payor (e.g., public or private) and knowingly and willfully falsifying, concealing or covering up by any trick or device a material fact or making any materially false, fictitious, or fraudulent statements or representations in connection with the delivery of, or payment for, healthcare benefits, items or services relating to healthcare matters; similar to the federal Anti-Kickback Statute, 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;

- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 (HITECH) and their respective implementing regulations, including the Final Omnibus Rule published in January 2013, which impose requirements on certain covered healthcare providers, health plans, and healthcare clearinghouses as well as their respective business associates, independent contractors or agents of covered entities, that perform services for them that involve the creation, maintenance, receipt, use, or disclosure of, individually identifiable health information relating to the privacy, security and transmission of individually identifiable health information. HITECH also created new tiers of civil monetary penalties, amended HIPAA to make civil and criminal penalties directly applicable to business associates, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorneys' fees and costs associated with pursuing federal civil actions. In addition, there may be additional federal, state and non-U.S. laws which govern the privacy and security of health and other personal information in certain circumstances, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts;
- the U.S. federal transparency requirements under the ACA, including the provision commonly referred to as the Physician Payments Sunshine Act, and its implementing regulations, which requires applicable manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program to report annually to CMS, information related to payments or other transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors) and teaching hospitals, as well as ownership and investment interests held by the physicians described above and their immediate family members. Effective January 1, 2022, these reporting obligations will extend to include transfers of value made to certain non-physician providers such as physician assistants and nurse practitioners;
- federal government price reporting laws, which require us to calculate and report complex pricing metrics in an accurate and timely manner to government programs; and
- federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers.

Additionally, we are subject to state and foreign equivalents of each of the healthcare laws and regulations described above, among others, some of which may be broader in scope and may apply regardless of the payor. Many U.S. states have adopted laws similar to the federal Anti-Kickback Statute and False Claims Act, and may apply to our business practices, including, but not limited to, research, distribution, sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental payors, including private insurers. In addition, some states have passed laws that require pharmaceutical companies to comply with the April 2003 Office of Inspector General Compliance Program Guidance for Pharmaceutical Manufacturers and/or the Pharmaceutical Research and Manufacturers of America's Code on Interactions with Healthcare Professionals. Several states also impose other marketing restrictions or require pharmaceutical companies to make marketing or price disclosures to the state and require the registration of pharmaceutical sales representatives. State and foreign laws, including for example the European Union General Data Protection Regulation, which became effective May 2018 also govern the privacy and security of health information in some circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts. There are ambiguities as to what is required to comply with these state requirements and if we fail to comply with an applicable state law requirement we

could be subject to penalties. Finally, there are state and foreign laws governing the privacy and security of health information, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

The scope and enforcement of each of these laws is uncertain and subject to rapid change in the current environment of healthcare reform, especially in light of the lack of applicable precedent and regulations. Federal and state enforcement bodies have recently increased their scrutiny of interactions between healthcare companies and healthcare providers, which has led to a number of investigations, prosecutions, convictions and settlements in the healthcare industry. Ensuring business arrangements comply with applicable healthcare laws, as well as responding to possible investigations by government authorities, can be time and resource consuming and can divert a company's attention from the business.

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 possible that governmental authorities will conclude 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 administrative, civil and criminal penalties, damages, fines, disgorgement, the exclusion from participation in federal and state healthcare programs, individual imprisonment, reputational harm, and the curtailment or restructuring of our operations, as well as additional reporting obligations and oversight if we become subject to a corporate integrity agreement or other agreement to resolve allegations of non-compliance with these laws. Further, defending against any such actions can be costly and time-consuming, and may require significant financial and 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. If any of the physicians or other providers or entities with whom we expect to do business is 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. If any of the above occur, our ability to operate our business and our results of operations could be adversely affected.

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

We are exposed to the risk that our employees and independent contractors, including principal investigators, CROs, consultants and vendors may engage in misconduct or other illegal activity. Misconduct by these parties could include intentional, reckless and/or negligent conduct or disclosure of unauthorized activities to us that violate: (i) the laws and regulations of the FDA and other similar regulatory requirements, including those laws that require the reporting of true, complete and accurate information to such authorities, (ii) manufacturing standards, including cGMP requirements, (iii) federal and state data privacy, security, fraud and abuse and other healthcare laws and regulations in the United States and abroad or (iv) laws that require the true, complete and accurate reporting of financial information or data. Activities subject to these laws also involve the improper use or misrepresentation of information obtained in the course of clinical trials, the creation of fraudulent data in our preclinical studies or clinical trials or illegal misappropriation of drug product, which could result in regulatory sanctions and cause serious harm to our reputation. It is not always possible to identify and deter misconduct by employees and other third parties, 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. In addition, we are subject to the risk that a person or government could allege such fraud or other misconduct, even if none occurred. 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 significant impact on our business and financial results, including, without limitation, the imposition of significant civil, criminal and administrative penalties, damages, monetary fines, disgorgements, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, imprisonment, contractual damages, reputational harm, diminished profits and future

earnings, additional reporting requirements and oversight if we become subject to a corporate integrity agreement or similar agreement to resolve allegations of non-compliance with these laws and curtailment of our operations, any of which could adversely affect our ability to operate our business and our results of operations.

We are subject to certain U.S. and certain foreign anti-corruption, anti-money laundering, export control, sanctions and other trade laws and regulations. We can face serious consequences for violations.

U.S. and foreign anti-corruption, anti-money laundering, export control, sanctions and other trade laws and regulations prohibit, among other things, companies and their employees, agents, CROs, legal counsel, accountants, consultants, contractors and other partners from authorizing, promising, offering, providing, soliciting, or receiving directly or indirectly, corrupt or improper payments or anything else of value to or from recipients in the public or private sector. Violations of these laws can result in substantial criminal fines and civil penalties, imprisonment, the loss of trade privileges, debarment, tax reassessments, breach of contract and fraud litigation, reputational harm and other consequences. We have direct or indirect interactions with officials and employees of government agencies or government-affiliated hospitals, universities and other organizations. We also expect our non-U.S. activities to increase over time. We expect to rely on third parties for research, preclinical studies and clinical trials and/or to obtain necessary permits, licenses, patent registrations and other marketing approvals. We can be held liable for the corrupt or other illegal activities of our personnel, agents, or partners, even if we do not explicitly authorize or have prior knowledge of such activities.

Any violations of the laws and regulations described above may result in substantial civil and criminal fines and penalties, imprisonment, the loss of export or import privileges, debarment, tax reassessments, breach of contract and fraud litigation, reputational harm and other consequences.

We may engage in strategic transactions that could impact our liquidity, increase our expenses and present significant distractions to our management.

From time to time, we may consider strategic transactions, such as acquisitions of companies, asset purchases and out-licensing or in-licensing of intellectual property, products or technologies. Additional potential transactions that we may consider in the future include a variety of business arrangements, including spin-offs, strategic partnerships, joint ventures, restructurings, divestitures, business combinations and investments. Any future transactions could increase our near and long-term expenditures, result in potentially dilutive issuances of our equity securities, including our common stock, or the incurrence of debt, contingent liabilities, amortization expenses or acquired in-process research and development expenses, any of which could affect our financial condition, liquidity and results of operations. Future acquisitions may also require us to obtain additional financing, which may not be available on favorable terms or at all. These transactions may never be successful and may require significant time and attention of our management. In addition, the integration of any business that we may acquire in the future may disrupt our existing business and may be a complex, risky and costly endeavor for which we may never realize the full benefits of the acquisition. Moreover, we may not be able to locate suitable acquisition opportunities and this inability could impair our ability to grow or obtain access to technology or products that may be important to the development of our business. Accordingly, although there can be no assurance that we will undertake or successfully complete any additional transactions of the nature described above, any additional transactions that we do complete could have a material adverse effect on our business, results of operations, financial condition and prospects.

Legislation or other changes in U.S. tax law could adversely affect our business and financial condition.

The rules dealing with U.S. federal, state, and local income taxation are constantly under review by persons involved in the legislative process and by the Internal Revenue Service and the U.S. Treasury Department. Changes to tax laws (which changes may have retroactive application) could adversely affect us or holders of our common stock. In recent years, many changes have been made to applicable

tax laws and changes are likely to continue to occur in the future. For example, the Tax Cuts and Jobs Act (the TCJA) was enacted in 2017 and made significant changes to corporate taxation, including the reduction of the corporate tax rate from a top marginal rate of 35% to a flat rate of 21%, the limitation of the tax deduction for net interest expense to 30% of adjusted taxable income (except for certain small businesses), the limitation of the deduction for net operating losses to 80% of current year taxable income and the elimination of net operating loss carrybacks (though any such net operating losses may be carried forward indefinitely) and the modification or repeal of many business deductions and credits, in each case, as modified by the CARES Act (as defined below). In addition, on March 27, 2020, President Trump signed into law the Coronavirus Aid, Relief, and Economic Security Act (the CARES Act), which included certain changes in tax law intended to stimulate the U.S. economy in light of the COVID-19 coronavirus outbreak, including temporary beneficial changes to the treatment of net operating losses, interest deductibility limitations and payroll tax matters. Under the CARES Act, the limitation of the tax deduction for net operating losses to 80% of taxable income applies only to taxable years beginning after December 31, 2020 and net operating losses generated in 2018, 2019 and 2020 may be carried back five taxable years. Further, under the CARES Act, the limitation of the tax deduction for net interest expense to 30% of adjusted taxable income is increased to 50% of adjusted taxable income for 2019 and 2020. Future changes in tax laws could have a material adverse effect on our business, cash flow, financial condition or results of operations.

It cannot be predicted whether, when, in what form, or with what effective dates, new tax laws may be enacted, or regulations and rulings may be enacted, promulgated or issued under existing or new tax laws, which could result in an increase in our or our stockholders' tax liability or require changes in the manner in which we operate in order to minimize or mitigate any adverse effects of changes in tax law or in the interpretation thereof. We urge investors to consult with their legal and tax advisers regarding the implications of potential changes in tax laws on an investment in our common stock.

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

Our ability to use our U.S. federal and state net operating losses to offset potential future taxable income and related income taxes that would otherwise be due is dependent upon our generation of future taxable income, and we cannot predict with certainty when, or whether, we will generate sufficient taxable income to use all of our net operating losses.

Under current law, unused U.S. federal net operating losses generated for tax years beginning after December 31, 2017 are not subject to expiration and may be carried forward indefinitely. Such U.S. federal net operating losses generally may not be carried back to prior taxable years, except that, net operating losses generated in 2018, 2019 and 2020 may be carried back to each of the five tax years preceding the tax years of such losses. Additionally, for taxable years beginning after December 31, 2020, the deductibility of such U.S. federal net operating losses is limited to 80% of our taxable income in any future taxable year. In addition, both our current and our future unused U.S. federal net operating losses and tax credits may be subject to limitation under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended (Code), if we undergo an "ownership change," generally defined as a greater than 50 percentage point change (by value) in its equity ownership by certain stockholders over a rolling three-year period. We may have experienced such ownership changes in the past, and we may experience ownership changes in the future as a result of this offering or subsequent shifts in our stock ownership, some of which are outside our control. Our net operating losses and tax credits may also be impaired or restricted under state law. As of December 31, 2020, we had U.S. federal net operating loss carryforwards of approximately $42.1 million, and our ability to utilize those net operating loss carryforwards could be limited by an "ownership change" as described above, which could result in increased tax liability to us.

We plan to distribute our technology, biology, execution and financing risks across a wide variety of therapeutic areas, disease states, programs, and technologies. However, our assessment of, and approach to, risk may not be comprehensive or effectively avoid delays or failures in one or more of our programs or modalities. Failures in one or more of our programs or modalities could adversely impact other programs or modalities in our pipeline and have a material adverse impact on our business, results of operations and ability to fund our business.

We are creating a new category of potential therapeutics based on EEVs to improve the lives of patients. We have designed our strategy and operations to realize the full potential value and impact of EEVs over a long time horizon across a broad array of human diseases. We have made investments in our platform, infrastructure, and clinical capabilities that have enabled us to establish a pipeline of several programs in development. As our therapeutic candidates and discovery programs progress, we or others may determine: that certain of our risk allocation decisions were incorrect or insufficient; that we made platform level technology mistakes; that individual programs or our EEV science in general has technology or biology risks that were unknown or underappreciated; that our choices on how to develop our infrastructure to support our scale will result in an inability to manufacture our therapeutics for clinical trials or otherwise impair our manufacturing; or that we have allocated resources in such a way that large investments are not recovered and capital allocation is not subject to rapid re-direction. All of these risks may relate to our current and future programs sharing similar science (including EEV science) and infrastructure, and in the event material decisions in any of these areas turn out to have been incorrect or under-optimized, we may experience a material adverse impact on our business and ability to fund our operations and we may never realize what we believe is the potential of EEVs.

While we will attempt to diversify our risks by developing one or more programs in each modality, there are risks that are unique to each modality and risks that are applicable across modalities. These risks may impair our ability to advance one or more of our programs in clinical development, obtain regulatory approval, or ultimately commercialize our programs, or cause us to experience significant delays in doing so, any of which may materially harm our business.

Certain features in our therapeutic candidates, including those related to large enzymes, antibodies and oligonucleotides, and their components, may result in foreseen and unforeseen risks that are active across some or all of our modalities. In addition, the biology risk across much of our pipeline represents targets and pathways not clinically validated by one or more approved drugs. While we believe we have made progress in seeking to reduce biology risk in certain settings, the risk that the targets or pathways that we have selected may not be effective could continue to apply across our current and future programs. Any such portfolio spanning risks, whether known or unknown, if realized in any one of our programs would have a material and adverse effect on our other programs and on our business as a whole.

Successful development of intracellular therapeutics is highly uncertain and is dependent on numerous factors, many of which are beyond our control. Intracellular therapeutics that appear promising in the early phases of development may fail to reach the market for several reasons, including:

- nonclinical or preclinical testing or study results may show our EEV-therapeutics to be less effective than desired or to have harmful or problematic side effects or toxicities;
- clinical trial results may show our oligonucleotides to be less effective than expected (e.g., a clinical trial could fail to meet its primary endpoint(s)) or to have unacceptable side effects or toxicities;
- failure to receive the necessary regulatory approvals or a delay in receiving such approvals. Among other things, such delays may be caused by slow enrollment in clinical trials, patients dropping out of trials, length of time to achieve trial endpoints, additional time requirements for data analysis, NDA or BLA preparation, discussions with the FDA, an FDA request for additional nonclinical or clinical data, or unexpected safety or manufacturing issues;
- manufacturing costs, formulation issues, pricing or reimbursement issues, or other factors that make our EEV-therapeutics uneconomical; and

- proprietary rights of others and their competing products and technologies that may prevent our EEV-therapeutics from being commercialized.

Risks Related to Our Intellectual Property

If we are unable to obtain and maintain patent protection for our therapeutic programs and other proprietary technologies we develop, or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize products and technology similar or identical to ours, and our ability to successfully commercialize our therapeutic programs and other proprietary technologies we may develop may be adversely affected.

Our success depends in large part on our ability to obtain and maintain patent protection in the United States and other countries with respect to our therapeutic programs and other proprietary technologies we may develop. In order to protect our proprietary position, we have filed or intend to file patent applications in the United States and abroad relating to our therapeutic programs and other proprietary technologies we may develop; however, there can be no assurance that any such patent applications will issue as granted patents. If we are unable to obtain or maintain patent protection with respect to our therapeutic programs and other proprietary technologies we may develop, our business, financial condition, results of operations and prospects could be materially harmed.

Changes in either the patent laws or their interpretation in the United States and other countries may diminish our ability to protect our inventions, obtain, maintain and enforce our intellectual property rights and, more generally, could affect the value of our intellectual property or narrow the scope of our protection. In addition, we may rely on third-party collaborators or licensors to file patent applications relating to therapeutic programs or proprietary technology that may be developed or in-licensed. We cannot predict whether the patent applications we are currently pursuing, or that we or our third-party collaborators or licensors may pursue, will issue as patents in any particular jurisdiction or whether the claims of any issued patents will provide sufficient protection against competitors or other third parties.

The patent prosecution process is expensive, time-consuming, and complex, and we may not be able to file, prosecute, maintain, enforce, or license all necessary or desirable patent applications at a reasonable cost or in a timely manner. It is also possible that we will fail to identify patentable aspects of our research and development output in time to obtain patent protection. Although we enter into non-disclosure and confidentiality agreements with parties who have access to confidential or patentable aspects of our research and development output, such as our employees, corporate collaborators, outside scientific collaborators, CROs, contract manufacturers, consultants, advisors and other third parties, any of these parties may breach the agreements and disclose such output before a patent application is filed, thereby jeopardizing our ability to seek patent protection. In addition, our ability to obtain and maintain valid and enforceable patents depends on whether the differences between our inventions and the prior art allow our inventions to be patentable over the prior art. Furthermore, publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we cannot be certain that we or our licensors were the first to make the inventions claimed in any of our owned or licensed patents or pending patent applications, or that we or our licensors were the first to file for patent protection of such inventions.

No consistent policy regarding the scope of claims allowable in patents in the biotechnology field has emerged in the United States, and the patent position of biotechnology and pharmaceutical companies generally is highly uncertain, involves complex legal and factual questions and has been the subject of much litigation in recent years. As a result, the issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain. Our patent applications may not result in patents being issued which protect our therapeutic programs and other proprietary technologies we may develop or which effectively prevent others from commercializing competitive technologies and products. In particular, our ability to stop third parties from making, using, selling, offering to sell, or importing products that infringe our intellectual property will depend in part on our success in obtaining and enforcing patent claims that cover our technology, inventions and improvements. We do not currently

have issued patents that cover all of our technology or therapeutic candidates. With respect to both licensed and company-owned intellectual property, we cannot be sure that patents will be granted with respect to any of our pending patent applications or with respect to any patent applications filed by us in the future. Moreover, even issued patents do not provide us with the right to practice our technology in relation to the commercialization of our therapeutics. The area of patent and other intellectual property rights in biotechnology is an evolving one with many risks and uncertainties, and third parties may have blocking patents that could be used to prevent us from commercializing our patented therapeutic candidates and practicing our proprietary technology. Our issued patents, those that may issue in the future and those that we in-license may be challenged, invalidated, or circumvented, which could limit our ability to stop competitors from marketing related products or limit the length of the term of patent protection that we may have for our therapeutic candidates. Furthermore, our competitors may independently develop similar technologies.

Moreover, the claim coverage in a patent application can be significantly reduced before the patent is granted. Even if our patent applications issue as patents, they may not issue in a form that will provide us with any meaningful protection, prevent competitors or other third parties from competing with us or otherwise provide us with any competitive advantage. Any patents issuing from our patent applications may be challenged, narrowed, circumvented or invalidated by third parties. Consequently, we do not know whether our therapeutic programs and other proprietary technology will be protectable or remain protected by valid and enforceable patents. For example, we do not currently have any issued patents covering any of our oligonucleotide therapeutic candidates. The extent to which any patents, if and when granted, will cover our product candidates is uncertain. Even if a patent is granted, our competitors or other third parties may be able to circumvent the patent by developing similar or alternative technologies or products in a non-infringing manner which could materially adversely affect our business, financial condition, results of operations and prospects. In addition, given the amount of time required for the development, testing and regulatory review of our therapeutic programs and eventual therapeutic candidates, patents protecting the therapeutic candidates might expire before or shortly after such therapeutic 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.

The issuance of a patent is not conclusive as to its inventorship, scope, validity, or enforceability and our patents may be challenged in the courts or patent offices in the United States and abroad. We may be subject to a third-party pre-issuance submission of prior art to the United States Patent and Trademark Office (USPTO) or in other jurisdictions, or become involved in opposition, derivation, revocation, reexamination, post-grant and *inter partes* review, or other similar proceedings challenging our patent rights. An adverse determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate or render unenforceable, our patent rights, allow third parties to commercialize our therapeutic programs and other proprietary technologies we may develop and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize products without infringing third-party patent rights. Such proceedings also may result in substantial cost and require significant time from our scientists and management, even if the eventual outcome is favorable to us.

In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened, regardless of the outcome, it could dissuade companies from collaborating with us to license, develop or commercialize current or future therapeutic candidates.

Our rights to develop and commercialize any therapeutic candidates are subject and may in the future be subject, in part, to the terms and conditions of licenses granted to us by third parties. If we fail to comply with our obligations under our current or future intellectual property license agreements or otherwise experience disruptions to our business relationships with our current or any future licensors, we could lose intellectual property rights that are important to our business.

We are and expect to continue to be reliant upon third-party licensors for certain patent and other intellectual property rights that are important or necessary to the development of our therapeutic programs, eventual therapeutic candidates, and proprietary technologies. For example, we rely on a license from Ohio State Innovation Foundation (OSIF), an affiliate of The Ohio State University (OSU)

to certain patent rights and know-how of OSU. Our license agreement with OSIF imposes, and we expect that any future license agreement will impose, specified diligence, milestone payment, royalty, commercialization, development and other obligations on us and require us to meet development timelines, or to exercise diligent or commercially reasonable efforts to develop and commercialize licensed products, in order to maintain the licenses. For more information on the terms of the license agreement with OSIF, see "Business—Intellectual Property—License Agreement with The Ohio State University."

Furthermore, our licensors have, or may in the future have, the right to terminate a license if we materially breach the agreement and fail to cure such breach within a specified period or in the event we undergo certain bankruptcy events. In spite of our best efforts, our current or any future licensors might conclude that we have materially breached our license agreements and might therefore terminate the license agreements. If our license agreements are terminated, we may lose our rights to develop and commercialize therapeutic candidates and technology, lose patent protection, experience significant delays in the development and commercialization of our therapeutic candidates and technology, and incur liability for damages. If these in-licenses are terminated, or if the underlying intellectual property fails to provide the intended exclusivity, our competitors or other third parties could have the freedom to seek regulatory approval of, and to market, products and technologies identical or competitive to ours and we may be required to cease our development and commercialization of certain of our therapeutic candidates and technology. In addition, we may seek to obtain additional licenses from our licensors and, in connection with obtaining such licenses, we may agree to amend our existing licenses in a manner that may be more favorable to the licensors, including by agreeing to terms that could enable third parties, including our competitors, to receive licenses to a portion of the intellectual property that is subject to our existing licenses and to compete with any therapeutic candidates we may develop and our technology. Any of the foregoing could have a material adverse effect on our competitive position, business, financial condition, results of operations and prospects.

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

- the scope of rights granted and obligations imposed under the license agreement and other interpretation-related issues;
- our or our licensors' ability to obtain, maintain and defend intellectual property and to enforce intellectual property rights against third parties;
- the extent to which our technology, therapeutic candidates and processes infringe, misappropriate or otherwise violate the intellectual property of the licensor that is not subject to the license agreement;
- the sublicensing of patent and other intellectual property rights under our license agreements;
- our diligence, development, regulatory, commercialization, financial or other 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 current or future licensors and us and our partners; and
- the priority of invention of patented technology.

In addition, any current or future license agreements to which we are a party, including our license agreement with OSIF, are likely to be, 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 diligence, development, regulatory, commercialization, financial or other obligations under the relevant agreement. In addition, if disputes over intellectual property that we have licensed or any other dispute related to our license agreements prevent or impair our ability to maintain our current license agreements on commercially acceptable terms, we may be unable to successfully develop and commercialize the affected therapeutic candidates and technology. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

License agreements we may enter into in the future may be non-exclusive. Accordingly, third parties may also obtain non-exclusive licenses from such licensors with respect to the intellectual property licensed to us under such license agreements. Accordingly, these license agreements may not provide us with exclusive rights to use such licensed patent and other intellectual property rights, or may not provide us with exclusive rights to use such patent and other intellectual property rights in all relevant fields of use and in all territories in which we may wish to develop or commercialize our technology and any therapeutic candidates we may develop in the future.

Moreover, some of our in-licensed patent and other intellectual property rights may in the future be subject to third party interests such as co-ownership. If we are unable to obtain an exclusive license to such third-party co-owners' interest, in such patent and other intellectual property rights, such third-party 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. We or our licensors may need the cooperation of any such co-owners of our licensed patent and other intellectual property rights in order to enforce them against third parties, and such cooperation may not be provided to us or our licensors.

Additionally, we may not have complete control over the preparation, filing, prosecution, maintenance, enforcement and defense of patents and patent applications that we license from third parties. It is possible that our licensors' filing, prosecution and maintenance of the licensed patents and patent applications, enforcement of patents against infringers or defense of such patents against challenges of validity or claims of enforceability may be less vigorous than if we had conducted them ourselves, and accordingly, we cannot be certain that these patents and patent applications will be prepared, filed, prosecuted, maintained, enforced and defended in a manner consistent with the best interests of our business. If our licensors fail to file, prosecute, maintain, enforce and defend such patents and patent applications, or lose rights to those patents or patent applications, the rights we have licensed may be reduced or eliminated, our right to develop and commercialize any of our technology and any therapeutic candidates we may develop that are the subject of such licensed rights could be adversely affected and we may not be able to prevent competitors or other third parties from making, using and selling competing products.

Furthermore, our owned and in-licensed patent rights may be subject to a reservation of rights by one or more third parties, including the U.S. government. Pursuant to the Bayh-Dole Act of 1980, the U.S. government has certain rights in inventions developed with government funding. These U.S. government rights include a non-exclusive, non-transferable, irrevocable worldwide license to use inventions for any governmental purpose. When new technologies are developed with government funding, in order to secure ownership of patent rights related to the technologies, the recipient of such funding is required to comply with certain government regulations, including timely disclosing the inventions claimed in such patent rights to the U.S. government and timely electing title to such inventions. A failure to meet these obligations may lead to a loss of rights or the unenforceability of relevant patents or patent applications. In addition, the U.S. government has the right, under certain limited circumstances, to require us to grant exclusive, partially exclusive, or non-exclusive licenses to any of these inventions to a third party if it determines that: (1) adequate steps have not been taken to commercialize the invention; (2) government action is necessary to meet public health or safety needs; or (3) government action is necessary to meet requirements for public use under federal regulations (also referred to as "march-in rights"). If the U.S. government exercised its march-in rights in our current or future intellectual property rights that are generated through the use of U.S. government funding or grants, we could be forced to license or sublicense intellectual property developed by us or that we license on terms unfavorable to us, and there can be no assurance that we would receive compensation from the U.S. government for the exercise of such rights. If the U.S. government decides to exercise these rights, it is not required to engage us as its contractor in connection with doing so. The U.S. government's rights may also permit it to disclose the funded inventions and technology, which may include our confidential information, to third parties and to exercise march-in rights to use or allow third parties to use the technology that was developed using U.S. government funding. Intellectual property generated under a government funded program is also subject to certain reporting requirements, compliance with which may require us to expend substantial resources. In addition, the U.S. government requires that any products embodying any of these inventions or produced through the use of any of these inventions be manufactured substantially in the United States. This

preference for U.S. industry may be waived by the federal agency that provided the funding if the owner or assignee of the intellectual property can show that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible. This preference for U.S. industry may limit our ability to contract with non-U.S. product manufacturers for products covered by such intellectual property. Any of the foregoing could harm our business, financial condition, results of operations and prospects significantly.

We may not be able to protect our intellectual property rights throughout the world.

Filing, prosecuting, maintaining, enforcing and defending patents and other intellectual property rights on our technology and any therapeutic candidates we may develop in all jurisdictions throughout the world would be prohibitively expensive, and accordingly, our intellectual property rights in some jurisdictions outside the United States could be less extensive than those in the United States. In some cases, we or our licensors may not be able to obtain patent or other intellectual property protection for certain technology and therapeutic candidates outside the United States. In addition, the laws of some foreign jurisdictions do not protect intellectual property rights to the same extent as federal and state laws in the United States. Consequently, we and our licensors may not be able to obtain issued patents or other intellectual property rights covering any therapeutic candidates we may develop and our technology in all jurisdictions outside the United States and, as a result, may not be able to prevent third parties from practicing our and our licensors' 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. Third parties may use our technologies in jurisdictions where we and our licensors have not pursued and obtained patent or other intellectual property protection to develop their own products and, further, may export otherwise infringing, misappropriating or violating products to territories where we have patent or other intellectual property protection, but enforcement is not as strong as that in the United States. These products may compete with any therapeutic candidates we may develop and our technology and our or our licensors' patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Additionally, many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain jurisdictions, particularly certain developing countries, do not favor the enforcement of patents, trade secrets and other intellectual property protection, particularly those relating to biotechnology and pharmaceutical products, which could make it difficult for us to stop the infringement, misappropriation or other violation of our patent and other intellectual property rights or marketing of competing products in violation of our intellectual property rights generally. For example, an April 2019 report from the Office of the United States Trade Representative identified a number of countries, including China, Russia, Argentina, Chile and India, where challenges to the procurement and enforcement of patent rights have been reported. Proceedings to enforce our or our licensors' patent and other intellectual property rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patent and other intellectual property rights 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 or our licensors may not prevail in any lawsuits that we or our licensors initiate and, if we or our licensors prevail, 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 a significant commercial advantage from the intellectual property that we develop or license.

Many jurisdictions have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. In addition, many jurisdictions limit the enforceability of patents against government agencies or government contractors. In these jurisdictions, the patent owner may have limited remedies, which could materially diminish the value of such patents. If we or any of our licensors is 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, financial condition, results of operations and prospects may be adversely affected. Patent protection must ultimately be sought on a country-by-country basis, which is an expensive and time-consuming process with uncertain outcomes. Accordingly,

we may choose not to seek patent protection in certain countries, and we will not have the benefit of patent protection in such countries.

Issued patents covering any therapeutic candidates we may develop could be found invalid or unenforceable if challenged in court or before administrative bodies in the United States or abroad.

Our owned and licensed patent rights may be subject to priority, validity, inventorship and enforceability disputes. If we or our licensors are unsuccessful in any of these proceedings, such patent rights may be narrowed, invalidated or held unenforceable, we may be required to obtain licenses from third parties, which may not be available on commercially reasonable terms or at all, or we may be required to cease the development, manufacture and commercialization of one or more of our therapeutic candidates. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

If we or one of our licensors initiate legal proceedings against a third party to enforce a patent covering any of any therapeutic candidates we may develop or our technology, the defendant could counterclaim that the patent covering the therapeutic candidate or technology is invalid or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness, lack of written description or non-enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld information material to patentability from the USPTO, or made a misleading statement, during prosecution. Third parties also may raise similar claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include re-examination, interference proceedings, derivation proceedings, post grant review, *inter partes* review and equivalent proceedings such as opposition, invalidation and revocation proceedings in foreign jurisdictions. Such proceedings could result in the revocation or cancellation of or amendment to our patents in such a way that they no longer cover any therapeutic candidates we may develop or our technology or no longer prevent third parties from competing with any therapeutic candidates we may develop or our technology. The outcome following legal assertions of invalidity and unenforceability is unpredictable. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a distraction to management and other employees. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art, of which the patent examiner and we or our licensing partners were unaware during prosecution. If a third party were to prevail on a legal assertion of invalidity or unenforceability, we could lose at least part, and perhaps all, of the patent protection on one or more of our therapeutic candidates or technology. Such a loss of patent protection could have a material adverse effect on our business, financial condition, results of operations and prospects.

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

Periodic maintenance fees, renewal fees, annuity fees, and various other government fees on patents and applications will be due to be paid to the USPTO and various government patent agencies outside of the United States over the lifetime of our owned or licensed patents and applications. In certain circumstances, we rely on our licensing partners to pay these fees due to U.S. and non-U.S. patent agencies. The USPTO and various non-U.S. government agencies require compliance with several procedural, documentary, fee payment and other similar provisions during the patent application process. We are also dependent on our licensors to take the necessary action to comply with these requirements with respect to our licensed intellectual property. In some cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with the applicable rules. There are situations, however, in which non-compliance can result in abandonment or lapse of the patent or patent application, resulting in a partial or complete loss of patent rights in the relevant jurisdiction. In such an event, potential competitors might be able to enter the market with similar or identical products or

technology, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Changes in patent law in the United States or worldwide could diminish the value of patents in general, thereby impairing our ability to protect any therapeutic candidates we may develop and our technology.

Changes in either the patent laws or interpretation of patent laws in the United States and worldwide, including patent reform legislation such as the Leahy-Smith America Invents Act (the Leahy-Smith Act), could increase the uncertainties and costs surrounding the prosecution of any owned or in-licensed patent applications and the maintenance, enforcement or defense of any current in-licensed issued patents and issued patents we may own or in-license in the future. The Leahy-Smith Act includes a number of significant changes to U.S. patent law. These changes include provisions that affect the way patent applications are prosecuted, redefine prior art, provide more efficient and cost-effective avenues for competitors to challenge the validity of patents, and enable third-party submission of prior art to the USPTO during patent prosecution and additional procedures to attack the validity of a patent at USPTO-administered post-grant proceedings, including post-grant review, *inter partes* review, and derivation proceedings. Assuming that other requirements for patentability are met, prior to March 2013, in the United States, the first to invent the claimed invention was entitled to the patent, while outside the United States, the first to file a patent application was entitled to the patent. After March 2013, under the Leahy-Smith Act, the United States transitioned to a first-to-file system in which, assuming that the other statutory requirements for patentability are met, the first inventor to file a patent application will be entitled to the patent on an invention regardless of whether a third party was the first to invent the claimed invention. As such, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our in-licensed issued patents and issued patents we may own or in-license in the future, all of which could have a material adverse effect on our business, financial condition, results of operations and prospects. Since patent applications in the United States and most other countries are confidential for a period of time after filing or until issuance, we cannot be certain that we or our licensors were the first to either (i) file any patent application related to our therapeutic candidates or (ii) invent any of the inventions claimed in our or our licensor's patents or patent applications.

The Leahy-Smith Act also includes a number of significant changes that affect the way patent applications will be prosecuted and also may affect patent litigation. These include allowing third party submission of prior art to the USPTO during patent prosecution and additional procedures to attack the validity of a patent by USPTO administered post-grant proceedings, including post-grant review, *inter partes* review, and derivation proceedings. Because of a lower evidentiary standard in USPTO proceedings compared to the evidentiary standard in United States 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 unpatentable 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 review patentability of our patent claims that would not have been invalidated if first challenged by the third party as a defendant in a district court action. Therefore, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our owned or in-licensed patent applications and the enforcement or defense of our owned or in-licensed issued patents, all of which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

In addition, the patent positions of companies in the development and commercialization of biologics and pharmaceuticals are particularly uncertain. 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. As one 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 simply because they have been isolated from surrounding material. Moreover, in 2012, the USPTO issued a guidance memo to patent examiners indicating that process claims directed to a law of nature, a natural phenomenon or a naturally occurring relation or correlation that do not include additional elements or steps that integrate the natural principle into the claimed invention such that the

natural principle is practically applied and the claim amounts to significantly more than the natural principle itself should be rejected as directed to patent-ineligible subject matter. Accordingly, in view of the guidance memo, there can be no assurance that claims in our patent rights covering any therapeutic candidates we may develop or our technology will be held by the USPTO or equivalent foreign patent offices or by courts in the United States or in foreign jurisdictions to cover patentable subject matter. This combination of events has created uncertainty with respect to the validity and enforceability of patents once obtained. Depending on future actions by the U.S. Congress, the federal courts and the USPTO, the laws and regulations governing patents could change in unpredictable ways that could have a material adverse effect on our patent rights and our ability to protect, defend and enforce our patent rights in the future.

If we do not obtain patent term extension and data exclusivity for any therapeutic candidates we may develop, our business may be harmed.

Depending upon the timing, duration and specifics of any FDA marketing approval of any therapeutic candidates we may develop and our technology, one or more of our U.S. patents that we license or may own in the future may be eligible for limited patent term extension under Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent extension term of up to five years as compensation for patent term lost during 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, only one patent may be extended 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 for which extension is sought and within 60 days of FDA approval. A patent that covers multiple products for which approval is sought can only be extended in connection with one of the approvals. However, we may not be granted an extension because of, for example, failing to exercise due diligence during the testing phase or regulatory review process, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents or otherwise failing to satisfy applicable requirements. Moreover, the applicable time period or the scope of patent protection afforded could be less than we request. In addition, to the extent we wish to pursue patent term extension based on a patent that we in-license from a third party, we would need the cooperation of that third party. If we are unable to obtain patent term extension or the term of any such extension is less than we request, our competitors may obtain approval of competing products following our patent expiration, and our revenue could be reduced. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

We may be subject to claims challenging the inventorship or ownership of our patent and other intellectual property rights.

We or our licensors may be subject to claims that former employees, collaborators or other third parties have an interest in our owned or in-licensed patent rights, trade secrets or other intellectual property as an inventor or co-inventor. For example, we or our licensors may have inventorship disputes arise from conflicting obligations of employees, consultants or others who are involved in developing our therapeutic candidates or technology. Litigation may be necessary to defend against these and other claims challenging inventorship or our or our licensors' ownership of our owned or in-licensed patent rights, trade secrets or other intellectual property. If we or our licensors 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 intellectual property that is important to any therapeutic candidates we may develop or our technology. 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. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

If we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be harmed.

In addition to seeking patent protection for our therapeutic programs and other proprietary technologies we may develop, we also rely on trade secrets and confidentiality agreements to protect

our unpatented know-how, technology, and other proprietary information and to maintain our competitive position. With respect to our EEV Platform and development programs, we consider trade secrets and know-how to be one of our important sources of intellectual property, including our extensive knowledge of oligonucleotide drug delivery techniques and antibody conjugation. Trade secrets and know-how can be difficult to protect. In particular, the trade secrets and know-how in connection with our EEV Platform, development programs and other proprietary technology we may develop may over time be disseminated within the industry through independent development, the publication of journal articles describing the methodology and the movement of personnel with scientific positions in academic and industry.

We seek to protect these trade secrets and other proprietary technology, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to them, such as our employees, corporate collaborators, outside scientific collaborators, CROs, contract manufacturers, consultants, advisors and other third parties. We also enter into confidentiality and invention or patent assignment agreements with our employees and consultants. We cannot guarantee that we have entered into such agreements with each party that may have or have had access to our trade secrets or proprietary technology and processes. Despite these efforts, any of these parties may breach the agreements and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, some courts inside and outside the United States are less willing or unwilling to protect trade secrets. 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 materially and adversely harmed.

We may be subject to claims that third parties have an ownership interest in our trade secrets. For example, we may have disputes arise from conflicting obligations of our employees, consultants or others who are involved in developing our therapeutic candidate. Litigation may be necessary to defend against these and other claims challenging ownership of our trade secrets. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable trade secret rights, such as exclusive ownership of, or right to use, trade secrets that are important to our therapeutic programs and other proprietary technologies we may develop. 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 our management and other employees.

We may not be successful in obtaining necessary rights to any therapeutic candidate we may develop through acquisitions and in-licenses.

We currently own or exclusively license intellectual property rights covering certain aspects of our therapeutic programs. Other pharmaceutical companies and academic institutions may also have filed or are planning to file patent applications potentially relevant to our business. In order to avoid infringing these third-party patents, we may find it necessary or prudent to obtain licenses to such patents from such third-party intellectual property holders. However, we may be unable to secure such licenses or otherwise acquire or in-license any compositions, methods of use, processes or other intellectual property rights from third parties that we identify as necessary for our therapeutic programs and other proprietary technologies we may develop. The licensing or acquisition of third-party intellectual property rights is a competitive area, and several more established companies may pursue strategies to license or acquire third party intellectual property rights that we may consider attractive or necessary. These established companies may have a competitive advantage over us due to their size, capital 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 or at all. If we are unable to successfully obtain rights to required third party intellectual property rights or maintain the existing intellectual property rights we have, we may have to abandon development of the relevant program or therapeutic candidate, which could have a material adverse effect on our business, financial condition, results of operations and prospects.

We may be subject to claims that our employees, consultants or advisors have wrongfully used or disclosed alleged trade secrets of their current or former employers or claims asserting ownership of what we regard as our own intellectual property.

Some of our employees, consultants and advisors are currently or were previously employed at universities or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Although we try to ensure that our employees, consultants and advisors do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or these individuals have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such individual's current or former employer. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to our management.

In addition, while it is our policy to require our employees and contractors who may be involved in the conception or development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who, in fact, conceives or develops intellectual property that we regard as our own. The assignment of intellectual property rights may not be self-executing, or the assignment agreements may be breached, and we may be forced to bring claims against third parties, or defend claims that they may bring against us, to determine the ownership of what we regard as our intellectual property. Such claims could have a material adverse effect on our business, financial condition, results of operations and prospects.

Third-party claims of intellectual property infringement, misappropriation or other violations against us or our collaborators may prevent or delay the development and commercialization of our therapeutic programs and other proprietary technologies we may develop.

Our commercial success depends in part on our ability to avoid infringing, misappropriating and otherwise violating the patents and other intellectual property rights of third parties. There is a substantial amount of complex litigation involving patents and other intellectual property rights in the biotechnology and pharmaceutical industries, as well as administrative proceedings for challenging patents, including interference, derivation and reexamination proceedings before the USPTO or oppositions and other comparable proceedings in foreign jurisdictions. As discussed above, recently, due to changes in U.S. law referred to as patent reform, new procedures including *inter partes* review and post-grant review have also been implemented. As stated above, this reform adds uncertainty to the possibility of challenge to our patents in the future.

Numerous U.S. and foreign issued patents and pending patent applications owned by third parties exist in the fields in which we are commercializing or plan to commercialize our therapeutic programs and in which we are developing other proprietary technologies. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our therapeutic programs and commercializing activities may give rise to claims of infringement of the patent rights of others. We are aware of third party patents that cover certain aspects of therapeutic candidates that we may develop. We cannot assure you that our therapeutic programs and other proprietary technologies we may develop will not infringe existing or future patents owned by third parties. We may not be aware of patents that have already been issued and that a third party, for example, a competitor in the fields in which we are developing our therapeutic programs, might assert as infringed by us. It is also possible that patents owned by third parties of which we are aware, but which we do not believe we infringe or that we believe we have valid defenses to any claims of patent infringement, could be found to be infringed by us. It is not unusual that corresponding patents issued in different countries have different scopes of coverage, such that in one country a third-party patent does not pose a material risk, but in another country, the corresponding third-party patent may pose a material risk to our planned products. As such, we review third-party patents in the relevant pharmaceutical markets. In addition, because patent applications can take many years to issue, there may be currently pending patent applications that may later result in issued patents that we may infringe.

In the event that any third party claims that we infringe their patents or that we are otherwise employing their proprietary technology without authorization and initiates litigation against us, even if we believe such claims are without merit, a court of competent jurisdiction could hold that such patents are valid, enforceable and infringed by us. In this case, the holders of such patents may be able to block our ability to commercialize the infringing products or technologies unless we obtain a license under the applicable patents, or until such patents expire or are finally determined to be held invalid or unenforceable. Such a license may not be available on commercially reasonable terms or at all. Even if we are able to obtain a license, the license would likely obligate us to pay license fees or royalties or both, and the rights granted to us might be nonexclusive, which could result in our competitors gaining access to the same intellectual property. If we are unable to obtain a necessary license to a third-party patent on commercially reasonable terms, we may be unable to commercialize the infringing products or technologies or such commercialization efforts may be significantly delayed, which could in turn significantly harm our business.

Defense of infringement claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of management and other employee resources from our business, and may impact our reputation. In the event of a successful claim of infringement against us, we may be enjoined from further developing or commercializing the infringing products or technologies. In addition, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, obtain one or more licenses from third parties, pay royalties and/or redesign our infringing products or technologies, which may be impossible or require substantial time and monetary expenditure. In that event, we would be unable to further develop and commercialize our therapeutic candidate or technologies, which could harm our business significantly. Further, we cannot predict whether any required license would be available at all or whether it would be available on commercially reasonable terms. In the event that we could not obtain a license, we may be unable to further develop our therapeutic candidate and commercialize our product, if approved, which could harm our business significantly. Even if we are able to obtain a license, the license would likely obligate us to pay license fees or royalties or both, and the rights granted to us might be nonexclusive, which could result in our competitors gaining access to the same intellectual property. Ultimately, we could be prevented from commercializing a product, or be forced to cease some aspect of our business operations, if, as a result of actual or threatened patent infringement claims, we are unable to enter into licenses on acceptable terms.

Engaging in litigation defending against third parties alleging infringement of patent and other intellectual property rights is very expensive, particularly for a company of our size, and time-consuming. Some of our competitors may be able to sustain the costs of litigation or administrative proceedings more effectively than we can because of greater financial resources. Patent litigation and other proceedings may also absorb significant management time. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could impair our ability to compete in the marketplace. The occurrence of any of the foregoing could have a material adverse effect on our business, financial condition or results of operations.

We may in the future pursue invalidity proceedings with respect to third-party patents. The outcome following legal assertions of invalidity is unpredictable. Even if resolved in our favor, these legal proceedings may cause us to incur significant expenses, and could distract our technical and management personnel from their normal responsibilities. 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 proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing or distribution activities. We may not have sufficient financial or other resources to conduct such proceedings adequately. Some of these third parties may be able to sustain the costs of such proceedings more effectively than we can because of their greater financial resources. If we do not prevail in the patent proceedings the third parties may assert a claim of patent infringement directed at our therapeutic candidates.

We may become involved in lawsuits to protect or enforce our patents and other intellectual property rights, which could be expensive, time-consuming and unsuccessful.

Third parties, such as a competitor, may infringe our patent rights. In an infringement proceeding, a court may decide that a patent owned by us is invalid or unenforceable or may refuse to stop the other party from using the invention at issue on the grounds that the patent does not cover the technology in question. In addition, our patent rights may become involved in inventorship, priority or validity disputes. To counter or defend against such claims can be expensive and time-consuming. An adverse result in any litigation proceeding could put our patent rights at risk of being invalidated or interpreted narrowly. 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 this type of litigation.

Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses and could distract our personnel from their normal responsibilities. 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 the resources available for development activities or any future sales, marketing or distribution activities. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources and more mature and developed intellectual property portfolios. 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 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. During trademark registration proceedings, we may receive rejections of our applications by the USPTO or in other foreign jurisdictions. Although we are given an opportunity to respond to those rejections, we may be unable to overcome such rejections. In addition, in the USPTO and in 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. Moreover, any name we have proposed to use with our therapeutic candidate in the United States must be approved by the FDA, regardless of whether we have registered it, or applied to register it, as a trademark. Similar requirements exist in Europe. The FDA typically conducts a review of proposed product names, including an evaluation of potential for confusion with other product names. If the FDA or an equivalent administrative body in a foreign jurisdiction objects to any of our proposed proprietary product names, we may be required to expend significant additional resources in an effort to identify a suitable substitute name that would qualify under applicable trademark laws, not infringe the existing rights of third parties and be acceptable to the FDA or equivalent body. Furthermore, in many countries, owning and maintaining a trademark registration may not provide an adequate defense against a subsequent infringement claim asserted by the owner of a senior trademark.

We may not be able to protect our rights to these trademarks and trade names, which we need to build name recognition among potential partners or customers in our markets of interest. At times, competitors or other third parties may adopt trade names or trademarks similar to ours, thereby impeding our ability to build brand identity and possibly leading to market confusion. In addition, there could be potential trade name or trademark infringement claims brought by owners of other registered trademarks or trademarks that incorporate variations of our registered or unregistered trademarks or trade names. Furthermore, assertions of potential trademark infringement or possible market confusion may lead to coexistence agreements in order to avoid costly disputes related to our trademarks. As a consequence, we may be forced to amend the list of goods and services covered by our trademarks more narrowly than

as originally filed and intended, which could adversely affect our ability to establish name recognition. For example, the description of goods and services for our Entrada trademark was amended twice to settle potential disputes with two other biopharmaceutical companies as part of coexistence agreements. 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. Our efforts to enforce or protect our proprietary rights related to trademarks, trade names, domain name or other intellectual property may be ineffective and could result in substantial costs and diversion of resources and could adversely affect our business, financial condition, results of operations and prospects.

Intellectual property rights do not necessarily address all potential threats.

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. For example:

- others may be able to make products that are similar to our therapeutic candidate or utilize similar technology but that are not covered by the claims of the patents that we license or may own;
- we might not have been the first to make the inventions covered by our current or future patent applications;
- we might not have been the first to file patent applications covering our inventions;
- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our intellectual property rights;
- it is possible that our current or future patent applications will not lead to issued patents;
- any patent issuing from our current or future patent applications may be held invalid or unenforceable, including as a result of legal challenges by our competitors or other third parties;
- our competitors or other third parties 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;
- we may not develop additional proprietary technologies that are patentable;
- the patents of others may harm our business; and
- we may choose not to file for patent protection in order to maintain certain trade secrets or know-how, and a third party may subsequently file a patent application covering such intellectual property.

The occurrence of any of these events would have a material adverse effect on our business, financial condition, results of operations and prospects.

We partially depend on intellectual property licensed from third parties, and our licensors may not always act in our best interest. If we fail to comply with our obligations under our intellectual property licenses, if the licenses are terminated or if disputes regarding these licenses arise, we could lose significant rights that are important to our business.

We are dependent, in part, on patents, know-how and proprietary technology licensed from others. Our licenses to such patents, know-how and proprietary technology may not provide exclusive rights in all relevant fields of use and in all territories in which we may wish to develop or commercialize our therapeutics in the future. The agreements under which we license patents, know-how and proprietary technology from others are complex, and certain provisions in such agreements may be susceptible to multiple interpretations.

If we fail to comply with obligations under any license agreements, our licensors may have the right to terminate our license, in which event we would not be able to develop or market technology or

therapeutic candidates covered by the intellectual property licensed under these agreements. In addition, we may need to obtain additional licenses from our existing licensors and others to advance our research or allow commercialization of therapeutic candidates we may develop. It is possible that we may be unable to obtain any additional licenses at a reasonable cost or on reasonable terms, if at all. In either event, we may be required to expend significant time and resources to redesign our technology, therapeutic candidates, or the methods for manufacturing them or to develop or license replacement technology, all of which may not be feasible on a technical or commercial basis. If we are unable to do so, we may be unable to develop or commercialize the affected technology or therapeutic candidates.

If we or our licensors fail to adequately protect our licensed intellectual property, our ability to commercialize therapeutic candidates could suffer. We do not have complete control over the maintenance, prosecution and litigation of our in-licensed patents and patent applications and may have limited control over future intellectual property that may be in-licensed. For example, we cannot be certain that activities such as the maintenance and prosecution by our licensors have been or will be conducted in compliance with applicable laws and regulations or will result in valid and enforceable patents and other intellectual property rights. It is possible that our licensors' infringement proceedings or defense activities may be less vigorous than had we conducted them ourselves, or may not be conducted in accordance with our best interests.

In addition, 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 patents, know-how and proprietary technology, or increase what we believe to be our financial or other obligations under the relevant agreement. Disputes that may arise between us and our licensors regarding intellectual property subject to a license agreement could include disputes regarding:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- whether and the extent to which our technology and processes infringe on intellectual property of the licensor that is not subject to the licensing agreement;
- our right to sublicense patent and other rights to third parties under collaborative development relationships;
- our diligence obligations with respect to the use of the licensed technology in relation to our development and commercialization of our therapeutic candidates and what activities satisfy those diligence obligations; and
- the ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors and us.

If disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on acceptable terms, we may be unable to successfully develop and commercialize the affected technology or therapeutic candidates. As a result, any termination of or disputes over our intellectual property licenses could result in the loss of our ability to develop and commercialize our EEV Platform, or EEV products, or we could lose other significant rights, any of which could have a material adverse effect on our business, financial condition, results of operations and prospects.

For example, our agreements with certain of our third-party research partners provide that improvements developed in the course of our relationship may be owned solely by either us or our third-party research partner, or jointly between us and the third party. If we determine that rights to such improvements owned solely by a research partner or other third party with whom we collaborate are necessary to commercialize our therapeutic candidates or maintain our competitive advantage, we may need to obtain a license from such third party in order to use the improvements and continue developing, manufacturing or marketing our therapeutic candidates. We may not be able to obtain such a license on an exclusive basis, on commercially reasonable terms, or at all, which could prevent us from commercializing our therapeutic candidates or allow our competitors or others the chance to access technology that is important to our business. We also may need the cooperation of any co-owners of our

intellectual property in order to enforce such intellectual property against third parties, and such cooperation may not be provided to us.

We may not be successful in obtaining or maintaining necessary rights to product components and processes for our development pipeline through acquisitions and in-licenses.

The growth of our business may depend in part on our ability to acquire, in-license or use third-party proprietary rights. For example, our therapeutic candidates may require specific formulations to work effectively and efficiently, we may develop therapeutic candidates containing our compounds and pre-existing pharmaceutical compounds, or we may be required by the FDA or comparable foreign regulatory authorities to provide a companion diagnostic test or tests with our therapeutic candidates, any of which could require us to obtain rights to use intellectual property held by third parties. In addition, with respect to any patents we may co-own with third parties, we may require licenses to such co-owners interest to such patents. 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 or important to our business operations. In addition, we may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all. Were that to happen, we may need to cease use of the compositions or methods covered by those third-party intellectual property rights, and may need to seek to develop alternative approaches that do not infringe on those intellectual property rights, which may entail additional costs and development delays, even if we were able to develop such alternatives, which may not be feasible. Even if we are able to obtain a license, it may be non-exclusive, which means that our competitors may also receive access to the same technologies licensed to us. In that event, we may be required to expend significant time and resources to develop or license replacement technology.

Additionally, we sometimes collaborate with academic institutions to accelerate our preclinical research or development under written agreements with these institutions. In certain cases, these institutions provide us with an option to negotiate a license to any of the institution's rights in technology resulting from the collaboration. Even if we hold such an option, we may be unable to negotiate a license from the institution within the specified timeframe or under terms that are acceptable to us. If we are unable to do so, the institution may offer the intellectual property rights to others, potentially blocking our ability to pursue our program.

The licensing and acquisition of third-party intellectual property rights is a competitive area, and companies that may be more established or have greater resources than we do may also be pursuing strategies to license or acquire third-party intellectual property rights that we may consider necessary or attractive in order to commercialize our therapeutic candidates. More 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. There can be no assurance that we will be able to successfully complete these types of negotiations and ultimately acquire the rights to the intellectual property surrounding the additional therapeutic candidates that we may seek to develop or market. If we are unable to successfully obtain rights to required third-party intellectual property or to maintain the existing intellectual property rights we have, we may have to abandon development of certain programs and our business financial condition, results of operations and prospects could suffer.

We, our collaborators and our service providers may be subject to a variety of privacy and data security laws and contractual obligations, which could increase compliance costs and our failure to comply with them could subject us to potentially significant fines or penalties and otherwise harm our business.

We maintain a large quantity of sensitive information, including confidential business and patient health information in connection with our preclinical studies, and are subject to laws and regulations governing the privacy and security of such information. The global data protection landscape is rapidly evolving, and we may be affected by or subject to new, amended or existing laws and regulations in the future, including as our operations continue to expand or if we operate in foreign jurisdictions. These

laws and regulations may be subject to differing interpretations, which adds to the complexity of processing personal data. Guidance on implementation and compliance practices are often updated or otherwise revised.

In the United States, there are numerous federal and state privacy and data security laws and regulations governing the collection, use, disclosure and protection of personal information, including federal and state health information privacy laws, federal and state security breach notification laws and federal and state consumer protection laws. Each of these laws is subject to varying interpretations and constantly evolving. By way of example, HIPAA imposes privacy and security requirements and breach reporting obligations with respect to individually identifiable health information upon "covered entities" (health plans, health care clearinghouses and certain health care providers), and their respective business associates, individuals or entities that create, received, maintain or transmit protected health information in connection with providing a service for or on behalf of a covered entity. HIPAA mandates the reporting of certain breaches of health information to the U.S. Department of Health and Human Services (HHS), affected individuals and if the breach is large enough, the media. 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. Even when HIPAA does not apply, 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 (the FTCA), 15 U.S.C § 45(a). The FTC expects a company's data security measures to be reasonable and appropriate in light of the sensitivity and volume of consumer information it holds, the size and complexity of its business and the cost of available tools to improve security and reduce vulnerabilities. Individually identifiable health information is considered sensitive data that merits stronger safeguards.

In addition, certain state laws govern the privacy and security of health information in certain circumstances, some of which are more stringent than HIPAA and many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts. By way of example, the California Consumer Privacy Act (CCPA), which went into effect on January 1, 2020, gives California residents expanded rights to access and delete their personal information, opt out of certain personal information sharing, and receive detailed information about how their personal information is used. The CCPA provides for civil penalties for violations, as well as a private right of action for data breaches that is expected to increase data breach litigation. The CCPA may increase our compliance costs and potential liability. Some observers have noted that the CCPA could mark the beginning of a trend toward more stringent privacy legislation in the United States, which could increase our potential liability and adversely affect our business.

In the EU, in May 2018, a new privacy regime, the General Data Protection Regulation, the GDPR, took effect in the European Economic Area, the EEA. The GDPR governs the collection, use, disclosure, transfer or other processing of personal data of European persons. Among other things, the GDPR imposes new requirements regarding the security of personal data and notification of data processing obligations to the competent national data processing authorities, changes the lawful bases on which personal data can be processed, expands the definition of personal data and requires changes to informed consent practices, as well as more detailed notices for clinical trial subjects and investigators. In addition, the GDPR increases the scrutiny of transfers of personal data from clinical trial sites located in the EEA to the United States and other jurisdictions that the European Commission does not recognize as having "adequate" data protection laws, and imposes substantial fines for breaches and violations (up to the greater of €20 million or 4% of our consolidated annual worldwide gross revenue). The GDPR also confers a private right of action on data subjects and consumer associations to lodge complaints with supervisory authorities, seek judicial remedies and obtain compensation for damages resulting from violations of the GDPR. Moreover, the United Kingdom leaving the EU could also lead to further legislative and regulatory changes. In addition, further to the U.K.'s exit from the EU on January 31, 2020, the GDPR ceased to apply in the U.K. at the end of the transition period on December 31, 2020. However, as of January 1, 2021, the U.K.'s European Union (Withdrawal) Act 2018 incorporated the U.K. GDPR into U.K. law. The U.K. GDPR and the U.K. Data Protection Act 2018 set out the U.K.'s data protection regime, which is independent from but aligned to the EU's data protection regime. Non-compliance with the U.K. GDPR may result in monetary penalties of up to £17.5 million or 4% of worldwide revenue, whichever is higher. Compliance with these and any other

applicable privacy and data security laws and regulations is a rigorous and time-intensive process, and we may be required to put in place additional mechanisms ensuring compliance with the new data protection rules. If we fail to comply with any such laws or regulations, we may face significant fines and penalties that could adversely affect our business, financial condition and results of operations.

Use of open source software could impose limitations on us that may adversely affect our business.

Should use of open source software be necessary for commercialization of our therapeutic candidates, such use could impose limitations on our ability to commercialize. As a result, as we seek to use our platform in connection with commercially available products, we may be required to license software under different license terms, which may not be possible on commercially reasonable terms, if at all. If we are unable to license software components on terms that permit its use for commercial purposes, we may be required to replace those software components, which could result in delays, additional cost and additional regulatory approvals.

Use and distribution of open source software may entail greater risks than use of third-party commercial software, as open source licensors generally do not provide warranties or other contractual protections regarding infringement claims or the quality of the software code. Some open source licenses contain requirements that we make available source code for modifications or derivative works we create based upon the type of open source software we use. If we combine our proprietary software with open source software in a certain manner, we could, under certain of the open source licenses, be required to release the source code of our proprietary software to the public. This could allow our competitors to create similar products with lower development effort and time, and ultimately could result in a loss of product sales for us. Although we monitor our use of open source software, the terms of many open source licenses have not been interpreted by U.S. courts, and there is a risk that those licenses could be construed in a manner that could impose unanticipated conditions or restrictions on our ability to commercialize our therapeutic candidates. We could be required to seek licenses from third parties in order to continue offering our therapeutic candidates, to re-engineer our therapeutic candidates or to discontinue the sale of our therapeutic candidates in the event re-engineering cannot be accomplished on a timely basis, any of which could materially and adversely affect our business, financial condition, results of operations and prospects.

Should any of these events occur, they could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Our reliance on third parties requires us to share our trade secrets, which increases the possibility that a competitor or other third party will discover our trade secrets or that our trade secrets will be misappropriated or disclosed.

Because we currently rely on certain third parties to manufacture all or part of our drug product and to perform quality testing, and because we collaborate with various organizations and academic institutions for the advancement of our product engine and pipeline, we must, at times, share our proprietary technology and confidential information, including trade secrets, with them. We seek to protect our proprietary technology, in part, by entering into confidentiality agreements and, if applicable, material transfer agreements, collaborative research agreements, consulting agreements and other similar agreements with our collaborators, advisors, employees, consultants and contractors prior to beginning research or disclosing any proprietary information. These agreements typically limit the rights of the third parties to use or disclose our confidential information, including our trade secrets. Despite the contractual provisions employed when working with third parties, the need to share trade secrets and other confidential information increases the risk that such trade secrets become known by our competitors or other third parties, are inadvertently incorporated into the technology of others or are disclosed or used in violation of these agreements. Despite our efforts to protect our trade secrets, our competitors may discover our trade secrets, either through breach of these agreements, independent development or publication of information including our trade secrets by third parties. Given that our proprietary position is based, in part, on our know-how and trade secrets, a competitor’s or other third party’s discovery of our proprietary technology and confidential information or other unauthorized use or

disclosure would impair our competitive position and may harm our business, financial condition, results of operations and prospects.

Rights to improvements to our therapeutic candidates may be held by third parties.

In the course of testing our therapeutic candidates, we may enter into agreements with third parties to conduct clinical testing, which may provide that improvements to our therapeutic candidates may be owned solely by a party or jointly between the parties. If we determine that rights to such improvements owned solely by a third party are necessary to commercialize our therapeutic candidates or maintain our competitive advantage, we may need to obtain a license from such third party in order to use the improvements and continue developing, manufacturing or marketing the therapeutic candidates. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain such a license, it could be granted on non-exclusive terms, thereby giving our competitors and other third parties access to the same technologies licensed to us. Failure to obtain a license on commercially reasonable terms or at all, or to obtain an exclusive license, could prevent us from commercializing our therapeutic candidates or force us to cease some of our business operations, which could materially harm our business. If we determine that rights to improvements jointly owned between us and a third party are necessary to commercialize our therapeutic candidates or maintain our competitive advantage, we may need to obtain an exclusive license from such third party. If we are unable to obtain an exclusive license to any such third-party co-owners' interest in such improvements, 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 may need the cooperation of any such co-owners of our intellectual property in order to enforce such intellectual property against third parties, and such cooperation may not be provided to us. Any of the foregoing could have a material adverse effect on our competitive position, business, financial conditions, results of operations, and prospects.

We may be subject to claims that we have wrongfully hired an employee from a competitor or that we or our employees have wrongfully used or disclosed alleged confidential information or trade secrets of their former employers.

As is common in the biotechnology and pharmaceutical industries, in addition to our employees, we engage the services of consultants to assist us in the development of our therapeutic candidate, and other proprietary technologies. Many of these consultants, and many of our employees, were previously employed at, or may have previously provided or may be currently providing consulting services to, other pharmaceutical companies including our competitors or potential competitors. We may become subject to claims that we, our employees or a consultant inadvertently or otherwise used or disclosed trade secrets or other information proprietary to their former employers or their former or current clients. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel, which could adversely affect our business. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to our management team and other employees.

Risks Related to This Offering and Ownership of Our Common Stock

We do not know whether an active, liquid and orderly trading market will develop for our common stock or what the market price of our common stock will be and as a result it may be difficult for investors to sell their shares of our common stock.

Prior to this offering, no market for shares of our common stock existed and an active trading market for our shares may never develop or be sustained following this offering. We will determine the initial public offering price for our common stock through negotiations with the underwriters, and the negotiated price may not be indicative of the market price of our common stock after this offering. The market value of our common stock may decrease from the initial public offering price. As a result of these and other factors, investors may be unable to resell their shares of our common stock at or above the initial public offering price. The lack of an active market may impair investors' ability to sell their shares

at the time they wish to sell them or at a price that they consider reasonable. The lack of an active market may also reduce the fair market value of investors' shares. Furthermore, an inactive market may also impair our ability to raise capital by selling shares of our common stock and may impair our ability to enter into strategic collaborations or acquire companies, technologies or other assets by using our shares of common stock as consideration.

The market price of our common stock may be volatile, and investors could lose all or part of their investment.

The trading price of our common stock following this offering is likely to be highly volatile and subject to wide fluctuations in response to various factors, some of which we cannot control. The stock market in general, and pharmaceutical and biotechnology 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. In addition to the factors discussed in this "Risk Factors" section and elsewhere in this prospectus, these factors include:

- the timing and results of INDs, preclinical studies and clinical trials of our therapeutic candidates or those of our competitors;
- the success of competitive products or announcements by potential competitors of their product development efforts;
- our decision to initiate a clinical trial, not to initiate a clinical trial or to terminate an existing clinical trial;
- any delay in our regulatory filings for our therapeutic candidates and any adverse development or perceived adverse development with respect to the applicable regulatory authority's review of such filings;
- adverse developments concerning our potential future in-house manufacturing facilities or CMOs;
- regulatory actions with respect to our therapeutics or therapeutic candidates or our competitors' products or therapeutic candidates;
- actual or anticipated changes in our growth rate relative to our competitors;
- the size and growth of our initial target markets;
- unanticipated serious safety concerns related to the use of our therapeutic candidates;
- regulatory or legal developments in the U.S. and other countries;
- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- significant lawsuits, including patent or stockholder litigation;
- publication of research reports about us or our industry, or positive or negative recommendations or withdrawal of research coverage by securities analysts;
- the recruitment or departure of key personnel;
- announcements by us or our competitors of significant acquisitions, strategic collaborations, joint ventures, collaborations or capital commitments;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- fluctuations in the valuation of companies perceived by investors to be comparable to us;
- market conditions in the pharmaceutical and biotechnology sector;

- changes in the structure of healthcare payment systems;
- share price and volume fluctuations attributable to inconsistent trading volume levels of our shares;
- our failure to meet the estimates and projections of the investment community or that we may otherwise provide to the public;
- announcement or expectation of additional financing efforts;
- sales of our common stock by us, our insiders or our other stockholders;
- expiration of market stand-off or lock-up agreements;
- the impact of any natural disasters or public health emergencies, such as the COVID-19 pandemic;
- general economic, political, industry and market conditions; and
- other events or factors, many of which are beyond our control.

The realization of any of the above risks or any of a broad range of other risks, including those described in this “Risk factors” section, could have a dramatic and adverse impact on the market price of our common stock. If the market price of our common stock after this offering does not exceed the public offering price, you may not realize any return on your investment in us and may lose some or all of your investment.

If securities or industry analysts do not publish research or reports, or if they publish adverse or misleading research or reports, regarding us, our business or our market, our stock price and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that securities or industry analysts publish about us, our business or our market. We do not currently have and may never obtain research coverage by securities or industry analysts. If no or few securities or industry analysts commence coverage of us, our stock price would be negatively impacted. In the event we obtain securities or industry analyst coverage, if any of the analysts who cover us issue adverse or misleading research or reports regarding us, our business model, our intellectual property, our stock performance or our market, or if our operating results fail to meet the expectations of analysts, our stock price would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

Unstable market and economic conditions may have serious adverse consequences on our business, financial condition and stock price.

As widely reported, global credit and financial markets have experienced extreme volatility and disruptions in the past several years, most recently due to the COVID-19 pandemic, including severely diminished liquidity and credit availability, declines in consumer confidence, declines in economic growth, increases in unemployment rates and uncertainty about economic stability. There can be no assurance that further deterioration in credit and financial markets and confidence in economic conditions, whether due to the evolving effects of the COVID-19 pandemic or otherwise, will not occur. Our general business strategy may be adversely affected by any such economic downturn, volatile business environment or continued unpredictable and unstable market conditions. If the current equity and credit markets deteriorate, or do not improve, it may make any necessary debt or equity financing more difficult, more costly, and more dilutive.

Failure to secure any necessary financing in a timely manner and on favorable terms could have a material adverse event on our growth strategy, financial performance and stock price and could require us to delay or abandon clinical development plans. In addition, there is a risk that one or more of our current service providers, manufacturers and other partners may not survive these difficult economic times, which could directly affect our ability to attain our operating goals on schedule and on budget.

After the completion of this offering, our stock price may decline due in part to the volatility of the stock market and the general economic downturn.

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, our executive officers, directors, holders of 5% or more of our capital stock and their respective affiliates beneficially owned approximately 72.26% of our outstanding voting stock and, upon the closing of this offering, that same group will beneficially own approximately % of our outstanding voting stock (based on the number of shares of common stock outstanding as of June 30, 2021, assuming no exercise of the underwriters' option to purchase additional shares, no exercise of outstanding options and no purchases of shares in this offering by any of this group), in each case assuming the conversion of all outstanding shares of our Series Seed, Series A and Series B convertible preferred stock into shares of our common stock immediately prior to the closing of this offering. These stockholders, acting together, may be able to impact matters requiring stockholder approval. For example, they may be able to impact 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 investors may feel are in their best interest as one of our stockholders. The interests of this group of stockholders may not always coincide with each investor's interests or the interests of other stockholders and they may act in a manner that advances their best interests and not necessarily those of other stockholders, including seeking a premium value for their common stock, and might affect the prevailing market price for our common stock.

Investors will incur immediate and substantial dilution as a result of this offering.

Investors that purchase common stock in this offering will incur immediate and substantial dilution of approximately $ per share, representing the difference between the 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, after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, and our pro forma net tangible book value per share after giving effect to this offering and the automatic conversion of all outstanding shares of our Series Seed, Series A and Series B convertible preferred stock immediately prior to the closing of this offering. As of June 30, 2021, there were 15,600,579 shares subject to outstanding options with a weighted-average exercise price of $0.62 per share. To the extent that these outstanding options are ultimately exercised or the underwriters exercise their option to purchase additional shares, investors will incur further dilution. See the section titled "Dilution" for a further description of the dilution investors will experience immediately after this offering.

Sales of a substantial number of shares of our common stock in the public market could cause our stock price to fall.

Sales of a substantial number of shares of our common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock. After this offering, we will have outstanding shares of common stock, based on the number of shares outstanding as of June 30, 2021, assuming: (i) no exercise of the underwriters' option to purchase additional shares and (ii) the conversion of all outstanding shares of our Series Seed, Series A and Series B convertible preferred stock into shares of common stock immediately prior to the completion of this offering. This includes the shares that we sell in this offering, which may be resold in the public market immediately without restriction, unless purchased by our affiliates. Of the remaining shares, shares of our common stock are currently restricted as a result of securities laws or market stand-off or lock-up agreements but will be able to be sold after this offering as described in the section titled "Shares Eligible for Future Sale." Moreover, after this offering, holders of an aggregate of shares of our common stock will have rights, subject to certain conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders. We also intend to register all shares of common stock that we may issue under our equity incentive plans.

Once we register these shares, they can be freely sold in the public market upon issuance, subject to volume limitations applicable to affiliates and the lock-up agreements described in the section titled "Underwriting."

Our executive officers, directors and the holders of substantially all of our capital stock and securities convertible into or exchangeable for our capital stock have entered into market stand-off agreements with us and lock-up agreements with the underwriters under which they have agreed, subject to specific exceptions described in the section titled "Underwriting," not to, among other things, sell, directly or indirectly, any shares of common stock without the permission of Goldman Sachs & Co. LLC, Cowen and Company, LLC and Evercore Group, L.L.C. for a period of 180 days following the date of this prospectus. We refer to such period as the lock-up period. When the lock-up period expires, we and our securityholders subject to a lock-up agreement or market stand-off agreement will be able to sell our shares in the public market. In addition, Goldman Sachs & Co. LLC, Cowen and Company, LLC and Evercore Group, L.L.C. may, in their sole discretion, release all or some portion of the shares subject to lock-up agreements at any time and for any reason. See the description of the market stand-off agreement with us and the lock-up agreement with the underwriters in the section titled "Shares Eligible for Future Sale" for more information. Sales of a substantial number of such shares upon expiration of the lock-up and market stand-off agreements, the perception that such sales may occur, or early release of these agreements, could cause our market price to fall or make it more difficult for investors to sell their common stock at a time and price that they deem appropriate.

Future sales and issuances of our common stock or rights to purchase common stock, including pursuant to our 2016 Plan, could result in additional dilution of the percentage ownership of our stockholders and could cause our stock price to fall.

We expect that significant additional capital may be needed in the future to continue our planned operations, including conducting clinical trials, commercialization efforts, expanded research and development activities and costs associated with operating a public company. To raise capital, we may sell common stock, convertible securities or other equity securities in one or more transactions at prices and in a manner we determine from time to time. If we sell common stock, convertible securities or other equity securities, investors may be materially diluted by subsequent sales. Such sales may also result in material dilution to our existing stockholders, and new investors could gain rights, preferences and privileges senior to the holders of our common stock.

Pursuant to our 2016 Plan, our management is authorized to grant stock options to our employees, directors and consultants. If the number of shares reserved under our 2016 Plan is increased pursuant to the terms of the 2016 Plan, our stockholders may experience additional dilution, which could cause our stock price to fall.

Any of the above events could significantly harm our business, prospects, financial condition and results of operations and cause the price of our common stock to decline.

Raising additional capital may cause dilution to our stockholders, including purchasers of common stock in this offering, restrict our operations or require us to relinquish rights to our technologies or therapeutic candidates.

We do not have any committed external source of funds or other support for our development and commercialization efforts, and we cannot be certain that additional funding will be available on acceptable terms, or at all. Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through equity offerings, debt financings, or other capital sources, including potential collaborations, licenses and other similar arrangements. To the extent that 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 common stockholder. Any future debt financing and preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, selling or licensing our assets, making capital expenditures, declaring dividends or encumbering our assets to secure future indebtedness. Such restrictions could adversely impact our ability to conduct our operations and execute our business plan.

As a result of our recurring losses from operations and recurring negative cash flows from operations, there is uncertainty regarding our ability to maintain liquidity sufficient to operate our business effectively. If we raise additional funds through future collaborations, licenses and other similar arrangements, we may have to relinquish valuable rights to our future revenue streams, research programs, therapeutic candidates or EEV Platform, or grant licenses on terms that may not be favorable to us and/or that may reduce the value of our common stock. If we are unable to raise additional funds through equity or debt financings or other arrangements when needed or on terms acceptable to us, we would be required to delay, limit, reduce, or terminate our product development or future commercialization efforts or grant rights to develop and market therapeutic candidates that we would otherwise prefer to develop and market ourselves. Any of the above events could significantly harm our business, prospects, financial condition and results of operations and cause the price of our common stock to decline.

We are an "emerging growth company" and a smaller reporting company, and we cannot be certain if the reduced reporting requirements applicable to emerging growth companies and smaller reporting companies will make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012 (JOBS Act). For as long as we continue to be an emerging growth company, we intend to take advantage of exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies, including:

- being permitted to provide only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure in this prospectus;
- not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended (Sarbanes-Oxley Act);
- not being required to comply 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;
- reduced disclosure obligations regarding executive compensation in this prospectus and our periodic reports and proxy statements; and
- exemptions from the requirements of holding nonbinding advisory stockholder votes on executive compensation and stockholder approval of any golden parachute payments not previously approved.

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 have elected to avail ourselves of this exemption from 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 the new or revised accounting pronouncements as of public company effective dates.

We will remain an emerging growth company until the earliest to occur of: (i) the last day of the fiscal year in which we have more than $1.07 billion in annual revenue; (ii) the date we qualify as a "large accelerated filer," with at least $700.0 million of equity securities held by non-affiliates; (iii) the date on which we have issued more than $1.0 billion in non-convertible debt securities during the prior three-year period; and (iv) the last day of the fiscal year ending after the fifth anniversary of our initial public offering.

Even after we no longer qualify as an emerging growth company, we may still qualify as a "smaller reporting company," which would allow us to continue to take advantage of many of the same exemptions from disclosure requirements, including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act and reduced disclosure obligations regarding executive compensation in this prospectus and our periodic reports and proxy statements. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions.

If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions.

We will have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

Our management will have broad discretion in the application of the net proceeds from this offering, and investors will be relying on the judgment of our management regarding the application of these proceeds. Investors will not have the opportunity, as part of their investment decision, to assess whether we are using the proceeds appropriately. Our management might not apply the net proceeds in ways that ultimately increase the value of investors' investment. If we do not invest or apply the net proceeds from this offering in ways that enhance stockholder value, we may fail to achieve expected financial results, which could cause our stock price to decline.

We do not intend to pay dividends on our common stock so any returns will be limited to the value of our stock.

We have never declared or paid any cash dividends on our common stock. We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future. Any return to stockholders will therefore be limited to any appreciation in the value of their stock.

Anti-takeover provisions in our certificate of incorporation and bylaws, as they will be in effect upon closing of this offering, and Delaware law might discourage, delay or prevent a change in control of our company or changes in our management and, therefore, depress the market price of our common stock.

Our fourth amended and restated certificate of incorporation and amended and restated bylaws, as they will be in effect upon closing 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:

- a board of directors divided into three classes serving staggered three-year terms, such that not all members of the board will be elected at one time;
- a prohibition on stockholder actions through written consent, which requires that all stockholder actions be taken at a meeting of our stockholders;
- a requirement that special meetings of stockholders be called only by the board of directors acting pursuant to a resolution approved by the affirmative vote of a majority of the directors then in office;
- advance notice requirements for stockholder proposals and nominations for election to our board of directors;
- a requirement that no member of our board of directors may be removed from office by our stockholders except for cause and, in addition to any other vote required by law, upon the approval of not less than two-thirds of all outstanding shares of our voting stock then entitled to vote in the election of directors;
- a requirement of approval of not less than two-thirds of all outstanding shares of our voting stock to amend any bylaws by stockholder action or to amend specific provisions of our certificate of incorporation; and
- the authority of the board of directors to issue preferred stock on terms determined by the board of directors without stockholder approval and which preferred stock may include rights superior to the rights of the holders of common stock.

In addition, Section 203 of the General Corporation Law of the State of Delaware (DGCL) prohibits a publicly-held Delaware corporation from engaging in a business combination with an interested stockholder, generally a person which together with its affiliates owns, or within the last three years has owned, 15% of our voting stock, for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner.

Any provision of our fourth amended and restated certificate of incorporation, amended and restated bylaws or Delaware law that has the effect of delaying or preventing a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our capital stock and could also affect the price that some investors are willing to pay for our common stock.

Our bylaws that will become effective upon the consummation of this offering designate certain courts as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by 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 amended and restated bylaws that will become effective upon the completion of this offering provide that, unless we consent in writing to an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for any state law claims for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of, or a claim based on, fiduciary duty owed by any of our current or former directors, officers, and employees to us or our stockholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, our certificate of incorporation or our bylaws or (iv) any action asserting a claim that is governed by the internal affairs doctrine, in each case subject to the Court of Chancery having personal jurisdiction over the indispensable parties named as defendants therein (Delaware Forum Provision). The Delaware Forum Provision will not apply to any causes of action arising under the Securities Act or the Exchange Act. Our amended and restated bylaws further provide that, unless we consent in writing to the selection of an alternative forum, the federal district courts of the U.S. shall be the sole and exclusive forum for resolving any complaint asserting a cause or causes of action arising under the Securities Act (Federal Forum Provision). In addition, our amended and restated bylaws provide that any person or entity purchasing or otherwise acquiring any interest in shares of our common stock is deemed to have notice of and consented to the foregoing provisions; provided, however, that stockholders cannot and will not be deemed to have waived our compliance with the federal securities laws and the rules and regulations thereunder.

The Delaware Forum Provision and the Federal Forum Provision in our amended and restated bylaws may impose additional litigation costs on stockholders in pursuing any such claims. Additionally, the forum selection clauses in our amended and restated bylaws may limit our stockholders' ability to bring a claim in a forum that they find favorable for disputes with us or our directors, officers or employees, which may discourage such lawsuits against us and our directors, officers and employees even though an action, if successful, might benefit our stockholders. In addition, while the Delaware Supreme Court ruled in March 2020 that federal forum selection provisions purporting to require claims under the Securities Act be brought in federal court were "facially valid" under Delaware law, there is uncertainty as to whether other courts will enforce our Federal Forum Provision. If the Federal Forum Provision is found to be unenforceable, we may incur additional costs associated with resolving such matters. The Federal Forum Provision may also impose additional litigation costs on stockholders who assert that the provision is not enforceable or invalid. The Court of Chancery of the State of Delaware and the federal district courts of the U.S. may also reach different judgments or results than would other courts, including courts where a stockholder considering an action may be located or would otherwise choose to bring the action, and such judgments may be more or less favorable to us than our stockholders.

Our failure to meet Nasdaq's continued listing requirements could result in a delisting of our common stock.

If, after listing, we fail to satisfy Nasdaq's continued listing requirements, such as the corporate governance requirements or the minimum closing bid price requirement. Nasdaq may take steps to

delist our common stock. Such a delisting would likely have a negative effect on the price of our common stock and would impair your ability to sell or purchase our common stock when you wish to do so. In the event of a delisting, we can provide no assurance that any action taken by us to restore compliance with listing requirements would allow our common stock to become listed again, stabilize the market price or improve the liquidity of our common stock, prevent our common stock from dropping below the Nasdaq minimum bid price requirement or prevent future non-compliance with Nasdaq's listing requirements.

General Risk Factors

We will incur increased costs as a result of operating as a public company, and our management will devote substantial time to related compliance initiatives.

As a public company, we will incur significant legal, accounting and other expenses that we did not incur as a private company, and these expenses may increase even more after we are no longer an "emerging growth company." We will be subject to the reporting requirements of the Securities Exchange Act of 1934, as amended (Exchange Act), the Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Protection Act, as well as rules adopted, and to be adopted, by the SEC and Nasdaq. Our management and other personnel will need to devote a substantial amount of time to these compliance initiatives. Moreover, we expect these rules and regulations to substantially increase our legal and financial compliance costs and to make some activities more time-consuming and costly, which will increase our operating expenses. For example, we expect these rules and regulations to make it more difficult and more expensive for us to obtain director and officer liability insurance and we may be required to incur substantial costs to maintain sufficient coverage, particularly in light of recent cost increases related to coverage. We cannot accurately predict or estimate the amount or timing of additional costs we may incur to respond to these requirements. The impact of these requirements could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, our board committees or as executive officers.

In addition, as a public company we will be required to incur additional costs and obligations in order to comply with SEC rules that implement Section 404 of the Sarbanes-Oxley Act. Under these rules, beginning with our second annual report on Form 10-K after we become a public company, we will be required to make a formal assessment of the effectiveness of our internal control over financial reporting, and once we cease to be an emerging growth company, we may be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. To achieve compliance with Section 404 within the prescribed period, we will be engaging in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, potentially engage outside consultants and adopt a detailed work plan to assess and document the adequacy of our internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are designed and operating effectively, and implement a continuous reporting and improvement process for internal control over financial reporting.

If we experience material weaknesses in the future or otherwise fail to maintain an effective system of internal controls in the future, we may not be able to accurately or timely report our financial condition or results of operations, which may adversely affect investor confidence in us and, as a result, the value of our common stock.

We may in the future discover material weaknesses in our system of internal financial and accounting controls and procedures that could result in a material misstatement of our financial statements. Our internal control over financial reporting will not prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud will be detected.

We, and our independent registered public accounting firm, were not required to perform an evaluation of our internal control over financial reporting as of December 31, 2020 in accordance with

the provisions of the Sarbanes-Oxley Act. Accordingly, we cannot assure you that we will not in the future identify material weaknesses. Material weaknesses may exist when we become required to report on the effectiveness of our internal control over financial reporting under Section 404 of the Sarbanes-Oxley Act after the completion of this offering.

If we are not able to comply with the requirements of Section 404 of the Sarbanes-Oxley Act in a timely manner, or if we are unable to maintain proper and effective internal controls over financial reporting, we may not be able to produce timely and accurate financial statements. If that were to happen, our investors could lose confidence in our reported financial information, the market price of our stock could decline, and we could be subject to sanctions or investigations by the stock exchange on which our common stock is listed, the SEC or other regulatory authorities.

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

Upon the closing of this offering, we will become subject to the periodic reporting requirements of the Exchange Act. We designed 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 facts that judgments in decision-making can be faulty and that breakdowns can occur because of simple error or mistake. 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 may be subject to securities litigation, which is expensive and could divert management attention.

The market price of our common stock may be volatile and, in the past, companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We may be the target of this type of litigation in the future. Securities litigation against us could result in substantial costs and divert our management's attention from other business concerns, which could seriously harm our business.

Our insurance policies are expensive and only protect us from some business risks, which will leave us exposed to significant uninsured liabilities.

We do not carry insurance for all categories of risk that our business may encounter. Some of the policies we currently maintain include property, general liability, employment benefits liability, business automobile, workers' compensation, and directors' and officers', employment practices and fiduciary liability insurance. We do not know, however, if we will be able to maintain insurance with adequate levels of coverage. Any significant uninsured liability may require us to pay substantial amounts, which would adversely affect our financial position and results of operations.

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 agency 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 drugs and biologics or modifications to approved drugs and biologics to be reviewed and/or approved by necessary government agencies, which would adversely affect our business.

Most recently, the COVID-19 pandemic created a shortage of available resources at the FDA. Since March 2020 when foreign and domestic inspections of facilities were largely placed on hold, the FDA has been working to resume routine surveillance, bioresearch monitoring and pre-approval inspections on a prioritized basis. As of May 2021, certain inspections, such as foreign preapproval, surveillance, and for-cause inspections that are not deemed mission-critical, remain temporarily postponed.

Regulatory authorities outside the United States may adopt similar restrictions or other policy measures in response to the COVID-19 pandemic and may experience delays in their regulatory activities. 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, including formal and informal interactions with product developers, it could significantly impact the ability of the FDA or other regulatory authorities to timely review and process our future regulatory submissions, which could have a material adverse effect on our business.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the sections entitled “Prospectus Summary,” “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and “Business,” contains express or implied forward-looking statements that are based on our management’s belief and assumptions and on information currently available to our management. Although we believe that the expectations reflected in these forward-looking statements are reasonable, these statements relate to future events or our future operational or financial performance, and involve known and unknown risks, uncertainties, and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. Forward-looking statements in this prospectus include, but are not limited to, statements about:

- the initiation, timing, progress, results and costs of conducting our research and development programs and our current and future preclinical studies and anticipated clinical trials, including statements regarding the timing of initiation and completion of studies or trials and related preparatory work, the period during which the results of the trials will become available, and our current and future programs;
- the ability of our preclinical studies and clinical trials to demonstrate safety and efficacy of our therapeutic candidates, and other positive results;
- the beneficial characteristics, and the potential safety, efficacy and therapeutic effects of our therapeutic candidates;
- the timing, scope and likelihood of regulatory filings and approvals, including timing of INDs and final FDA approval of our current therapeutic candidates or any future therapeutic candidates;
- the timing, scope or likelihood of foreign regulatory filings and approvals;
- the ability to leverage our proprietary EEV Platform to efficiently develop additional therapeutic candidates, including by applying learnings from one program to other programs and from one indication to our other indications;
- our estimates of the number of patients that we will enroll and our ability to initiate, recruit and enroll patients in and conduct and successfully complete clinical trials at the pace that we project;
- the costs of manufacturing and our ability to scale-up our manufacturing and processing approaches to appropriately address our anticipated commercial needs, which will require significant resources;
- the ability and willingness of our third-party strategic collaborators to undertake research and development activities relating to our therapeutic candidates and discovery programs;
- our ability to obtain funding for our operations necessary to complete further development and commercialization of our therapeutic candidates;
- our ability to take advantage of expedited regulatory pathways for our therapeutic candidates;
- our ability to obtain and maintain regulatory approval of our therapeutic candidates;
- our ability to commercialize our therapeutic candidates, if approved;
- the pricing and reimbursement of our therapeutic candidates, if approved;
- the implementation of our business model, and strategic plans for our business, therapeutic candidates, and technology;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our therapeutic candidates and other therapeutic candidates we may develop, including the extensions of existing patent terms where available, the validity of intellectual property

rights held by third parties, and our ability not to infringe, misappropriate or otherwise violate any third-party intellectual property rights;

- the period over which we estimate our existing cash and cash equivalents will be sufficient to fund our future operating expenses and capital expenditure requirements;
- estimates of our future expenses, revenues, capital requirements, and our needs for additional financing;
- future agreements with third parties in connection with the development and commercialization of our therapeutic candidates and any other approved product;
- the size and growth potential of the markets for our therapeutic candidates, and our ability to serve those markets;
- our financial performance;
- our expectations related to the use of our cash reserves;
- the rate and degree of market acceptance of our therapeutic candidates;
- regulatory developments in the United States and foreign countries;
- our ability to contract with third-party suppliers and manufacturers and their ability to perform adequately;
- our ability to establish or maintain collaborations or strategic relationships;
- our ability to produce our therapeutic candidates with advantages in turnaround times or manufacturing cost;
- our competitive position and the success of competing therapies that are or may become available;
- our need for and ability to attract and retain key scientific, management and other personnel and to identify, hire and retain additional qualified professionals;
- the impact of laws and regulations;
- our expectations regarding the period during which we will remain an emerging growth company under the JOBS Act;
- our anticipated use of our existing resources and the net proceeds from this offering;
- developments relating to our competitors and our industry;
- the effect of the COVID-19 pandemic, including mitigation efforts and economic effects, on any of the foregoing or other aspects of our business operations, including but not limited to our preclinical studies and future clinical trials; and
- other risks and uncertainties, including those listed under the caption “Risk Factors.”

In some cases, forward-looking statements can be identified by terminology such as “may,” “should,” “expects,” “intends,” “plans,” “anticipates,” “believes,” “estimates,” “predicts,” “potential,” “continue,” or the negative of these terms or other comparable terminology. These statements are only predictions. You should not place undue reliance on forward-looking statements because they involve known and unknown risks, uncertainties and other factors, which are, in some cases, beyond our control and which could materially affect results. Factors that may cause actual results to differ materially from current expectations include, among other things, those listed under the section entitled “Risk Factors” and elsewhere in this prospectus. If one or more of these risks or uncertainties occur, or if our underlying assumptions prove to be incorrect, actual events or results may vary significantly from those implied or projected by the forward-looking statements. No forward-looking statement is a guarantee of future performance. You should read this prospectus and the documents that we reference in this prospectus and have filed with the SEC as exhibits to the registration statement, of which this prospectus is a part, completely and with the understanding that our actual future results may be materially different from any future results expressed or implied by these forward-looking statements.

The forward-looking statements in this prospectus represent our views as of the date of this prospectus. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should therefore not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this prospectus.

This prospectus includes statistical and other industry and market data that we obtained from industry publications and research, surveys and studies conducted by third parties. Industry publications and third-party research, surveys and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. We are responsible for all of the disclosure contained in this prospectus, and we believe that these sources are reliable; however, we have not independently verified the information contained in such publications.

USE OF PROCEEDS

We estimate that our net proceeds from the sale of shares of our common stock in this offering will be approximately $ million, or $ million if the underwriters exercise in full their option to purchase additional shares, assuming an initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

A $1.00 increase (decrease) in the assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) our net proceeds from this offering by $ million, assuming 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. An increase (decrease) of 1,000,000 shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase (decrease) our net proceeds from this offering by $ million, assuming no change in the assumed initial public offering price per share and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The principal purposes of this offering are to create a public market for our common stock and thereby facilitate future access to the public equity markets, increase our visibility in the marketplace and obtain additional capital. We currently intend to use the net proceeds from this offering for the following:

- approximately $ million for preclinical studies, IND-enabling studies and clinical trials;
- approximately $ million for EEV Platform development and discovery research, and
- the remainder to fund working capital and other general corporate purposes.

Our expected use of the net proceeds from this offering represents our intentions based upon our current plans and business conditions. As of the date of this prospectus, we cannot predict with certainty all of the particular uses for the net proceeds to be received upon the completion of this offering or the amounts that we will actually spend on the uses set forth above and we expect that we will require additional funds in order to fully accomplish the specified uses of the proceeds of this offering. We may also use a portion of the net proceeds to in-license, acquire, or invest in complementary businesses or technologies to continue to build our pipeline, research and development capabilities and our intellectual property position, although we currently have no agreements, commitments, or understandings with respect to any such transaction.

Due to the many inherent uncertainties in the development of our therapeutic candidates, the amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the progress of our research and development, the timing and success of preclinical studies, the clinical studies we may commence in the future, the timing of regulatory submissions and evolving regulatory requirements, any strategic alliances that we may enter into with third parties for our therapeutic candidates or strategic opportunities that become available to us, and any unforeseen cash needs. The expected net proceeds of this offering will not be sufficient for us to fund all our therapeutic candidates through regulatory approval, and we will need to raise substantial additional capital to complete the development and commercialization of our therapeutic candidates.

Pending our use of the net proceeds from this offering, we intend to invest the net proceeds in a variety of capital preservation instruments, including short-term and long-term interest-bearing instruments, investment-grade securities, and direct or guaranteed obligations of the U.S. government. We cannot predict whether the proceeds invested will yield a favorable return. Our management team will retain broad discretion in the application of the net proceeds we receive from our initial public offering, and investors will be relying on the judgment of our management regarding the application of the net proceeds.

DIVIDEND POLICY

We currently intend to retain all available funds and any future earnings to fund the growth and development of our business. We do not intend to pay cash dividends to our stockholders in the foreseeable future. Any future determination to declare dividends will be made at the discretion of our board of directors and will depend on our financial condition, operating results, capital requirements, contractual restrictions, general business conditions, and other factors that our board of directors may deem relevant.

CAPITALIZATION

The following table sets forth our cash and our capitalization as of June 30, 2021:

- on an actual basis;
- on a pro forma basis to give effect to (i) the automatic conversion of all outstanding shares of our redeemable convertible preferred stock into an aggregate of 138,821,984 shares of common stock immediately prior to the completion of this offering (assuming an initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus), and (ii) the filing and effectiveness of our fourth amended and restated certificate of incorporation immediately prior to the completion of this offering, in each case as if such events had occurred on June 30, 2021; and
- on a pro forma as adjusted basis to give further effect to our sale in this offering of shares of common stock at an assumed initial public offering price of $ per share, 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.

The pro forma as adjusted 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 of this offering determined at pricing.

The following table should be read together with "Management's Discussion and Analysis of Financial Condition and Results of Operations," "Description of Capital Stock," and the financial statements and related notes appearing elsewhere in this prospectus.

	As of June 30, 2021		
	Actual	Pro Forma	Pro Forma As Adjusted
	(in thousands, except share and per share data)		
Cash	$	$	$
Redeemable convertible preferred stock (Series Seed, Series A and Series B), $0.0001 par value; 138,821,984 shares authorized, issued and outstanding, actual; no shares issued or outstanding, pro forma and pro forma as adjusted	$	$	$
Stockholders' (deficit) equity:			
Preferred stock, $ par value; no shares authorized, issued or outstanding, actual; shares authorized and no shares issued or outstanding, pro forma and pro forma as adjusted			
Common stock, $0.0001 par value; 172,000,000 shares authorized, 11,774,460 shares issued, and 10,166,829 shares outstanding, actual; shares authorized, shares issued, and shares outstanding, pro forma; shares authorized, shares issued and shares outstanding, pro forma as adjusted			
Additional paid-in capital			
Accumulated deficit			
Total stockholders' (deficit)			
Total capitalization	$	$	$

A $1.00 increase (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 (decrease) the pro forma as adjusted amount of each of cash, additional paid-in capital, 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. Similarly, an increase (decrease) of 1,000,000 shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted amount of each of cash, additional paid-in capital, total stockholders' equity (deficit) and total capitalization by approximately $ million, assuming no change in the assumed initial public offering price per share and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. The pro forma as adjusted information 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 of this offering determined at pricing.

The actual, pro forma, and pro forma as adjusted information set forth in the table excludes:

- 15,600,579 shares of common stock issuable upon the exercise of stock options outstanding as of June 30, 2021 under our 2016 Stock Incentive Plan, as amended (2016 Plan) at a weighted average exercise price of $0.62 per share;
- 2,016,253 shares of our common stock issuable upon the exercise of stock options granted after June 30, 2021 pursuant to our 2016 Plan;
- 2,416,228 shares of common stock reserved for future issuance as of June 30, 2021 under our 2016 Plan, which will cease to be available for issuance at the time that our 2021 Stock Option and Incentive Plan (2021 Stock Plan), becomes effective;
- shares of our common stock that will become available for future issuance under our 2021 Stock Plan, which will become effective upon effectiveness of the registration statement of which this prospectus is a part; and
- shares of common stock reserved for future issuance under our 2021 Employee Stock Purchase Plan (ESPP), which will become effective upon effectiveness of the registration statement of which this prospectus is a part.

DILUTION

If you invest in our common stock in this offering, your ownership interest will be diluted immediately to the extent of the difference between the initial public offering price per share of our common stock and the pro forma as adjusted net tangible book value per share of our common stock immediately after this offering.

Our historical net tangible book value (deficit) as of June 30, 2021 was $ million, or $ per share of our common stock. Our historical net tangible book value (deficit) is the amount of our total tangible assets less our total liabilities and preferred stock, which is not included within our stockholders' equity (deficit). Historical net tangible book value (deficit) per share represents historical net tangible book value (deficit) divided by the 11,774,460 shares of our common stock outstanding as of June 30, 2021, which includes 20,870 shares of unvested restricted common stock and 1,586,761 unvested early exercised stock options.

Our pro forma net tangible book value as of June 30, 2021 was $ million, or $ per share of our common stock. Pro forma net tangible book value per share represents the amount of our total tangible assets less our total liabilities, after giving effect to the automatic conversion of all outstanding shares of our redeemable convertible preferred stock into an aggregate of 138,821,984 shares of our common stock immediately prior to the completion of this offering. Pro forma net tangible book value per share represents pro forma net tangible book value divided by the total number of shares of common stock outstanding as of June 30, 2021 after the pro forma adjustments described above.

After giving further effect to the sale and issuance of shares of our common stock in this offering at 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 estimated underwriting discounts and commissions and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of June 30, 2021 would have been approximately $ million, or approximately $ per share. This represents an immediate increase in pro forma as adjusted net tangible book value per share of $ to existing stockholders and immediate dilution of $ per share in pro forma as adjusted net tangible book value per share to investors purchasing common stock in this offering.

Dilution per share to investors purchasing common stock in this offering is determined by subtracting pro forma as adjusted net tangible book value per share after this offering from the assumed initial public offering price per share paid by investors purchasing common stock in this offering. The following table illustrates this dilution on a per share basis (without giving effect to any exercise by the underwriters of their option to purchase up to additional shares of common stock in this offering):

Assumed initial public offering price per share		$
Historical net tangible book value (deficit) per share as of June 30, 2021	$	
Increase per share attributable to the pro forma adjustments described above		
Pro forma net tangible book value per share as of June 30, 2021		
Increase in pro forma as adjusted net tangible book value per share attributable to investors purchasing common stock in this offering		
Pro forma as adjusted net tangible book value per share after this offering		
Dilution per share to investors purchasing common stock in this offering		$

A $1.00 increase (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 (decrease) our pro forma as adjusted net tangible book value per share after this offering by $ and dilution per share to investors purchasing common stock in this offering by $, 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. An increase of 1,000,000 shares in the number of shares offered by us, as

set forth on the cover page of this prospectus, would increase our pro forma as adjusted net tangible book value per share after this offering by $ and decrease the dilution per share to investors purchasing common stock in this offering by $, assuming no change in the assumed initial public offering price per share and after deducting estimated underwriting discounts and commissions. A decrease of shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would decrease our pro forma as adjusted net tangible book value per share after this offering by $ and increase the dilution per share to investors purchasing common stock in this offering by $, assuming no change in the assumed initial public offering price and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

If the underwriters fully exercise their option to purchase additional shares of common stock in this offering, our pro forma as adjusted net tangible book value per share after this offering would be $ and the dilution in pro forma as adjusted net tangible book value per share to investors purchasing common stock in this offering would be $, assuming no change in the initial public offering price per share and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The following table summarizes, as of June 30, 2021, on the pro forma as adjusted basis described above, the total number of shares of common stock purchased from us on an as converted to common stock basis, the total consideration paid, or to be paid, and the average price per share paid or to be paid by existing stockholders and by investors in this offering at 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, before deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. As the table shows, investors purchasing common stock in this offering will pay an average price per share substantially higher than our existing stockholders paid.

	Shares Purchased		Total Consideration		Average Price
	Number	Percent	Amount	Percentage	Per Share
Existing stockholders		%		%	$
Investors in this offering					$
Total		100.0%		100.0%	

A $1.00 increase (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 (decrease) the total consideration paid by investors in this offering by approximately $ million and, in the case of an increase, would increase the percentage of total consideration paid by investors in this offering by percentage points and, in the case of a decrease, would decrease the percentage of total consideration paid by investors in this offering by percentage points, 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. An increase (decrease) of 1,000,000 shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase (decrease) the total consideration paid by investors in this offering by approximately $ million and, in the case of an increase, would increase the percentage of total consideration paid by investors in this offering by percentage points and, in the case of a decrease, would decrease the percentage of total consideration paid by investors in this offering by percentage points, assuming no change in the assumed initial public offering price per share and after deducting estimated underwriting discounts and commission and estimated offering expenses payable by us.

The table above assumes no exercise of the underwriters' option to purchase additional shares in this offering. If the underwriters' option to purchase additional shares is fully exercised, the number of shares of our common stock held by existing stockholders would be reduced to % of the total number of shares of our common stock outstanding after this offering, and the number of shares of common stock held by investors purchasing common stock in this offering would be increased to % of the total number of shares of our common stock outstanding after this offering.

The table and discussion above are based on 11,774,460 shares of our common stock outstanding as of June 30, 2021, including (i) 20,870 shares of unvested restricted common stock and (ii) 1,586,761 unvested early exercised stock options, and gives effect to the automatic conversion of all outstanding shares of our redeemable convertible preferred stock into an aggregate of 138,821,984 shares of our common stock immediately prior to the completion of this offering.

The above discussion and tables exclude:

- 15,600,579 shares of common stock issuable upon the exercise of stock options outstanding as of June 30, 2021 pursuant to our 2016 Stock Incentive Plan, as amended (2016 Plan) at a weighted average exercise price of $0.62 per share;
- 2,016,253 shares of our common stock issuable upon the exercise of stock options granted after June 30, 2021 pursuant to our 2016 Plan;
- 2,416,228 shares of common stock reserved for future issuance as of June 30, 2021 under our 2016 Stock Plan, which will cease to be available for issuance at the time that our 2021 Stock Option and Incentive Plan (2021 Stock Plan), becomes effective;
- shares of our common stock that will become available for future issuance under our 2021 Stock Plan, which will become effective upon effectiveness of the registration statement of which this prospectus is a part; and
- shares of common stock reserved for future issuance under our 2021 Employee Stock Purchase Plan (ESPP), which will become effective upon effectiveness of the registration statement of which this prospectus is a part.

If additional shares are issued in connection with the exercise of outstanding options, if new stock options are issued under our 2021 Stock Plan, or if we issue additional shares of common stock in the future, there will be further dilution to investors purchasing common stock in this offering. In addition, we may choose to raise additional capital because of market conditions or strategic considerations, even if we believe that we have sufficient funds for our current or future operating plans. If we raise additional capital through the sale of equity or convertible debt securities, the issuance of these securities may result in further dilution to our stockholders.

SELECTED FINANCIAL DATA

You should read the following selected financial data together with our financial statements and the related notes appearing elsewhere in this prospectus and the "Management's Discussion and Analysis of Financial Condition and Results of Operations" section of this prospectus. We have derived the statement of operations data for the years ended December 31, 2020 and 2019 and the balance sheet data as of December 31, 2020 and 2019 from our audited financial statements appearing elsewhere in this prospectus. The statement of operations data for the six months ended June 30, 2021 and 2020 and the balance sheet data as of June 30, 2021 have been derived from our unaudited financial statements appearing elsewhere in this prospectus and have been prepared on the same basis as the audited financial statements. In the opinion of management, the unaudited data reflects all adjustments, consisting only of normal recurring adjustments, necessary for a fair statement of the financial information in those statements. Our historical results are not necessarily indicative of the results that may be expected in the future.

	Year Ended December 31,		Six Months Ended June 30,	
	2019	2020	2020	2021
	(In thousands, except share and per share data)			
Operating expenses:				
Research and development	$ 8,216	$ 21,102	$	$
General and administrative	3,608	5,565		
Total operating expenses	11,824	26,667		
Loss from operations	(11,824)	(26,667)		
Other income:				
Interest and other income, net	451	144		
Change in fair value of preferred stock tranche liability	6,273	—		
Total other income, net	6,724	144		
Net loss	$ (5,100)	$ (26,523)	$	$
Net loss per share attributable to common stockholders, basic and diluted[1]	$ (0.76)	$ (3.32)	$	$
Weighted average shares of common stock outstanding, basic and diluted[1]	6,751,615	7,997,542		
Pro forma net loss per share attributable to common stockholders, basic and diluted[2]		$ (0.34)		$
Pro forma weighted average shares of common stock outstanding, basic and diluted[2]		77,221,566		

(1) See Note 11 to our financial statements appearing elsewhere in this prospectus for further details on the calculation of basic and diluted net loss per share attributable to common stockholders and the weighted average number of shares used in the computation of the per share amounts.

(2) The pro forma basic and diluted net loss per share for the six months ended June 30, 2021 and the year ended December 31, 2020 has been computed to give effect to the automatic conversion of all outstanding shares of our preferred stock into shares of common stock. The unaudited pro forma basic and diluted net loss per share for the six months ended June 30, 2021 and the year ended December 31, 2020 was computed using the weighted average number of shares of common stock outstanding, including the pro forma effect of the conversion of all outstanding shares of our preferred stock into shares of common stock, as if the conversion had occurred on the later of the first day of the period presented or the original issuance dates of the respective preferred stock.

	As of December 31,		As of June 30,
	2019	2020	2021
		(in thousands)	
Balance Sheet Data:			
Cash	$ 16,844	$ 39,045	
Working capital[(1)]	15,516	36,590	
Total assets	18,238	43,527	
Redeemable convertible preferred stock	31,816	81,658	
Total stockholders' (deficit) equity	(15,518)	(41,490)	

(1) We define working capital as current assets less current liabilities. See our financial statements and the related notes included elsewhere in this prospectus for further details regarding our current assets and current liabilities.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with the "Selected Financial Data" section of this prospectus and our financial statements and related notes appearing elsewhere in this prospectus. Some of the information contained in this discussion and analysis or set forth elsewhere in this prospectus, including information with respect to our plans and strategy for our business, includes forward-looking statements that involve risks and uncertainties. As a result of many factors, including those factors set forth in the "Risk Factors" section of this prospectus, our actual results could differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis. You should carefully read the "Cautionary Note Regarding Forward-Looking Statements" and "Risk Factors" sections of this prospectus to gain an understanding of the important factors that could cause actual results to differ materially from our forward-looking statements contained in the following discussion and analysis.

Overview

We are a biotechnology company that aims to transform the lives of patients by leveraging our proprietary endosomal escape vehicle (EEV) platform to establish a new class of medicines and become the world's foremost intracellular therapeutics company. Through our proprietary, highly versatile and modular EEV platform (EEV Platform), we are building a robust pipeline of EEV therapeutic candidates designed to enable the efficient intracellular delivery of therapeutics in various organs and tissues with an improved therapeutic index.

Since our inception, we have devoted substantially all our resources to research and development efforts relating to our EEV Platform, advancing development of our portfolio of programs and general and administrative support for these operations, including raising capital. To date, we have financed our operations primarily through the sales of our preferred stock. Through December 31, 2020, we had received $85.6 million in gross proceeds from the sale of preferred stock and in March 2021 we received an additional $116.2 million in gross proceeds from the sale of our Series B redeemable convertible preferred stock (Series B Preferred Stock).

We have incurred losses since our inception. Our net losses were $26.5 million and $5.1 million for the years ended December 31, 2020 and 2019, respectively. As of December 31, 2020, we had an accumulated deficit of $42.5 million. We expect to continue to generate operating losses and negative operating cash flows for the foreseeable future as we advance our platform and EEV therapeutic candidates into later stages of preclinical development and, if successful, clinical development. We will not generate any revenue from product sales unless and until we successfully complete clinical development and obtain regulatory approval for one or more therapeutic candidates, if ever. If we obtain regulatory approval for any therapeutic candidates, we expect to incur significant expenses related to developing our internal commercialization capability to support product sales, marketing and distribution.

Furthermore, following the closing of this offering, we expect to incur additional costs associated with operating as a public company, including significant legal, accounting, investor relations and other expenses that we did not incur as a private company. As a result, we will need substantial additional funding to support our continuing operations and pursue our growth strategy, as we advance therapeutic candidates through preclinical and, if successful, into clinical development, seek regulatory approval, prepare for and, if any therapeutic candidates are approved, proceed to commercialization and operate as a public company. Until such time as we can generate significant revenue from product sales, if ever, we expect to finance our operations through the sale of equity, debt financings or other capital sources, including potential collaborations with other companies or other strategic transactions.

If we are unable to obtain funding, we will be forced to delay, reduce, or eliminate some or all of our research and development programs, product portfolio expansion and ultimate commercialization efforts, which would adversely affect our business prospects, or we may be unable to continue operations.

Although we continue to pursue these plans, we may not be successful in obtaining sufficient funding on terms acceptable to us to fund continuing operations, if at all.

Because of the numerous risks and uncertainties associated with product development, we are unable to predict the timing or amount of increased expenses or when or if we will be able to achieve or maintain profitability. Even if we can generate product sales, we may not become profitable. If we fail to become profitable or are unable to sustain profitability on a continuing basis, we may be unable to continue our operations at planned levels and be forced to reduce or terminate our operations.

As of December 31, 2020, we had cash and cash equivalents of $39.0 million. We believe that our existing cash and cash equivalents, together with the $116.2 million of gross proceeds received from the sale of shares of Series B Preferred Stock in March 2021, and the anticipated net proceeds from this offering will enable us to fund our operating expenses and capital expenditure requirements through . We have based this estimate on assumptions that may prove to be wrong, and we could exhaust our available capital resources sooner than we expect. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources.” To finance our operations beyond that point we will need to raise additional capital, which cannot be assured.

Impact of COVID-19 on Our Business

The duration of the COVID-19 pandemic and the extent to which it may directly or indirectly impact our business, results of operations and financial condition will depend on future developments that are highly uncertain, subject to change and difficult to predict. At times during the pandemic, we, our contract manufacturing organizations (CMOs), and our contract research organizations (CROs), experienced temporary reductions in certain operations that have since normalized. We, together with our CMOs and CROs, are closely monitoring the impact of the COVID-19 pandemic on these operations. Additionally, to provide a safe work environment for our employees, we have implemented various measures including limiting on-site presence to essential employees, providing for social distancing, increased sanitization of our facilities and providing personal protective equipment for our employees. We are continuing to monitor the impact and effects of the COVID-19 pandemic and our response to it, and we expect to continue to take actions as may be required or recommended by government authorities or as we determine are in the best interests of our employees and other business partners in light of the pandemic.

Components of Our Results of Operations

Revenue

To date, we have not generated any revenue. We do not expect to generate any revenue from the sale of products for the foreseeable future. If our development efforts for our therapeutic candidates are successful and result in regulatory approval or we successfully enter into collaboration or license arrangements with third parties, we may generate revenue in the future from product sales, payments from collaboration or license arrangements that we may enter into with third parties, or any combination thereof.

Operating Expenses

Research and Development Expenses

Research and development expenses consist primarily of costs incurred for our research activities, including our discovery efforts, and the development of our programs. These expenses include:

- personnel-related expenses, including salaries, related benefits, and stock-based compensation expense for individuals engaged in research and development functions;
- expenses incurred in connection with the discovery and preclinical development of our therapeutic candidates and research programs, including under agreements with third parties, such as consultants, contractors, and CROs;

- the cost of developing and validating our manufacturing process for use in our preclinical studies and potential future clinical trials, including the cost of raw materials used in our research and development activities, and engaging with third party CMOs;
- the cost of laboratory supplies and research materials; and
- the costs of payments made under third-party licensing agreements and related future payments should certain development and regulatory milestones be achieved.

We expense research and development costs as incurred. Non-refundable advance payments that we make for goods or services to be received in the future for use in research and development activities are recorded as prepaid expenses. The prepaid amounts are expensed as the related goods are delivered or the services are performed, or when it is no longer expected that the goods will be delivered or the services rendered. Upfront payments under license agreements are expensed upon receipt of the license and annual maintenance fees under license agreements are expensed in the period in which they are incurred. Milestone payments under license agreements are accrued, with a corresponding expense being recognized, in the period in which the milestone is determined to be probable of achievement and the related amount is reasonably estimable.

As a preclinical-stage company in the early phases of development, our research and development costs are often devoted to proof-of-concept studies and our overall EEV Platform that are not necessarily allocable to a specific target; therefore, we have not historically tracked our expenses on a program-by-program basis. We expect to begin to track expenses on a program-by-program basis after a clinical therapeutic candidate has been identified.

Therapeutic 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 that our research and development expenses will increase substantially in connection with our platform development efforts and planned preclinical and clinical development activities in the near term and in the future. We expect that the research and development expenses of our programs will increase in the near term as we initiate IND-enabling activities for our therapeutic candidates. Therefore, we cannot accurately estimate or know the nature, timing, and costs of the efforts that will be necessary to complete the preclinical and clinical development of any of our therapeutic candidates. The successful development of our therapeutic candidates is highly uncertain. This is due to the numerous risks and uncertainties associated with product development, including the following:

- the scope, timing, rate of progress and expenses of our ongoing and potential future research activities, including preclinical and IND-enabling studies, clinical trials and other research and development activities we decide to pursue;
- the successful initiation, enrollment, and completion of clinical trials under current good clinical practices;
- raising additional funds necessary to complete preclinical and clinical development of our therapeutic candidates;
- the timing of filing and acceptance of investigational new drug applications (INDs) or comparable foreign applications that allow commencement of future clinical trials for our therapeutic candidates;
- whether our therapeutic candidates show safety and efficacy in our clinical trials and an acceptable risk-benefit profile in the intended populations;
- our ability to hire and retain key research and development personnel;
- our ability to successfully develop, obtain regulatory and marketing approvals of our therapeutic candidates for the expected indications and patient populations;
- our ability to establish and maintain agreements with third-party manufacturers for clinical supply for our clinical trials and commercial manufacturing, if our therapeutic candidates are approved;

- commercializing therapeutic candidates, if and when approved, whether alone or in collaboration with others;
- our ability to maintain a continued acceptable safety, tolerability, and efficacy profile of our therapeutic candidates following approval;
- our ability to establish new licensing or collaboration arrangements to support our potential therapeutic candidates on favorable business terms;
- any decisions we make to discontinue, delay or modify our programs to focus on others;
- obtaining, maintaining, protecting and enforcing patent and trade secret protection and regulatory exclusivity for our therapeutic candidates;
- obtaining and maintaining adequate coverage and reimbursement from third party payors; and
- the effects of the COVID-19 pandemic.

A change in the outcome of any of these variables with respect to the development of any of our therapeutic candidates could significantly change the costs and timing associated with the development of that therapeutic candidate. We may never succeed in obtaining regulatory approval for any of our therapeutic candidates.

General and Administrative Expenses

General and administrative expenses consist primarily of salaries and personnel-related costs, including stock-based compensation, for our personnel in executive, legal, finance and accounting, corporate and business development, human resources, and other administrative functions. General and administrative expenses also include: legal fees relating to intellectual property and corporate matters; professional fees paid for accounting, auditing, consulting, and tax services; insurance costs; travel expenses; and facility costs not otherwise included in research and development expenses.

We anticipate that our general and administrative expenses will increase in the future as we increase our headcount to support our continued research activities and development of our programs and EEV Platform. We also anticipate that we will incur increased accounting, audit, legal, regulatory, compliance, director and officer insurance, and investor and public relations expenses associated with operating as a public company.

Other Income (Expense)

Change in Fair Value of Preferred Stock Tranche Liability

Change in fair value of preferred stock tranche liability consists of remeasurement gains or losses associated with changes in the fair value of the tranche rights associated with our Series A redeemable convertible preferred stock (Series A Preferred Stock). The preferred stock tranche liability was settled as of December 31, 2020, and therefore, there will be no further remeasurement.

Interest Income

Interest income consists of interest earned on our invested cash and cash equivalents balances.

Other Income (Expense), Net

Other income (expense), net consists primarily of gains and losses on disposal of fixed assets and gains and losses on foreign currency transactions.

Income Taxes

Since our inception, we have not recorded any income tax benefits for the net losses we have incurred or for the research and development tax credits earned in each year and interim period as we believe, based upon the weight of available evidence, that it is more likely than not that all our net operating loss carryforwards and tax credit carryforwards will not be realized.

As of December 31, 2020, we had federal net operating loss carryforwards of $42.1 million, which may be available to offset future taxable income, of which $3.2 million expire at various dates beginning in 2036 and the remaining $38.9 million do not expire but are limited in their usage to an annual deduction equal to 80% of annual taxable income. In addition, as of December 31, 2020, we had state net operating loss carryforwards of $37.7 million, which may be available to offset future taxable income and expire at various dates beginning in 2036. As of December 31, 2020, we also had federal and state research and development tax credit carryforwards of $0.9 million and $0.4 million, respectively, which may be available to reduce future tax liabilities and expire at various dates beginning in 2039 and 2034, respectively.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of financial condition and results of operations is based on our financial statements, which have been prepared in accordance with generally accepted accounting principles in the United States. The preparation of our financial statements and related disclosures requires us to make judgments, estimates and assumptions that affect the reported amounts of assets and liabilities, costs and expenses and the disclosure of contingent assets and liabilities in our financial statements. We base our estimates on historical experience, known trends and events and various other factors that we believe are 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. We evaluate our estimates and assumptions on an ongoing basis. Our 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 appearing elsewhere in this prospectus, we believe that the following accounting policies are those most critical to the judgments and estimates used in the preparation of our financial statements.

Accrued Research and Development Expenses

As part of the process of preparing our financial statements, we are required to estimate our accrued research and development expenses. This process involves estimating the level of service performed and the associated cost incurred for the service when we have not yet been invoiced or otherwise notified of actual costs. We make estimates of our accrued expenses as of each balance sheet date in the financial statements based on facts and circumstances known to us at that time. We periodically corroborate the accuracy of these estimates with the service providers and make adjustments, if necessary. Examples of estimated accrued research and development expenses include those related to fees paid to:

- vendors in connection with discovery and preclinical development activities;
- CROs in connection with preclinical studies and testing; and
- third-party manufacturers in connection with the development and scale up activities and the production of materials.

We base the expense recorded related to contract research and manufacturing on our estimates of the services received and efforts expended pursuant to quotes and contracts with multiple service providers that conduct services and supply materials. The financial terms of these agreements are subject to negotiation, vary from contract to contract and may result in uneven payment flows. In accruing service fees, we estimate the time period over which services were performed and the level of effort expended in each period. If the actual timing of the performance of services or the level of effort varies from the estimate, we adjust the accrual accordingly. Although we do not expect our estimates to be materially different from amounts actually incurred, our understanding of the status and timing of services performed relative to the actual status and timing of services performed may vary and may result in reporting amounts that are too high or too low in any particular period. While the majority of our service providers invoice us in arrears for services performed, on a pre-determined schedule or when contractual milestones are met, some require advance payments. There may be instances in which payments made to our vendors will exceed the level of services provided and result in a prepayment of the expense. We record these as prepaid expenses on our balance sheet.

Stock-Based Compensation

We account for all stock-based compensation awards granted as stock-based compensation expense at fair value. Our stock-based payments include stock options and grants of common stock restricted for vesting conditions. The measurement date for awards is the date of grant, and stock-based compensation costs are recognized as expense over the requisite service period, which is generally the vesting period, on a straight-line basis. Stock-based compensation expense is classified in the accompanying statements of operations based on the function to which the related services are provided. Forfeitures are recorded as they occur.

The fair value of each stock option grant is estimated on the date of grant using the Black-Scholes option-pricing model, which requires inputs based on certain subjective assumptions, including the expected share price volatility, the expected term of the option, the risk-free interest rate for a period that approximates the expected term of the option, and our expected dividend yield. As there is currently no public market for our common shares, we determined the volatility for awards granted based on an analysis of reported data for a group of guideline companies. The expected term of our stock options granted to employees has been determined utilizing the “simplified” method for awards that qualify as “plain-vanilla” options.

The risk-free interest rate is determined by reference to the U.S. Treasury yield curve in effect at the time of grant of the award for time periods approximately equal to the expected term of the award. We have not paid, and do not anticipate paying, dividends on our common shares; therefore, the expected dividend yield is assumed to be zero.

Determination of Fair Value of Common Stock

As there has been no public market for our common stock to date, the estimated fair value of our common stock has been determined by our board of directors as of the date of each option grant, with input from management, considering our most recently available third-party valuations of common stock, and our board of directors’ assessment of additional objective and subjective factors that it believed were relevant and which may have changed from the date of the most recent valuation through the date of the grant. These third-party valuations were performed in accordance with the guidance outlined in the American Institute of Certified Public Accountants’ Accounting and Valuation Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*. Our common stock valuations were prepared using either an option pricing method (OPM) or a hybrid method, both of which used market approaches to estimate our enterprise value. The OPM treats common stock and preferred stock as call options on the total equity value of a company, with exercise prices based on the value thresholds at which the allocation among the various holders of a company’s securities changes. Under this method, the common stock has value only if the funds available for distribution to stockholders exceeded the value of the preferred stock liquidation preferences at the time of the liquidity event, such as a strategic sale or a merger. A discount for lack of marketability of the common stock is then applied to arrive at an indication of value for the common stock. The hybrid method is a probability-weighted expected return method (PWERM) where the equity value in one or more scenarios is calculated using an OPM. The PWERM is a scenario-based methodology that estimates the fair value of our common stock based upon an analysis of our future values, assuming various outcomes. The common stock value is based on the probability-weighted present value of expected future investment returns considering each of the possible outcomes available as well as the rights of each class of stock. The future value of the common stock under each outcome is discounted back to the valuation date at an appropriate risk-adjusted discount rate and probability weighted to arrive at an indication of value for the common stock. These third-party valuations were performed at various dates, which resulted in valuations of our common stock of $0.34 per share as of December 31, 2020, $1.17 per share as of March 23, 2021 and $1.73 per share as of June 30, 2021. In addition to considering the results of these third-party valuations, our board of directors considered various objective and subjective factors to determine the fair value of our common stock as of each grant date, including:

- the prices at which we sold shares of preferred stock and the superior rights and preferences of the preferred stock relative to our common stock at the time of each grant;
- the progress of our research and development programs;

- our stage of development and business strategy;
- external market conditions affecting the biopharmaceutical industry and trends within the biopharmaceutical industry;
- our financial position, including cash on hand, and our historical and forecasted performance and results of operations;
- the lack of an active public market for our common stock and our preferred stock;
- the likelihood of achieving a liquidity event, such as an initial public offering (IPO) or sale of our company in light of prevailing market conditions; and
- the analysis of IPOs and the market performance of similar companies in the biopharmaceutical industry.

The assumptions underlying these valuations represented management's best estimates, which involved inherent uncertainties and the application of management's judgment. As a result, if we had used significantly different assumptions or estimates, the fair value of our common stock and our stock-based compensation expense could have been materially different.

Once a public trading market for our common stock has been established in connection with the closing of this offering, it will no longer be necessary for our board of directors to estimate the fair value of our common stock in connection with our accounting for granted stock options and other such awards we may grant, as the fair value of our common stock will be determined based on the quoted market price of our common stock.

Options Granted

The following table summarizes the types of awards granted from January 1, 2020 through the date of this prospectus and includes for each grant date the per share exercise price of options, the per share fair value of the common stock, the number of shares underlying each grant, and the estimated value of awards.

Grant date	Number of common shares subject to options granted	Exercise price per common share[(1)]	Fair value per common share at grant date[(1)]	Weighted average estimated per-share options[(2)]
March 24, 2020	199,500	$0.29	$0.29	$0.19
June 5, 2020	381,000	$0.29	$0.29	$0.19
September 15, 2020	125,500	$0.29	$0.29	$0.19
October 23, 2020	20,000	$0.29	$0.34	$0.22
November 10, 2020	909,790	$0.29	$0.34	$0.23
December 1, 2020	1,070,351	$0.29	$0.34	$0.23
December 8, 2020	179,500	$0.29	$0.34	$0.23
December 16, 2020	2,660,981	$0.29	$0.34	$0.23
December 18, 2020	237,808	$0.29	$0.34	$0.23
January 30, 2021	119,500	$0.34	$0.34	$0.22
April 21, 2021	487,727	$1.17	$1.17	$0.75
May 20, 2021	5,619,748	$1.17	$1.17	$0.75
June 2, 2021	186,500	$1.17	$1.17	$0.76
August 2, 2021	2,016,253	$1.73	$1.73	$1.11

(1) The exercise price per share of common stock and the fair value of our common stock represents the fair value of our common stock on the date of grant, as determined by our board of directors, after taking into account our most recently

available contemporaneous valuation of our common stock as well as additional factors that may have changed since the date of such contemporaneous valuation through the date of grant.

(2) The estimated per share fair value of options reflects the weighted average fair value of options granted on each grant date, determined using the Black-Scholes option-pricing model.

Preferred Stock Tranche Liability

We have determined that our obligation to issue, and our investors' obligation to purchase, additional shares of Series A Preferred Stock in connection with the first closing of our sale of Series A Preferred Stock represents a freestanding instrument that is classified as a liability under Accounting Standards Codification (ASC) 480, *Distinguishing Liabilities From Equity*. The resulting preferred stock tranche liability was initially recorded at fair value, with gains and losses arising from changes in fair value recognized in other income in the statement of operations. The preferred stock tranche liability was remeasured at each reporting period and upon its settlement in 2020. The preferred stock tranche liability was valued using a probability-weighted present value model that considered the probability of triggering the tranche rights through achievement of certain scientific milestones.

Recently Issued Accounting Pronouncements

See Note 2, *Summary of Significant Accounting Policies*, in the notes to financial statements for a description of recent accounting pronouncements applicable to our business.

Results of Operations

Comparison of years ended December 31, 2020 and 2019

	Year Ended December 31,		
(in thousands)	2020	2019	Change
Operating expenses:			
Research and development	$ 21,102	$ 8,216	$12,886
General and administrative	5,565	3,608	1,957
Total operating expenses	26,667	11,824	14,843
Loss from operations	(26,667)	(11,824)	14,843
Other income:			
Interest and other income, net	144	451	(307)
Change in fair value of preferred stock tranche liability	—	6,273	(6,273)
Total other income, net	144	6,724	(6,580)
Net loss	(26,523)	(5,100)	21,423

Research and Development Expenses

	Year Ended December 31,		
(in thousands)	2020	2019	Change
External expenses performed by outside consulting services, including third-party CROs	$ 8,713	$3,088	$ 5,625
Personnel related (including stock-based compensation)	6,106	3,044	3,062
Lab supplies used in research and development activities	3,470	959	2,511
Facility and equipment related costs (including depreciation) and other unallocated costs	2,813	1,125	1,688
Total research and development expenses	$21,102	$8,216	$12,886

Research and development expenses were $21.1 million for the year ended December 31, 2020, compared to $8.2 million for the year ended December 31, 2019. The increase of $12.9 million in research and development expenses was primarily attributable to:

- an increase in external expenses associated with discovery and preclinical studies performed by outside consulting services, including third party CROs, of $5.6 million;
- an increase in personnel-related costs of $3.1 million driven by an increased headcount in our research and development function;
- an increase in lab supplies of $2.5 million due to the increased investment in research and development activities in 2020; and
- an increase in facility and equipment-related costs, including depreciation, and other allocated miscellaneous expenses of $1.7 million due to our new lease arrangement beginning in 2020.

We expect our research and development expenses will continue to increase as we continue our current research and development activities and programs, initiate new research programs, continue our preclinical development of therapeutic candidates and conduct future clinical trials for any of our therapeutic candidates.

General and Administrative Expenses

General and administrative expenses for the year ended December 31, 2020 were $5.6 million, compared to $3.6 million for the year ended December 31, 2019. The increase of $2.0 million was primarily attributable to the following:

- a $1.3 million increase in personnel-related costs, primarily as a result of the increase in headcount in our general and administrative function; and
- a $0.7 million increase in facility and equipment-related and other expenses, primarily due to a new operating lease related to our corporate headquarters, with rent expense commencing in April 2020.

Other Income

Total other income was $0.1 million for the year ended December 31, 2020, compared to $6.7 million for the year ended December 31, 2019. Total other income for the year ended December 31, 2019 is primarily related to changes in the fair value of the preferred stock tranche liability of $6.3 million due to the waiver of certain milestones that were not achieved and the related issuance of Series A Preferred Stock in January 2020. Total other income also includes interest income on our cash equivalents, which are primarily invested in money market funds, which decreased $0.3 million from December 31, 2019 to December 31, 2020.

Liquidity and Capital Resources

Sources of Liquidity

Since our inception in 2016, we have incurred significant operating losses. Our net losses for the years ended December 31, 2020 and 2019 were $26.5 million and $5.1 million, respectively. As of December 31, 2020, we had an accumulated deficit of $42.5 million. We expect to incur significant expenses and operating losses for the foreseeable future as we further our platform development and advance the preclinical and, if successful, the clinical development of our programs. To date, we have funded our operations primarily with proceeds from the sale of preferred stock. Through December 31, 2020, we raised an aggregate of $85.6 million in gross proceeds from sale of our preferred stock. As of December 31, 2020, we had cash and cash equivalents of $39.0 million. In March 2021, we sold 53,522,099 shares of our Series B Preferred Stock for $116.2 million in gross proceeds.

Cash Flows

The following table summarizes our cash flows for each of the periods presented:

	Year Ended December 31,	
(in thousands)	2020	2019
Net cash used in operating activities	$(25,570)	$(10,801)
Net cash used in investing activities	(2,318)	(630)
Net cash provided by financing activities	50,089	38
Net increase (decrease) in cash and cash equivalents	$ 22,201	$(11,393)

Operating Activities

For the year ended December 31, 2020, net cash used in operating activities was $25.6 million, consisting primarily of our net loss of $26.5 million, partially offset by stock-based compensation expense of $0.3 million, depreciation expense of $0.3 million, and net cash provided by changes in our operating assets and liabilities of $0.3 million.

For the year ended December 31, 2019, net cash used in operating activities was $10.8 million, consisting primarily of our net loss of $5.1 million, which included a non-cash gain of $6.3 million associated with the preferred stock tranche liability. These amounts were partially offset by stock-based compensation expense of $0.3 million, depreciation expense of $0.1 million, and net cash provided by changes in our operating assets and liabilities of $0.2 million.

Investing Activities

Net cash used in investing activities was $2.3 million and $0.6 million for the years ended December 31, 2020 and 2019, respectively, and resulted from our purchases of property and equipment.

Financing Activities

Net cash provided by financing activities was $50.1 million for the year ended December 31, 2020, consisting of $49.8 million of net proceeds from the sale of our Series A Preferred Stock in January 2020 and August 2020, and stock option exercises, inclusive of early exercises of stock options, of $0.3 million.

Net cash provided by financing activities was less than $0.1 million for the year ended December 31, 2019, relating to stock option exercises, inclusive of early exercises of stock options.

Funding Requirements

We expect to incur significant expenses and operating losses for the foreseeable future as we advance the preclinical and, if successful, the clinical development of our programs. In addition, upon the completion of this offering, we expect to incur additional costs associated with operating as a public company, including significant legal, accounting, investor relations and other expenses that we did not incur as a private company. Our operating expenses and future funding requirements are expected to increase substantially as we continue to advance our portfolio of programs. We believe that our existing cash and cash equivalents, together with the $116.2 million in gross proceeds received from the sale of shares of Series B Preferred Stock in March 2021, and the anticipated net proceeds from this offering will enable us to fund our operating expenses and capital expenditure requirements through . We have based this estimate on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we expect.

Because of the numerous risks and uncertainties associated with research, development, and commercialization of our candidates, we are unable to estimate the exact amount of our working capital requirements. Our future capital requirements will depend on many factors, including costs associated with:

- the continuation of our current research programs and our preclinical development of therapeutic candidates from our current research programs;
- seeking to identify additional research programs and additional therapeutic candidates;
- advancing our existing and future therapeutic candidates into clinical development;
- initiating preclinical studies and clinical trials for any therapeutic candidates we identify and develop or expand development of existing programs into additional indications;
- maintaining, expanding, enforcing, defending and protecting our intellectual property portfolio and providing reimbursement of third-party expenses related to our patent portfolio;
- timing of manufacturing for our therapeutic candidates and commercial manufacturing if any therapeutic candidate is approved;
- establishing and maintaining clinical and commercial supply for the development and manufacture of our therapeutic candidates;
- seeking regulatory and marketing approvals for any of our therapeutic candidates that we develop, if any;
- seeking to identify, establish and maintain additional collaborations and license agreements, and the success of those collaborations and license agreements;
- ultimately establishing a sales, marketing, and distribution infrastructure to commercialize any platforms for which we may obtain marketing approval, either by ourselves or in collaboration with others;
- generating revenue from commercial sales of therapeutic candidates we may develop for which we receive marketing approval;
- hiring additional personnel including research and development, clinical, and commercial personnel;
- adding operational, financial, and management information systems and personnel, including personnel to support our product development;
- achieve sufficient market acceptance, coverage and adequate reimbursement from third-party payors and adequate market share and revenue for any approved products;
- acquiring or in-licensing products, intellectual property, and technologies; and
- the ongoing costs of operating as a public company.

Until such time, if ever, as we can generate substantial product revenue to support our cost structure, we expect to finance our cash needs through a combination of equity offerings, debt financings, collaborations, and other similar arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our stockholders could be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our common stockholders. Debt financing and equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures, or declaring dividends. If we raise funds through collaborations or other similar arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or therapeutic candidates or grant licenses on terms that may not be favorable to us and/or may reduce the value of our common stock. If we are unable to raise additional funds when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market our therapeutic candidates even if we would otherwise prefer to develop and market such therapeutic candidates ourselves.

Contractual Obligations and Commitments

The following table summarizes our contractual obligations as of December 31, 2020:

	Payments Due by Period				
(in thousands)	Total	Less Than 1 Year	1 to 3 Years	4 to 5 Years	More Than 5 Years
Operating lease obligations[1]	$14,951	$4,476	$10,475	$—	$—
Total	$14,951	$4,476	$10,475	$—	$—

(1) We have the option to terminate our Boston, Massachusetts office and lab space lease after November 30, 2023 upon proper notice without penalty.

We enter into contracts in the normal course of business with CROs, third-party manufacturers, and other third parties for preclinical research studies and testing and manufacturing services. These contracts do not contain minimum purchase commitments and are cancelable by us upon prior written notice. Payments due upon cancellation consist only of payments for services provided or expenses incurred, including noncancelable obligations of our service providers, up to the date of cancellation. These payments are not included in the preceding table as the amount and timing of such payments are not known.

We have also entered into license agreements under which we are obligated to make certain payments. The table above does not include potential success payments, sublicense fees, royalty fees, licensing maintenance fees and reimbursement of patent maintenance costs that we may be required to pay under license agreements. For additional information about our license agreement and amounts that could become payable in the future under such agreements, see “Business—Intellectual property—License agreement with The Ohio State University” and Note 9 Commitments and Contingencies to our financial statements, appearing elsewhere in this prospectus.

Off-Balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined in the rules and regulations of the Securities and Exchange Commission.

Quantitative and Qualitative Disclosures About Market Risk

Interest Rate Risk

Our primary exposure to market risk is interest rate sensitivity, which is impacted by changes to the general level of U.S. interest rates, particularly because our cash equivalents are in the form of money market funds that are invested in U.S. Treasury securities. As of December 31, 2020, we had cash and cash equivalents of $39.0 million. Interest income is sensitive to changes in the general level of interest rates; however, due to the nature of these investments, an immediate 10% change in interest rates would not have a material effect on the fair market value of our investment portfolio.

As of December 31, 2020, we had no debt outstanding, and therefore we are not subject to interest rate risk related to debt. We do not believe that inflation had a material effect on our business, financial condition or results of operations during the year ended December 31, 2020.

Foreign Currency Exchange Risk

We are not currently exposed to significant market risk related to changes in foreign currency exchange rates.

Emerging Growth Company Status

We are an “emerging growth company,” or EGC, under the Jumpstart Our Business Startups Act of 2012 (the JOBS Act). Section 107 of the JOBS Act provides that an EGC can take advantage of the

extended transition period provided in Section 7(a)(2)(B) of the Securities Act of 1933, as amended, for complying with new or revised accounting standards. Thus, an EGC can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected to avail ourselves of delayed adoption of new or revised accounting standards and, therefore, we will be subject to the same requirements to adopt new or revised accounting standards as private entities.

As an EGC, we may, and intend to, take advantage of certain exemptions and reduced reporting requirements under the JOBS Act. Subject to certain conditions, as an EGC:

- we may present only two years of audited financial statements and only two years of related Management's Discussion and Analysis of Financial Condition and Results of Operations;
- we may avail ourselves of the exemption from 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;
- we may avail ourselves of the exemption from complying with any requirement that may be adopted by the Public Company Accounting Oversight Board (PCAOB) 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 may provide reduced disclosure about our executive compensation arrangements; and
- we may not require nonbinding advisory votes on executive compensation or stockholder approval of any golden parachute payments.

We will remain an EGC until the earliest of (i) the last day of the fiscal year following the fifth anniversary of the completion of this offering, (ii) the last day of the fiscal year in which we have total annual gross revenues of $1.07 billion or more, (iii) the date on which we have issued more than $1.0 billion in non-convertible debt during the previous rolling three-year period or (iv) the date on which we are deemed to be a large accelerated filer under the Securities Exchange Act of 1934, as amended (the Exchange Act).

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 million and our annual revenue was less than $100 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 million or (ii) our annual revenue was less than $100 million during the most recently completed fiscal year and the market value of our stock held by non-affiliates is less than $700 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 aim to transform the lives of patients by leveraging our proprietary endosomal escape vehicle (EEV) platform to establish as a new class of medicines and become the world's foremost intracellular therapeutics company. EEV therapeutics are comprised of small cyclic peptides that are chemically conjugated to a wide range of specific and active biological therapeutics. Our EEV therapeutics are designed to engage intracellular targets that have long been considered inaccessible and undruggable. Through our proprietary, highly versatile and modular EEV platform (EEV Platform), we are building a robust pipeline of EEV therapeutic candidates designed to enable the efficient intracellular delivery of therapeutics in various organs and tissues with an improved therapeutic index. We believe that the potential success of our early programs can translate into the efficient development of additional EEV therapeutic candidates and allow us to build portfolios in rare disease, immunology and oncology.

We are initially focused on the development of EEV therapeutics for rare neuromuscular diseases, including Duchenne muscular dystrophy (DMD). DMD is caused by genetic mutations that prevent the creation of functional dystrophin, a protein required to maintain the structural integrity of muscle cells. In our neuromuscular disease programs, we link EEVs to small strands of nucleic acids called oligonucleotides, including phosphorodiamidate morpholino oligomers (PMOs). We are developing EEV-PMOs that promote the skipping of these mutations associated with DMD. We believe that our EEV-PMO exon-skipping therapy will enable the production of functional dystrophin to slow, stop or even reverse disease progression. Our most advanced therapeutic candidate, ENTR-601-44, is being developed for patients with DMD that are exon 44 skipping amenable and we have a second program ongoing for patients with DMD that are exon 45 skipping amenable. We plan to submit an IND to the U.S. Food and Drug Administration (FDA) for ENTR-601-44 in 2022 and to submit an IND to the FDA for a DMD exon 45 skipping EEV-PMO candidate in 2023.

Approximately 75% of all disease-causing targets are located inside cells. Intracellular therapeutics are designed to correct disease-causing dysfunction inside cells, addressing targets at the level of DNA, RNA or protein. In order to do so, these therapeutics need to first get through the cell's membrane, which is a phospholipid bilayer, and then escape from the cell's transportation and sorting vehicle, known as the early endosome, in order to reach and engage with their intended targets. Small molecules can permeate cell membranes but tend to be rapidly cleared by the body before they reach the intended tissue and can be associated with off-target effects. These limitations often necessitate high therapeutic doses and can be associated with less-than-optimal therapeutic activity. Biological therapeutics are generally highly specific and potent but limited in their ability to reach their intracellular targets of interest, often lacking the ability to efficiently penetrate the cell membrane and then escape from the early endosome.

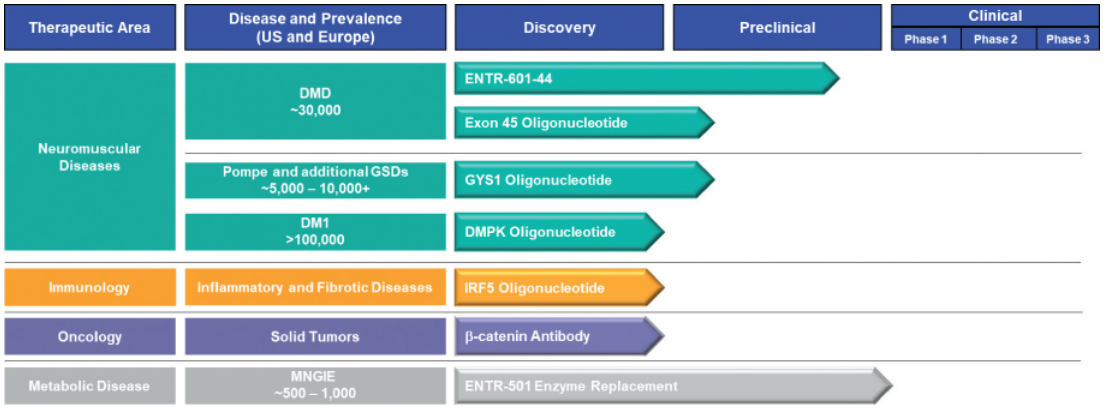
We believe our EEV Platform can enable the efficient intracellular delivery of highly-specific and potent therapeutics. The following key attributes of our EEV Platform have allowed us to develop broadly distributed, highly efficient and highly specific EEV therapeutic candidates.

- ***Serum stability and extended half-life:*** Based on preclinical studies, we have observed that EEVs have increased stability and extended half-life due to their unique cyclic structure, which limits protease-mediated degradation. We believe this may enable increased systemic exposure.
- ***Broad biodistribution:*** EEVs target phospholipid bilayers, which we believe can enable delivery to any cell in the body, regardless of route of administration. We have shown biodistribution to a wide range of organs, tissues and cells in our preclinical studies, including cardiac muscle, the cerebellum and macrophages, among many others.
- ***Efficient uptake and drug release:*** EEVs generally avoid being trapped in the cell membrane and are instead taken up into the cell by the early endosome. EEVs then enable budding of vesicles from the early endosome, which we believe substantially increase the level of therapeutics reaching intended targets within the cell.

We believe our EEV Platform can offer meaningful advantages over existing therapeutic approaches, including:

- ***Broad potential therapeutic index*** based on observations in preclinical studies. We believe EEV therapeutic candidates can engage targets across various organs and tissues with up to 50 times greater intracellular target exposure compared with a similar dose regimen of an unconjugated therapeutic.
- ***Potential utility across multiple modalities*** due to the ability of EEVs to facilitate intracellular uptake of proprietary therapeutic candidates ranging in size from 1 kDa to 600 kDa, including oligonucleotides, peptides, antibodies and larger multimeric proteins.
- ***Potential applicability to a wide range of diseases*** as we believe EEVs can enter cells by binding with the phospholipid bilayer which is common to all cells, tissues and organs in the body. This may imply an ability to achieve both systemic and specific delivery of potential therapeutic candidates for a wide range of diseases.
- ***Multiple delivery routes*** possible including intravenous (IV), intramuscular (IM), subcutaneous (SQ) and intrathecal (IT) injections to deliver our EEV therapeutic candidates and generate functional outcomes.
- ***Modular approach supports efficient expansion of development into multiple therapeutic areas,*** including oligonucleotide therapies in rare disease and immunology, antibody-based protein degraders in oncology and enzyme replacement therapy in rare disease.
- ***A simple and scalable construct designed to translate from preclinical to clinical development*** as EEVs have been manufactured efficiently to clinical scale and the small size of EEVs may limit the risk of immunogenicity. In addition, acute and chronic toxicology studies in the ENTR-501 program have demonstrated the potential to deliver clinically-relevant doses in a non-human primate (NHP) with favorable tolerability.

Through the potential power of our EEV Platform, we aim to create a diverse and expanding pipeline of oligonucleotide, antibody and enzyme-based programs as summarized in the graphic below.



Neuromuscular Diseases

In neuromuscular disease, we are initially focused on the development of disease-modifying treatments for DMD. DMD is a monogenic X-linked disease caused by mutations in the *DMD* gene, which encodes for the protein dystrophin. We estimate that DMD occurs in approximately one in every 3,500 to 5,000 live male births and that the patient population is approximately 30,000 patients in the aggregate in the United States and Europe. Approximately 80% of patients have mutations amenable to exon skipping in the nucleus. We are developing therapeutic candidates to address the genetic basis, at the exon-specific level, of DMD. EEV oligonucleotides are designed to promote the skipping of exon mutations associated with DMD, enabling muscle cells to create a functional dystrophin at a level that we believe may slow, stop or even reverse DMD progression. We are initially focusing on the development

of an EEV-PMO, ENTR-601-44, for patients with DMD that are exon 44 skipping amenable, who represent approximately 7% of the total DMD population with significant unmet medical need. We have observed substantial exon skipping (50%-100%) and dystrophin production of up to approximately 70% of wild-type levels in mice, which is durable at eight weeks. Our preclinical studies have also demonstrated reductions in serum creatine kinase (CK), which is a commonly-used biomarker of muscle breakdown, to wild-type levels. Correction of CK is believed to be a strong indicator of pharmacodynamic activity throughout the body and has been described in medical literature as a marker of muscle integrity. We are next developing an EEV-PMO for patients with exon 45 skipping amenable mutations as our second oligonucleotide program. This group of patients represents approximately 8% of the total DMD population. We plan to submit an IND to the FDA for ENTR-601-44 in 2022 and to advance a potential EEV-PMO clinical candidate for patients with DMD that are exon 45 skipping amenable to IND filing to the FDA in 2023.

We believe our EEV Platform has broad applicability across multiple neuromuscular diseases. Leveraging our EEV Platform, we are also exploring EEV oligonucleotides for the potential treatment of Pompe disease and myotonic dystrophy type 1 (DM1).

Pompe disease is a rare, autosomal recessive lysosomal storage disease caused by a mutation in the gene that encodes for glucosidase alpha acid (GAA), which results in an absence or deficiency of GAA protein that is essential to the breakdown of complex sugar, glycogen. Excess glycogen in the muscle cell leads to tissue damage and loss of function. Pompe disease is commonly estimated to affect between 5,000 and 10,000 patients in the aggregate in the United States and Europe; however, the advent of newborn screening suggests the disease is underdiagnosed. Our Pompe disease program focuses on the development of a potentially disease-modifying treatment by utilizing an EEV therapeutic candidate that targets and degrades the mRNA-encoding glycogen synthetase 1 (GYS1), a protein required for the synthesis of glycogen which powers in muscle cells. Our preclinical data has shown superior and dose-dependent EEV-PMO knockdown of GYS1 gene expression (approximately 95%) and protein production in skeletal and cardiac muscles versus PMO alone. We are currently conducting preclinical studies to enable clinical candidate selection.

DM1 is a rare disease caused by an increase in the number of CUG triplet repeats found in the 3’ non-coding region of the DM1 protein kinase (DMPK) gene. It is believed that disease severity correlates with number of CUG repeats. Multiple key proteins are misprocessed and this contributes to the multisystemic nature of the disease, which includes generalized limb weakness, respiratory muscle impairment, cardiac abnormalities, fatigue, gastrointestinal complications, incontinence and excessive daytime sleepiness. DM1 is commonly estimated to affect over 40,000 people in the United States and over 50,000 in Europe. Our approach is intended to address the underlying cause of the disease by targeting the extra CUG triplet repeats to generate functional DMPK. In our preclinical models, we have been able to observe reduction in RNA foci via treatment with EEV-PMO-CUG. We are investigating three different approaches in preclinical studies and intend to select one or more candidates to take to the clinic.

Immunology

In immunology, we are currently leveraging multiple oligonucleotide strategies to downregulate the expression of Interferon Regulatory Factor 5 (IRF5). IRF5 activation is a master switch implicated in the inflammatory and fibrotic processes associated with non-alcoholic steatohepatitis, systemic lupus erythematosus, inflammatory bowel disease, rheumatoid arthritis, asthma and neuropathic pain, among many others. We are currently preparing experiments evaluating the delivery of IRF5-targeting EEV-PMOs in mice.

Oncology

In oncology, we believe our EEV Platform has the potential to deliver highly selective large molecule protein degraders against disease-causing proteins. We are exploring biologically-validated targets that have been undruggable or have been suboptimally drugged. We are initially focused on β-catenin, a protein which contributes to the carcinogenesis, tumor progression and metastasis of several cancers, including colon, liver, pancreatic, lung, breast and ovarian cancer.

Metabolic Disease

Our ENTR-501, an intracellular thymidine phosphorylase (TP) enzyme replacement therapy (ERT), program is in development for the treatment of mitochondrial neurogastrointestinal encephalomyopathy (MNGIE). MNGIE is a slowly progressive, rare disease characterized by elevated levels of thymidine. Preliminary preclinical studies have demonstrated that ENTR-501 reduces toxic thymidine levels below those observed in wild-type mice. We have completed IND-enabling studies for the MNGIE program, including pharmacodynamic and pharmacokinetic studies in mice, and pharmacokinetic and chronic toxicology in NHPs. In 2020, we made the strategic decision to explore partnership opportunities for this program.

Additional Discovery Programs

We are leveraging the modularity of our EEV Platform to develop opportunities as diverse as EEV-CRISPR-Cas delivery for gene editing, EEV-antibody oligonucleotide conjugates for enhanced tissue tropism and blood brain barrier carriage, as well as novel EEV-ERT therapies. We regularly explore strategic opportunities to develop therapies where we believe our EEV Platform will make a difference for patients with devastating diseases.

Our Strategy

We aim to transform the lives of patients by establishing EEV therapeutics as a new class of medicines and become the world's foremost intracellular therapeutics company. To achieve this, the key pillars of our strategy include:

- **Rapidly advance EEV-PMO therapeutic candidates into clinical development in patients with DMD.** Our DMD portfolio is comprised of exon-skipping EEV-PMO therapies that aim to restore functional dystrophin production. We have initially prioritized our DMD development efforts on exon 44 and 45 skipping amenable mutations, due to the profound unmet need in these respective patient populations. We plan to advance our lead EEV-PMO therapeutic candidate, ENTR-601-44, which targets the skipping of exon 44, to Investigational New Drug (IND) filing with the FDA in 2022 and to advance a potential EEV-PMO candidate for patients with DMD that are exon 45 skipping amenable to IND filing with the FDA in 2023. Following proof-of-concept of ENTR-601-44 and our second program ongoing for patients with DMD that are exon 45 skipping amenable, we plan to expand our DMD franchise by discovering and developing therapeutic candidates for additional patient subpopulations. We believe that we can leverage our EEV, linker and oligonucleotide optimization process and build upon the potential success of each exon skipping therapeutic candidate to efficiently advance future therapeutic candidates in subpopulations amenable to exon skipping, such as those with mutations amenable to skipping in exons 51 and 53. Mutations in exons 44, 45, 51 and 53 represent nearly half of the total exon-skipping amenable populations observed in DMD.
- **Leverage the modularity of our platform to advance a broad portfolio of EEV therapeutic candidates across multiple devastating diseases.** We believe our modular EEV Platform can enable us to advance therapeutic candidates for the treatment of additional neuromuscular diseases for which the biophysical properties, therapeutic approaches, and development strategies are similar to DMD. Initially, we intend to broaden our disease portfolio into Pompe disease, while assessing the potential to use the same therapeutic candidate in multiple glycogen storage disorders. As the exon-skipping approach that we intend to utilize in Pompe is very similar to the approach used in DMD, we believe we will be able to leverage learnings from our DMD efforts and efficiently advance this program. We are also in preclinical discovery efforts to support three distinct approaches in DM1 to increase the probability of translational success. We believe that potential technical success in DM1, which involves knocking down the production of a toxic protein, could be broadly applicable within and beyond neuromuscular diseases. We plan to continue to invest in discovery efforts and advance additional programs outside of neuromuscular diseases. In particular, we plan to identify and focus on broadly applicable intracellular targets central to immunology and oncology indications.

- **Continue to invest in and build upon our EEV Platform to extend our pioneering position in developing novel EEV-based therapeutic candidates.** We plan to continue to invest in our platform and expand our library of EEVs by optimizing the EEV chemistry for specific modalities, including oligonucleotide, antibody and enzyme-based therapeutic candidates. We also plan to leverage the modularity of the platform to combine different elements such as antibody-guided oligonucleotide constructs to enhance tissue tropism and enzyme and guide RNA associations to enable gene editing. We further plan to explore the flexibility of the platform and pursue alternative therapeutic approaches to the same fundamental challenges; for example, to use EEV antibodies to degrade a pathogenic protein or to use EEV-PMO approaches to prevent the production of that same protein.
- **Selectively evaluate strategic partnerships to maximize the therapeutic potential of our EEV Platform.** We aim to improve patients' lives and plan to utilize our library of EEVs to enable strategic partnerships with the goal of expanding our therapeutic footprint, and to accelerate the development of certain programs.

Our Team and Culture

Our patient-focused culture drives our shared mission of developing intracellular therapeutics for patients with devastating diseases. We are committed to building and maintaining a deep connection with the patients, caregivers, research community and physicians that we serve.

Our management team brings a depth of experience and knowledge base in platform research, drug discovery and development and commercialization. The team is led by Dipal Doshi, our President and Chief Executive Officer, who brings over 20 years of leadership experience within life sciences companies; Natarajan Sethuraman, Ph.D., our Chief Scientific Officer, who is an expert in large molecule therapeutic development and delivery platforms with over 30 years of experience across pharmaceutical and biotechnology companies; Nerissa Kreher, M.D., our Chief Medical Officer, a physician executive with a 15-year record of driving growth at start-ups and larger biotech/pharma companies and with extensive experience in rare disease research; Nathan Dowden, our Chief Operating Officer, who has almost three decades of experience leading corporate strategy, portfolio management, business planning and operations; and Kory Wentworth, our Chief Financial Officer, who has 20 years of public accounting and global biopharmaceutical experience. Our leadership team also includes Jared Cohen, Ph.D., J.D., our Vice President of Legal Affairs and Intellectual Property, Karla MacDonald, our Vice President of Corporate Communications, and Kerry Robert, M.S., our Vice President of People. As of June 30, 2021, our organization was comprised of 78 talented individuals with significant experience across discovery, preclinical research, manufacturing, clinical development and operations. Over 69% of our workforce has an advanced degree and approximately 50% has a Ph.D. We are supported by leading scientific and clinical experts in the fields of peptide chemistry, oligonucleotide and protein optimization, disease specific pathophysiology and clinical development.

Since our inception, we have raised over $200 million from leading biotechnology investors, including, among others, 5AM Ventures, MPM Capital, MRL Ventures Fund and Roche Venture Fund.

Our Platform

Biology of Intracellular Trafficking

Each person's genetic material, or genome, consists of DNA in sequences of genetic code called genes. Many diseases, including rare genetic diseases, immune-mediated disorders and cancers, are caused by a mutation in an individual's DNA sequence, as compared to a healthy individual. These mutations can be in a single gene, and result in monogenic disorders, or in multiple genes. This genetic dysregulation can be inherited or can be caused by damage to the DNA. In each case, a mutation results in a change in the information that DNA provides to the cell's protein manufacturing and processing functions, which in turn result in either a lack of useful protein, an excess of toxic protein, or a dysregulation of cell signaling mechanisms. These changes manifest in pathological dysfunction at the cellular, tissue, organ and potentially systemic level.

As pathological dysfunction occurs inside the cell, intracellular therapeutics are designed to correct disease-causing dysfunction at either the level of DNA, RNA, or protein. Therapeutic modalities which prevent or enhance protein production include small molecules, viral gene therapies and oligonucleotide therapeutics, include anti-sense oligonucleotides (ASOs) and small interfering RNAs (siRNAs). Therapeutic modalities which target aberrant proteins include small molecules, enzymes, antibodies and peptides.

Despite significant advances in understanding disease drivers, obstacles to effective treatment remain, in part because approximately 75% of all disease-causing targets are located inside of cells. Small molecules can permeate cell membranes but tend to be rapidly cleared by the body before they reach the intended tissue and can be associated with off-target effects. These limitations often necessitate high therapeutic doses and can be associated with less-than-optimal therapeutic activity.

On the other hand, biological therapeutics are highly specific and potent but are limited in their ability to reach intracellular targets of interest. The first challenge is to get biological therapeutics, such as proteins and nucleic acids, through the phospholipid bilayer. Proteins and nucleic acids can be internalized through endocytosis, a natural process by which substances are brought into the cell. Once endocytosis begins, the cell membrane folds around the biological therapeutic and internalizes it, fusing with it and trapping it in a structure called the early endosome. The early endosome serves as a sorting vehicle, either returning its contents back to the cell membrane or transporting and slowly degrading them in the late endosome and, ultimately, in the lysosome.

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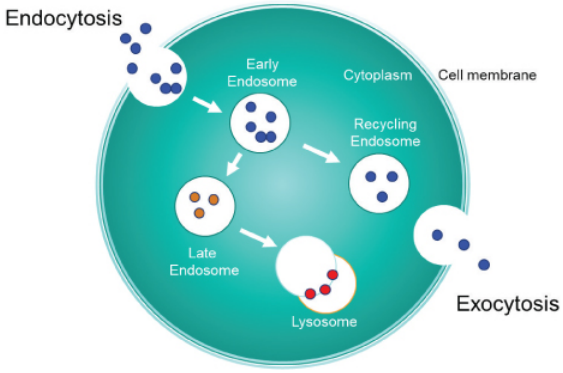


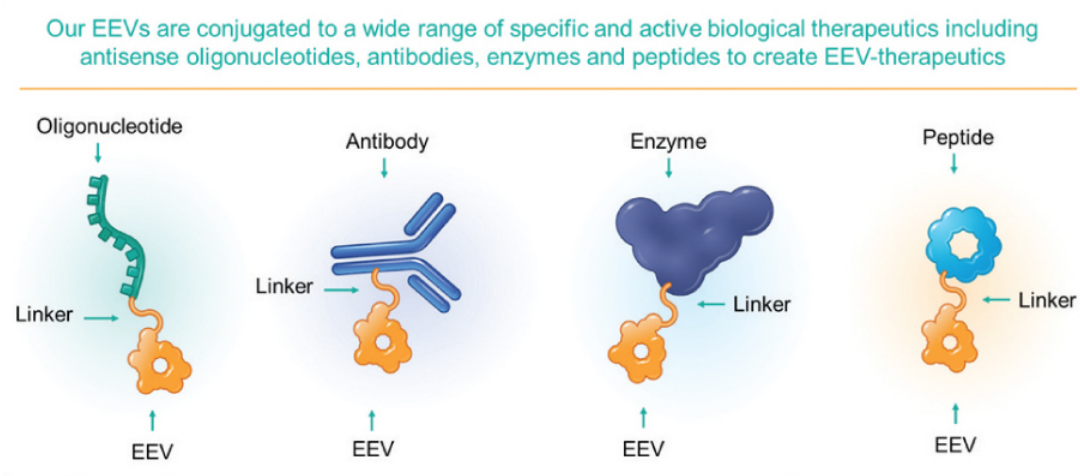
The second challenge is achieving endosomal escape, wherein the biological therapeutic is released in functional form from the early endosome. Even when a therapeutic is successful in penetrating a cell, only about 1% of the drug will escape the early endosome to reach its intended intracellular targets. As a result, high doses of drug product are often needed to produce a therapeutic effect, which could potentially cause systemic dose-related toxicity. While scientific advances using lipid particles, viral vectors, antibodies and prior generations of cell-penetrating peptides to deliver biological therapeutics have been made, these vehicles are often relatively toxic, limited in their applicability and/or difficult to manufacture.

To effectively capitalize on both known biology and future discoveries, a better way of targeted intracellular delivery of therapeutics is needed. We believe we have discovered a potential solution.

Our Approach

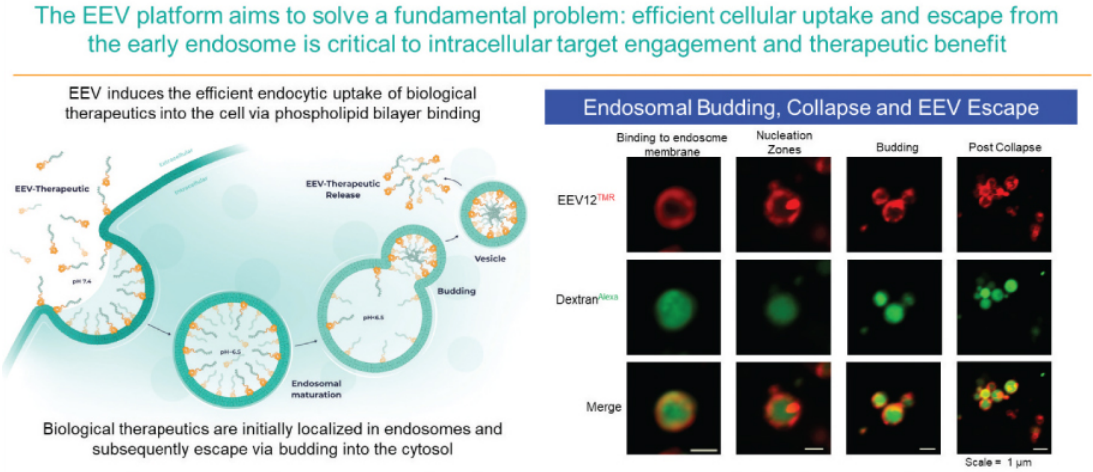
An ideal therapeutic platform enables the efficient intracellular delivery of highly specific and potent therapeutics throughout the body. The cornerstone of our platform, our proprietary EEVs are comprised of small cyclic peptides of approximately 10 amino acid residues or fewer. EEVs bind with low affinity, at normal serum pH levels, directly to the phospholipid bilayer of all cells and trigger the natural process

of endocytosis. EEVs are chemically conjugated to a wide range of specific and potent biological therapeutics, including, for example, small snippets of therapeutic RNA (antisense oligonucleotides), antibodies and large enzymes, to create EEV therapeutic candidates.



Once the EEV-conjugated material binds to the phospholipid bilayer, the cell engulfs the conjugate and brings it inside. EEVs are designed to enable cellular uptake into every type of tissue in the body. In addition to the potential for broad cellular distribution, we believe EEVs can also, if needed, be tailored to specific cell types or tissues through the conjugation of high affinity cell-receptor antibodies, wherein the picomolar to nanomolar level receptor binding affinity would be expected to easily out-compete the low affinity phospholipid binding activity of the EEV.

In our preclinical studies, we have observed, based on mass balance analysis, that greater than 90% of EEV-conjugated material is taken up by the tissues of the body. Once inside the cell, these studies indicate that the EEV-conjugated material rapidly and efficiently escapes from the early endosome. Because of the low-pH conditions in the early endosome, the binding affinity of the EEV to the inner endosome wall increases, resulting in the successful formation and budding of unstable vesicles which then collapse and release their contents into the cell cytosol. In our preclinical studies, we observed that approximately 50% of the EEV-conjugated material escaped the endosome to reach the intracellular disease target, which indicates a potential for significant improvement over the 1-2% observed in current biologics.



Key attributes of our EEV Platform include:

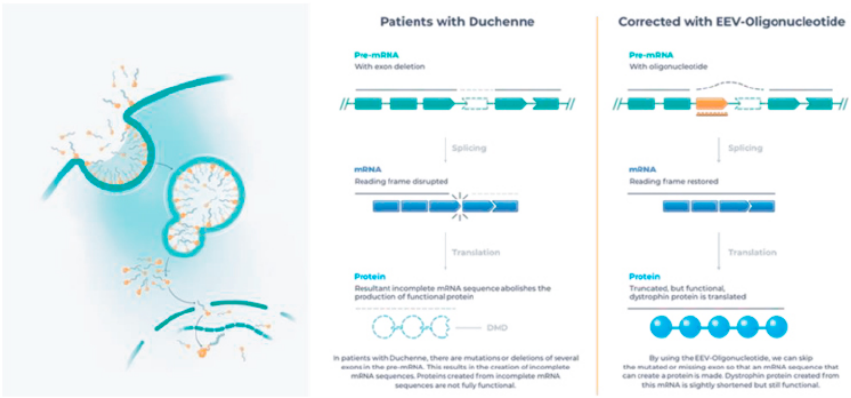
- **Serum stability and extended half-life:** The cyclic structure of EEVs is designed to limit protease-mediated degradation, resulting in increased stability and extended half-life. In contrast, linear cell-penetrating peptides are rapidly degraded in human serum.
- **Broad biodistribution:** EEVs target phospholipid bilayers and can therefore potentially be delivered to any cell in the body, regardless of route of administration. Additionally, and importantly, cyclization confers unique biophysiochemical properties to EEVs, optimally positioning side chains for membrane association and enabling the use of fewer positively charged cationic residues, which we believe could reduce potential toxicities of EEVs relative to linear peptides which rely on chemistries with a high positive charge.
- **Efficient uptake and drug release:** EEVs bind to membrane phospholipids but not proteoglycans and thus avoid being trapped in the cell membrane. The low affinity binding to the cell surface triggers endocytosis and we have observed that 90% of the EEV-conjugated material was taken up in tissue in our preclinical studies. The low pH enhanced affinity of EEVs triggers the budding of vesicles from the early endosome and we have observed the subsequent release of approximately 50% of this material into the cytosol in our preclinical studies.

We have developed a proprietary library of EEVs to enable the intracellular engagement of therapeutics against previously inaccessible and undruggable disease-causing targets. EEVs are broadly distributed, highly specific, designed to have a wide therapeutic index and can be chronically dosed.

Key advantages of our platform include:

- **Broad potential therapeutic index:** Our EEV Platform is designed to allow specific biological therapeutics to engage targets across every cell in the body and our preclinical data suggests the potential for approximately 45% efficiency (90% uptake in tissue and 50% endosomal escape), versus the 1% or lower efficiency reported in the literature for more conventional biological therapeutics. We therefore believe that our EEV Platform can enable greater target exposure with an unconjugated therapeutic and similar dose regimen.

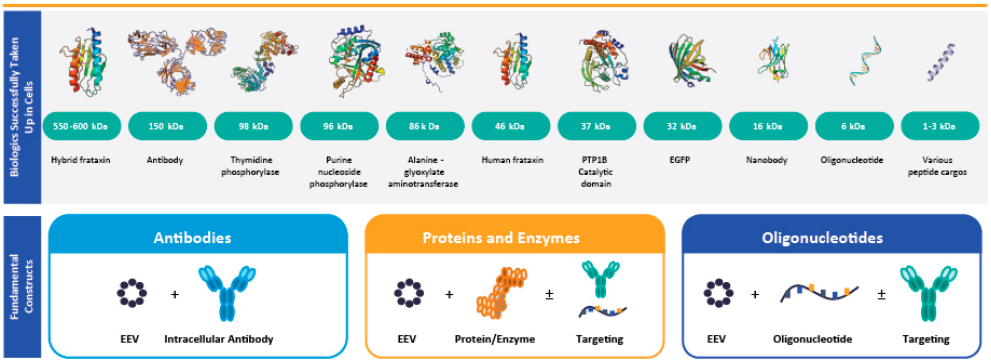
Our EEV Platform is designed to deliver therapeutics for DMD that demonstrate enhanced exon skipping, restoration of the reading frame, and dystrophin production



- **Potential across multiple modalities:** Our EEV Platform is designed to enable the development of intracellular therapeutic candidates that modulate, inhibit, degrade or replace an intracellular target to correct the underlying disease pathophysiology. In our preclinical studies of EEVs, we observed intracellular uptake of unique therapeutic candidates ranging in size from 1 kDa to 600 kDa, including oligonucleotides, antibodies and larger multimeric proteins. Unlike viral vectors or certain lipids and nanoparticle constructs, EEVs do not appear to be

hampered by “packaging limits”. For example, adeno-associated viruses constructs are limited to 5 kb in length, dramatically restricting both the size of genes and complexity of regulatory sequences that can be delivered. Importantly, our preclinical studies support the concept of modularity in that we can use similar EEV structures across the portfolio. EEVs are then further optimized to the specific application of interest. Each program advanced contributes to a foundation upon which our pipeline can continue to expand.

EEVs are flexible and broadly applicable non-viral vectors; Entrada has demonstrated intracellular uptake of unique biologics ranging from 1 kDa to 600 kDa using multiple modalities



- **Potential across tissue types:** Our EEV Platform is not limited to a particular tissue type. Because every cell in the human body is surrounded by a phospholipid bilayer, this enables the systemic delivery of potential therapeutic candidates for a wide range of diseases. We have seen potentially clinically relevant uptake of EEV-PMOs across a wide range of organs, tissue and cell types, including skeletal and cardiac muscle, monocytes and macrophages, dorsal root ganglia and the cerebellum. We have also shown in preclinical studies that, if need be, we can target our EEV-conjugated nucleotides by adding tissue-targeting moieties or organelle-targeting sequences, including, for example, nucleus, mitochondria and peroxisome.
- **Multiple delivery routes:** In our preclinical studies, we have generated functional outcomes systemically using IV, IM and SQ injections. Preclinical studies have also demonstrated what we believe to be therapeutically relevant concentrations of product uptake in the central and peripheral nervous system via IT administration.
- **Modular approach that enables efficient expansion into multiple therapeutic areas:** We have a wide variety of programs in discovery and preclinical development, including oligonucleotide therapies in rare disease and immunology, antibody-based protein degraders in oncology and enzyme replacement therapy in rare disease. The EEV Platform can be thought of as the computer operating system, enabling the effectiveness of the modality-specific code, which in turn produces the translational output, while therapeutic target conjugate sequences can be thought of as the codes to specific programs.

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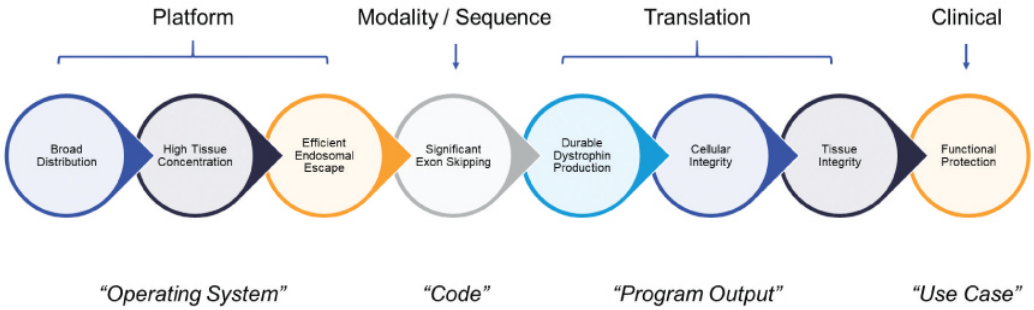


- *Oligonucleotide programs:* In our neuromuscular programs, we chemically link EEVs to oligonucleotides . EEV-PMOs are highly programmable and can upregulate or downregulate gene expression. We are developing a potential therapy for patients with DMD as our lead program. In patients with DMD, there are mutations in or deletions of regions in the genetic code responsible for dystrophin production. These mutations or deletions result in the creation of incomplete RNA sequences, which fail to create functional dystrophin. By using our EEV-PMO, we have demonstrated in animal models that we can skip mutated sequences, allowing the cell to create functional dystrophin. In our other neuromuscular development programs for Pompe disease and myotonic dystrophy type 1 (DM1), we use a variety of strategies to down-regulate gene expression to prevent translation of proteins. The backbone EEV and oligonucleotide chemistries are the same across the various applications, and if successful, we anticipate that we can leverage our approach across a wide range of diseases by simply coding the sequence needed to impact gene expression.
- *Antibody programs:* Our approach relies on leveraging an EEV-antibody, which binds to a protein of interest. This complex is then marked by an endogenous protein within the cell for degradation, mimicking a way that the body disposes of viral intruders. Preclinical studies have demonstrated efficient intracellular delivery of a variety of full and partial domain antibodies. Our antibody degraders follow the same basic design, with the only significant change being the antibody sequence needed to target the disease-causing protein of interest.
- *Enzyme/protein related programs:* EEVs can be linked to an enzyme critical to maintaining specific steps in a cell's metabolic processes. Patients lacking a given enzyme will fail to produce proteins needed to maintain the viability of cells in the body or will suffer a buildup of toxic byproducts, either of which can result in disease and potentially death. We have generated a number of EEV-enzyme conjugates, including ENTR-501 for MNGIE, a fatal mitochondrial disease, for which we have completed IND-enabling studies. Non-human primate (NHP) pharmacokinetic and acute and chronic toxicology studies indicated both a long circulating half-life and a favorable tolerability profile, which may serve as a foundation upon which our ERT programs can later build. We are also exploring the use of EEVs as a novel non-viral vector for the delivery of CRISPR-Cas to enable highly efficient approaches to gene editing.

- **A simple and scalable construct designed to translate from preclinical to clinical development across our therapeutic programs:** EEVs are comprised of small serum-stable cyclic peptides of approximately 10 amino acid residues or fewer produced via synthetic chemistry.
  - EEVs have been manufactured efficiently to clinical scale and, because we use well-understood chemical conjugation methods to link EEVs to our oligonucleotides, antibodies

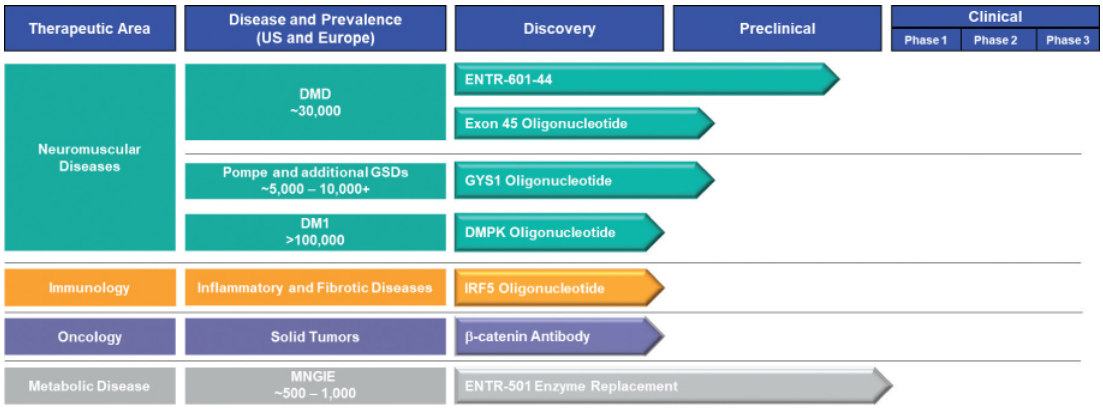
and enzymes of interest, we believe manufacturing the final drug product can be optimized. We have experience manufacturing an EEV therapeutic candidate, ENTR-501, under Good Manufacturing Practices (GMP).

- The size of EEVs implies that they are unlikely to be presented on the surface of immune cells, and therefore we believe the risk of immunogenicity is low and limited to the conjugate of the EEV therapeutic candidate.

Ultimately, we believe that the significant increase in intracellular target exposure enabled by EEV conjugation has the potential to translate into substantial improvements to the efficacy, safety, tolerability, manufacturability and cost of future medicines.

Our Portfolio and Development Programs

We are leveraging our EEV Platform to create a diverse and expanding pipeline of oligonucleotide-, antibody- and enzyme-based programs. Included in this pipeline are several of our oligonucleotide programs for the treatment of multiple neuromuscular diseases, including DMD, Pompe disease and DM1. In addition, we are exploring oligonucleotide opportunities in immune mediated diseases and oncology. The pipeline also includes antibody based intracellular protein degradation programs for oncology. Research efforts include enzyme replacement therapies and CRISPR-Cas. The chart below represents a summary of our initial development programs, each of which are wholly owned.



Neuromuscular Diseases

Duchenne Muscular Dystrophy

We are initially focused on the development of disease-modifying treatments for patients with DMD. We are developing therapeutic candidates to address the genetic basis, at the exon-specific level, of DMD. EEV oligonucleotides are designed to promote the skipping of exon mutations associated with DMD, enabling muscle cells to create a functional dystrophin at a level that we believe may slow, stop or even reverse DMD progression.

We are prioritizing the development of an EEV-PMO, ENTR-601-44, for patients with DMD that are exon 44 skipping amenable. This patient population represents approximately 7% of patients with DMD with substantial unmet medical need, due to the lack of approved disease-modifying therapies available. Furthermore, there are also no ongoing clinical trials for patients with DMD that are exon 44 skipping amenable in the United States or Europe, and we believe we have the potential to be first to market. We believe that the high unmet need combined with the lack of alternative therapeutics will support rapid clinical trial enrollment.

We are next developing an EEV-PMO for patients with DMD that are exon 45 skipping amenable, who account for approximately 8% of patients with DMD. In the United States alone, there is currently only one product approved for patients amenable to exon 45 skipping, which has demonstrated an

increase in dystrophin of less than 2% in clinical trials. The product has not yet demonstrated a clinical benefit in confirmatory trials, which are ongoing. We plan to leverage our preclinical and regulatory experience with the ENTR-601-44 program in developing the EEV-PMO candidate, given the substantially similar preclinical and clinical development paths of these therapeutic candidates, with the goal of efficiently advancing this program.

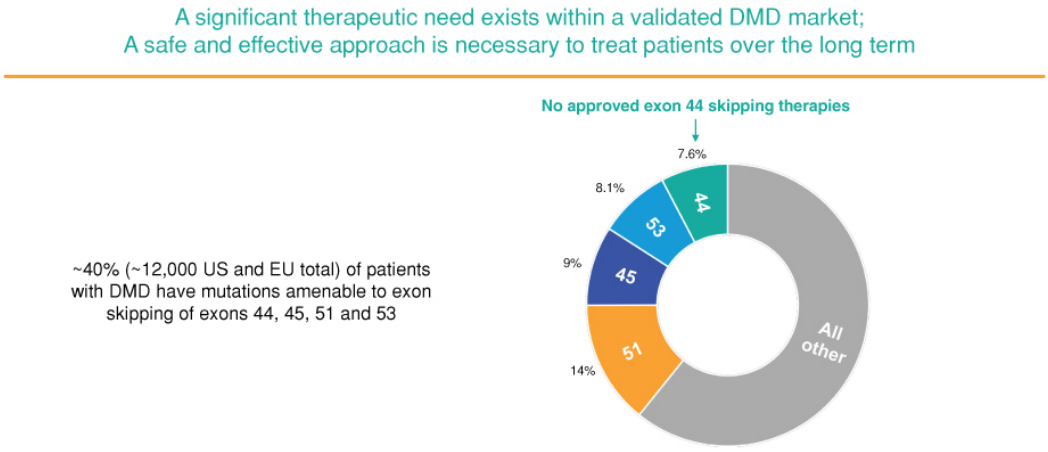
We plan to submit an IND to the U.S. Food and Drug Administration (FDA) for ENTR-601-44 in 2022, and to advance a potential EEV-PMO candidate for patients with DMD that are exon 45 skipping amenable to IND filing to the FDA in 2023.

DMD Background and Market Opportunity

DMD is a monogenic, X-linked disease caused by mutations in the *DMD* gene, which encodes for the dystrophin protein. Dystrophin is essential to maintaining the structural integrity and normal function of muscle cells for walking, breathing and cardiac function. In patients with DMD, mutations in the *DMD* gene can lead to certain exons being misread, resulting in a failure to produce sufficient functional dystrophin. The reduction or absence of functional dystrophin leads to damage to muscle cell membranes, resulting in muscle cell death and progressive loss of muscle function.

The symptoms of DMD typically manifest in the first few years of life. Patients experience progressive muscle weakness and muscle wasting and have difficulty standing up, climbing stairs, running, breathing and performing daily functions. As the disease progresses, the severity of damage to skeletal and cardiac muscles results in most patients experiencing total loss of ambulation in the pre-teenage or early teenage years. Progressive loss of upper extremity function is often observed in the mid-to-late teens followed by respiratory and/or cardiac failure, resulting in early mortality in the third or fourth decade of life.

We estimate that DMD occurs in approximately one in every 3,500 to 5,000 patients and that the patient population is approximately 30,000 patients in the aggregate in the United States and Europe. Approximately 80% of patients have mutations amenable to exon skipping in the nucleus. Approximately 40% of patients with DMD have mutations amenable to exon skipping of exons 44, 45, 51 and 53, as illustrated in the figure below.



Current Treatment Landscape and Limitations

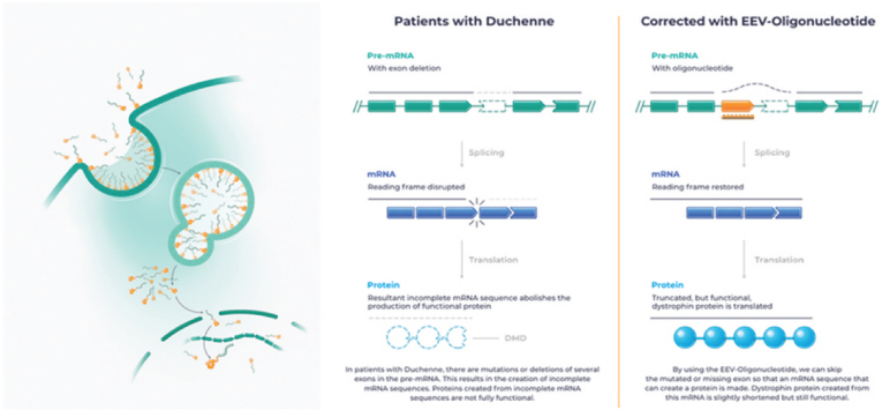
Corticosteroids are the current standard of care. However, chronic use of corticosteroids, particularly in pediatric populations, is challenging due to side effects including growth impairment, immune suppression, obesity and other endocrine-related disorders. There are four FDA-approved PMO-based oligonucleotide skipping therapies, each addressing a specific mutation: casimersen (exon 45), eteplirsen (exon 51), golodirsen (exon 53) and viltolarsen (exon 53). These products have all been approved

using the accelerated approval pathway on the basis of dystrophin production. However, the FDA-approved labels for all four drugs state that continued approval may be contingent upon the verification of a clinical benefit in confirmatory clinical trials. None of the products are approved by the European Medicines Agency due to insufficient evidence of clinical benefit. A fifth drug, ataluren, has only been conditionally approved outside of the United States in certain territories for nonsense mutations in ambulatory patients with DMD aged five years and older. Finally, these therapies require weekly intravenous infusions which is suboptimal from a patient perspective. In summary, each of these approved products also seeks to address DMD through exon skipping, but to date, the clinical benefits of these products have not been confirmed.

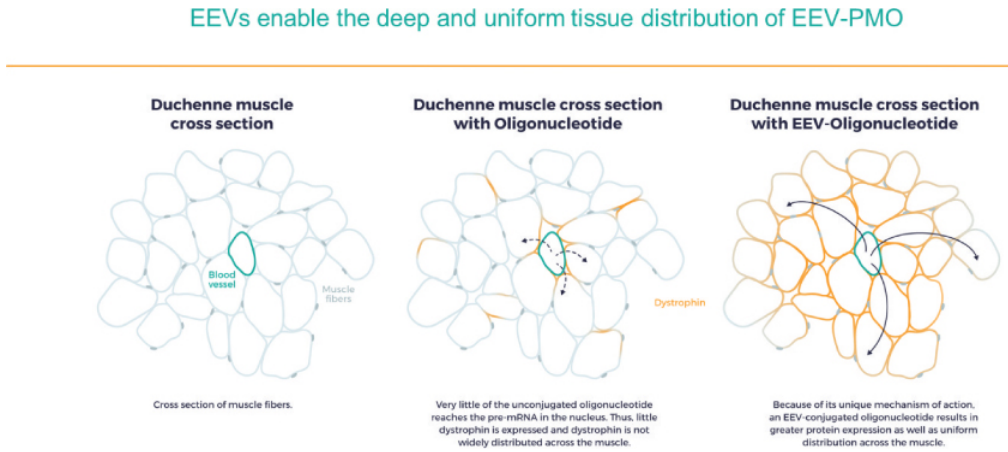
Our Solution

Our DMD program is designed to address the genetic basis of DMD by promoting the skipping of specific DMD exons in the nucleus, allowing muscle cells to create a functional dystrophin protein. Our EEV Platform is designed to enable high cellular uptake and robust cytosolic delivery of EEV therapeutic candidates, resulting in a greater amount of the oligonucleotide being able to reach its intended target in the nucleus. Based on preclinical data, we have shown that our proprietary oligonucleotide is then able to promote enhanced exon skipping and dystrophin production.

Our EEV Platform is designed to deliver therapeutics for DMD that demonstrate enhanced exon skipping, restoration of the reading frame, and dystrophin production



In preclinical models, we have observed that conjugation of an oligonucleotide to our EEV results in multi-fold greater exon skipping and dystrophin production than the oligonucleotide alone, with such results indicating dystrophin production comparable to wild-type levels in certain tissues. We have observed substantial improvement in dystrophin production in both skeletal and cardiac muscle, as well as uniform dystrophin production within tissues that we believe may be attributable to the unique mechanism of action of our EEV Platform and the broad biodistribution of our oligonucleotide conjugates. We have observed deep and uniform penetration of EEV-PMOs as compared to unconjugated oligonucleotides in our preclinical models, as illustrated below.



Importantly, we believe an increased level of dystrophin production in the heart may translate to improved cardiac function in patients with DMD.

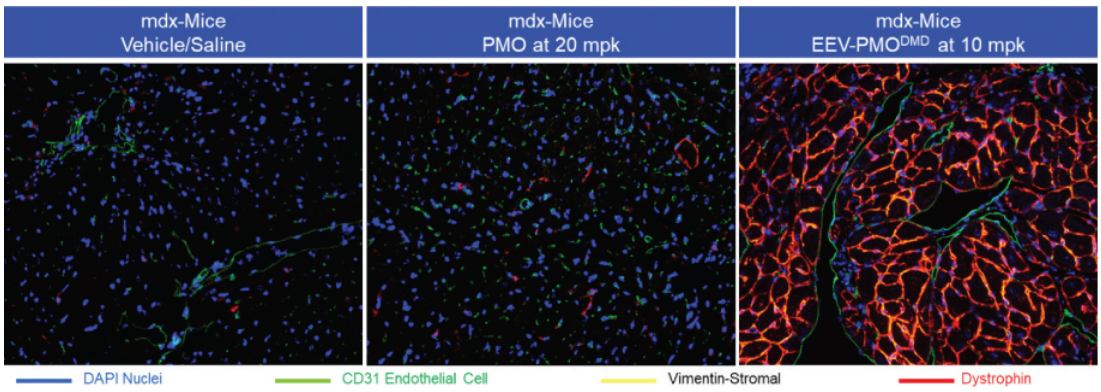
Our preclinical data have demonstrated 50% to 100% correction of exon skipping in the D2-*mdx* model, which mimics human disease, and in a human dystrophin mouse model which enables us to evaluate our lead sequence directly. We have generated promising *in vivo* data in cardiac and skeletal muscles (including the diaphragm) across a range of disease and wild-type models (both murine and NHP). We believe the observed increase in dystrophin production is sufficient to protect muscle from progressive functional decline in treated mice after a single dose of our EEV-PMO.

Summary of Preclinical Data

Our early data in mouse and NHP models have been consistent and robust. We have observed substantial exon skipping and dystrophin production in various tissues of *mdx* mice. The *mdx* mouse is the canonical model used in DMD research and carries a spontaneous nonsense mutation in exon 23 of the *DMD* gene. Although this does not allow for the testing of oligonucleotides specific to human mutations, it does enable measurement of tissue concentration of oligonucleotides, exon 23 skipping levels and the corresponding dystrophin production. This allowed us to extrapolate anticipated dystrophin production from exon-skipping observations as we move to NHP models. We were also able to show in both single-dose and multiple-dose experiments that the EEV-PMOs has greater activity than unconjugated PMOs. Similarly, EEV-PMOs had greater activity than alternative cell-penetrating peptide conjugates in our preclinical studies. The distribution of dystrophin in the treated mice was relatively uniform, as measured by morphometric analysis. High levels of exon skipping have been consistently replicated in the D2-*mdx* model, a transgenic human dystrophin mouse model, and in a NHP model.

Our preclinical studies have also demonstrated reductions in serum CK to wild-type levels in the exon 23 specific *mdx* model. Serum CK is a commonly-used biomarker of systemic muscle breakdown. Correction of CK is believed to be a strong indicator of pharmacodynamic activity throughout the body and a marker of muscle integrity restoration. In the data below, unless otherwise noted, we used reverse transcription-polymerase chain reaction to assess exon skipping and Western Blot to assess dystrophin production. Our preclinical studies have demonstrated durable dystrophin production over a period of at least four weeks, suggesting the possibility of infrequent dosing. Immunohistochemistry and morphometric analysis confirm that the protein is broadly distributed across tissues, which is necessary if the muscle is to maintain function. Finally, in order to determine whether muscle is breaking down systemically, we measured serum CK levels in mice and preclinical results indicated normalization after a single dose of EEV-PMO. Achieving normalized levels of serum CK may suggest that our EEV-PMO has the potential to restore muscle integrity in this exon 23 skipping model, bolstering our confidence in the potential of our exon 44 skipping EEV-PMO program.

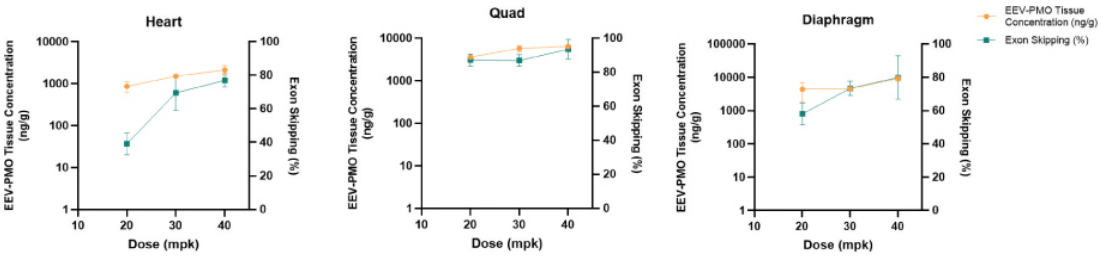
mdx Mouse Dystrophin Distribution Analyzed via Immunofluorescence After Four Injections of EEV-PMO at 10 mg/kg



In the experiment above, *mdx* mice were injected with weekly doses of either saline, unconjugated exon 23 skipping PMO or an EEV conjugated to the same exon 23 skipping PMO over the course of four weeks. Samples were taken one week after the fourth dose. The EEV-PMO-DMD substantially increased dystrophin production and accumulation in the heart, with approximately 40% of the cardiac tissue staining positive for dystrophin (in red). This compares favorably to the PMO alone, where at even double the dose virtually no dystrophin can be seen. Endothelial cells are stained green, and as shown in the image, dystrophin can be observed distributing broadly and deep into the cardiac tissue. We believe this experiment suggests that at low doses an EEV oligonucleotide has the potential to substantially improve on treatment with unconjugated oligonucleotides. We also believe these heart results suggest the possibility that EEV-PMOs may address cardiomyopathy in patients with DMD, which is a major complication and leading cause of death associated with the disease. We believe this could therefore potentially improve survival rates.

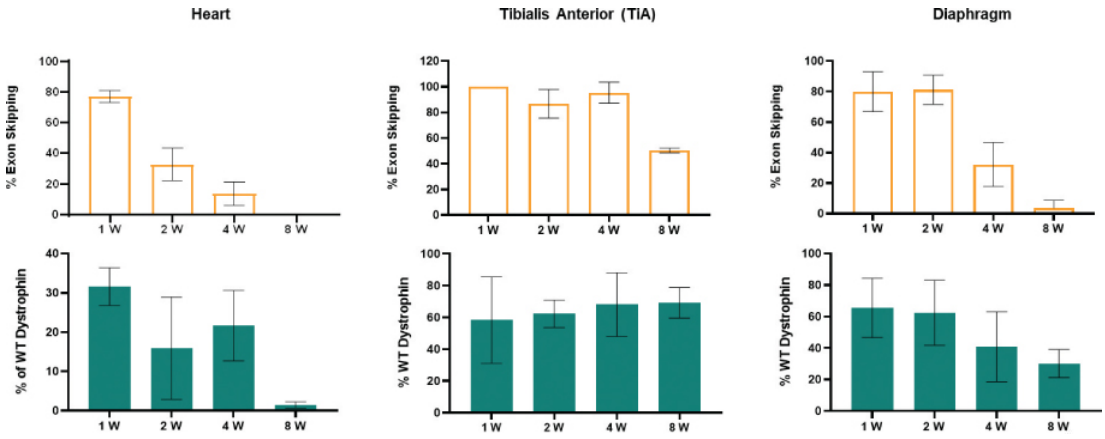
We have also observed that tissue concentration of EEV-PMO in the cell correlates with the level of exon skipping, which correlates with dystrophin production.

High Levels of Exon 23 Skipping and Tissue Concentration Observed in Various Muscle Groups at Three Different Doses of EEV-PMO in mdx Mice



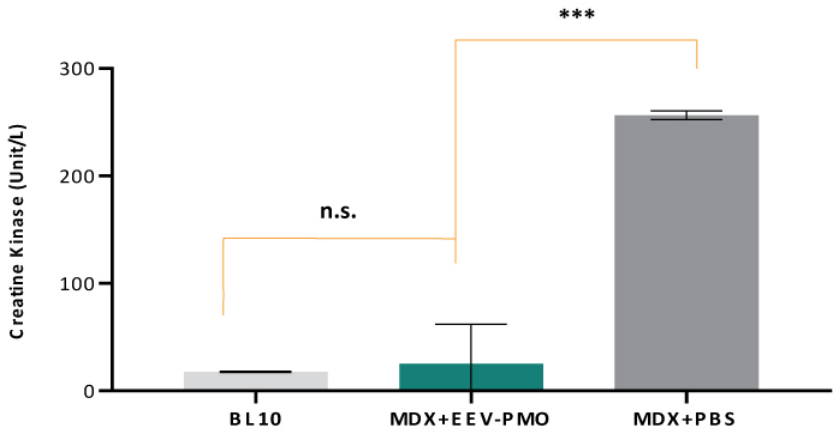
In the *mdx* mouse model illustrated above, exon skipping and tissue concentration in various muscle groups have been quantified one week after a single 20, 30 or 40 mg/kg intravenous (IV) dose of an EEV conjugate to an exon 23 skipping PMO in *mdx* mice. A dose-dependent effect was seen, both with respect to tissue concentrations and exon 23 skipping levels, which ranged from approximately 80%-100% at the highest IV dose of 40 mg/kg, depending on the tissue sampled. These dose-dependent tissue concentrations and the correlation with exon skipping suggest efficient target engagement in heart, diaphragm and other skeletal muscles.

High Levels of Exon 23 Skipping and Dystrophin Correction Observed up to 8 Weeks After a Single IV Dose of EEV-PMO in mdx Mice



Following dose-ranging experiments, exon 23 skipping and dystrophin production in various muscle groups were quantified one week, two weeks, four weeks and eight weeks after a single IV dosage of 40 mg/kg in *mdx* mice. We selected the highest dose based on the magnitude of exon skipping observed.

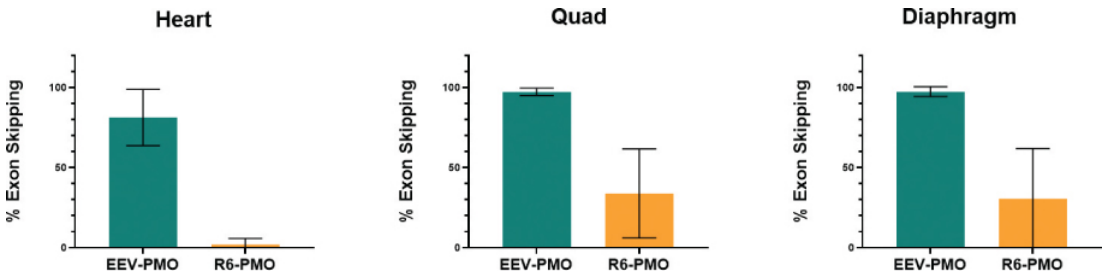
Normalization of Serum CK Levels in mdx and Wild-Type (BL10) Mice



*** = $p \leq 0.001$

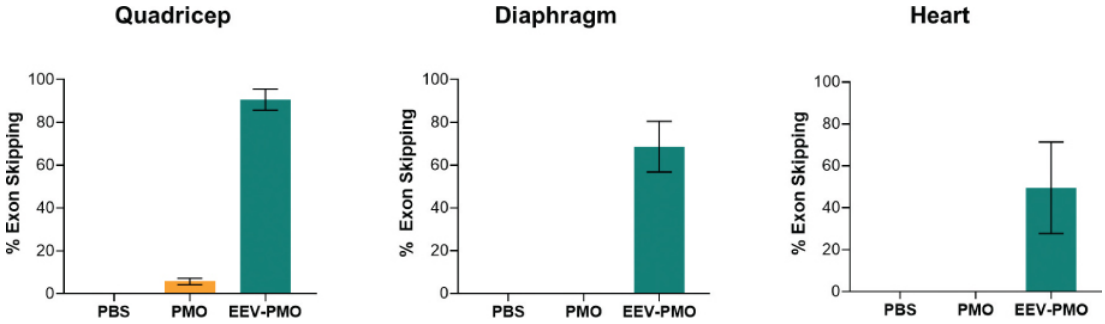
Serum CK is a commonly-used biomarker for systemic muscle breakdown. CK is released from muscles with damaged and porous sarcolemma, which, in the case of DMD, is due to a lack of functional dystrophin. Normalization of serum CK indicates broad correction of dystrophin and protection of the sarcolemma throughout the body, which can further imply a potential restoration of function. In this experiment, untreated wild-type (BL10) mice were compared to *mdx* mice treated with EEV-PMO and *mdx* mice treated with phosphate-buffered saline (PBS). Serum CK from *mdx* mice was analyzed one week after a single 40 mg/kg IV dose of EEV-PMO skipping exon 23 or of PBS. Treatment with EEV-PMO normalized serum CK levels in the *mdx* mice, suggesting restoration of muscle integrity. In contrast, no significant correction of serum CK was seen in the PBS control arm.

EEV-PMO Significantly Improved Exon 23 Skipping After 3 Days in mdx Mice as Compared to R6-PMO



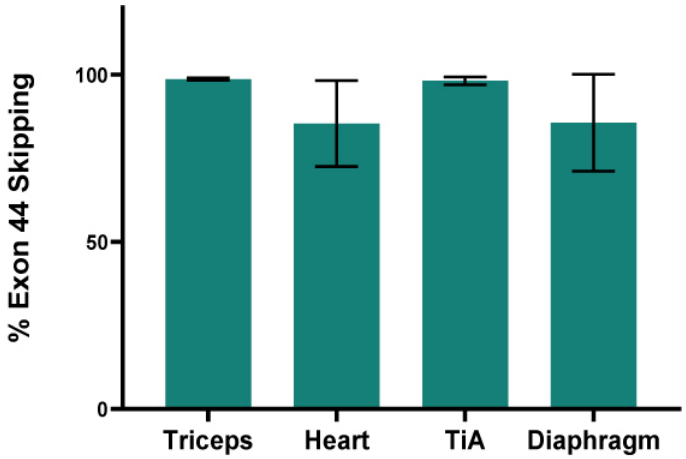
To compare the exon 23 skipping of an EEV against an alternative published linear peptide, we synthesized a 6 arginine (R6) cell-penetrating peptide and conjugated it to the exon 23 skipping oligonucleotide. We then compared the activity of this molecule to EEV-PMO, by conjugating the same oligonucleotide to one of our EEVs. After a single 40 mg/kg IV dose of the EEV-PMO or the R6-PMO, the EEV-PMO exhibited profound effects, with near complete exon skipping in the diaphragm and the quadriceps and approximately 60% exon skipping in the heart. The R6-PMO results were very limited in the skeletal muscle and virtually no pharmacodynamic effects were seen in the heart.

Superior Correction of Exon 23 Skipping in the D2-mdx Model Versus Unconjugated PMO



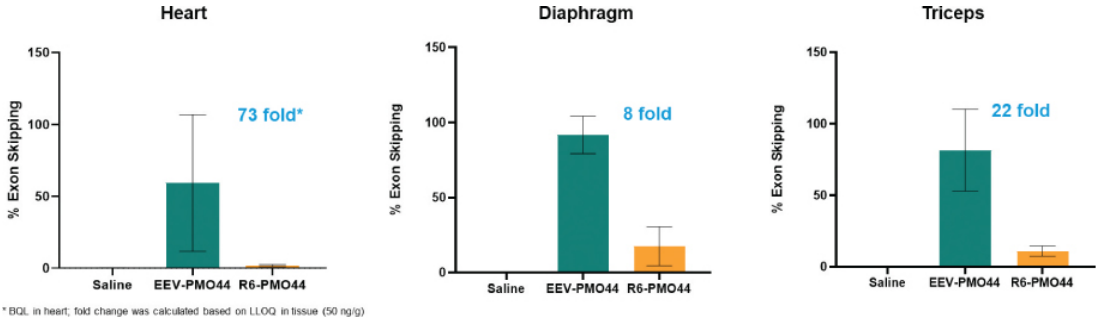
We have employed a methodical and robust approach to candidate qualification by generating data in the canonical *mdx* mouse, as well as in a mouse model with a more severe phenotype known as the D2-*mdx* mouse. While the approach remains focused on exon 23 skipping, the D2-*mdx* mouse model more closely represents human disease as these animals develop more fibrosis and exhibit less muscle regeneration over time when compared to the *mdx* model. In the study above, we compare exon skipping in the quadriceps, diaphragm and heart as generated by either the EEV-PMO skipping exon 23 or the PMO alone skipping exon 23. The lack of response from unconjugated PMO illustrates the difficulty in generating pharmacodynamic responses in the D2-*mdx* model, and further reinforces the importance of EEV conjugation. The animals were given a single 40 mg/kg IV dose of either the PMO or the EEV-PMO. We were able to demonstrate approximately 50% to 95% exon skipping from the mice dosed with EEV-PMO, depending on the tissue sampled.

High Levels of Exon 44 Skipping in hDystrophin Transgenic Murine Model with 15 mg/kg of an EEV Conjugated Exon 44 Skipping Oligonucleotide



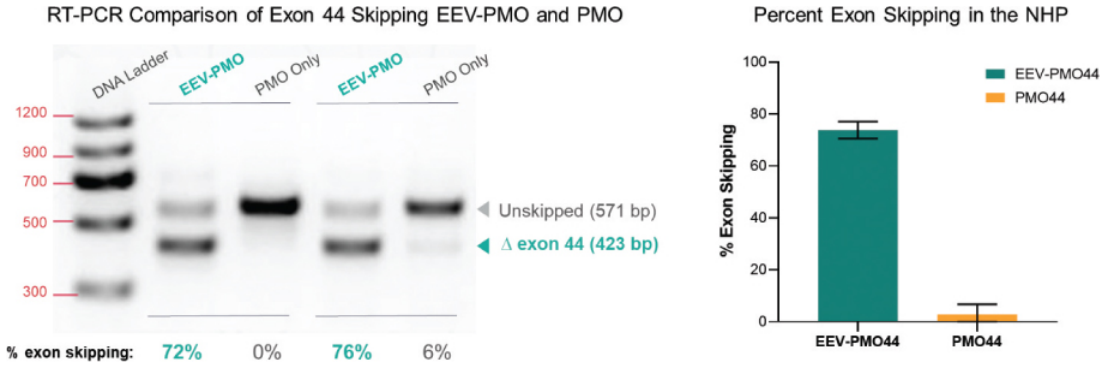
The *mdx* mouse model, the most commonly-used mouse model for DMD, carries a spontaneous nonsense mutation in exon 23 of the *DMD* gene. While this model has been useful to show proof-of-concept of the exon skipping approach *in vivo*, it does not allow for the testing of human-specific oligonucleotides. Consequently, we also used transgenic mice carrying an integrated copy of the full-length human *DMD* gene with an exon 44 skipping amenable mutation. While these mice do not exhibit the DMD phenotype, the model does allow for an assessment of exon skipping levels. The mice were given a single IV dose of an EEV conjugated to an exon 44 skipping PMO (a combination thereof defined as EEV-PMO-44) at 15 mg/kg and near 100% exon skipping was observed. This result is notable because the mice in this model have intact muscle cells, which have historically been more difficult for therapeutics to access than the damaged cells seen in a *mdx* model. We believe that these robust exon skipping results suggest the potential for our EEV-PMO to expand into additional neuromuscular diseases in which uptake into intact muscle is crucial to demonstrating clinical activity.

Exon 44 Skipping Activity of EEV-PMO-44 as Compared to a R6 Conjugated Exon 44 Skipping PMO (Single IV Dose of 15 mg/kg in hDystrophin Mice)



We conjugated our lead exon 44 skipping sequence to an EEV from our candidate library, which we refer to as EEV-PMO-44, as mentioned above. Human dystrophic mice were IV dosed with 15 mg/kg of either EEV-PMO-44 or a R6 linear peptide conjugated to the same exon 44 skipping PMO. We observed exon skipping of between 60% to 100% in the EEV-PMO-DMD-44 mice, compared to exon skipping of less than 20% in the R6-PMO-44-dosed mice.

Exon Skipping in NHP Following IM Injection of EEV-PMO-44 as Compared to IM Injection of PMO-44



In our initial NHP preclinical study, a cynomolgus monkey was injected using IM administration with EEV-PMO-44 at two sites on the right leg using a dose of 2 mg per injection. A control of unconjugated PMO-44 was injected at two sites on the left leg at the same dose of 2 mg per injection. Samples were analyzed three days later. IM injection with EEV-PMO-44 demonstrated between 72% and 76% exon skipping versus PMO-44 alone, which showed almost no exon skipping. We believe the substantial difference in the pharmacodynamic response may imply that target exposure was much higher when the oligonucleotides were conjugated to EEVs. We expect to complete GLP toxicology studies to support an IND filing in the second half of 2022.

Clinical Development Plan

We plan to study our ENTR-601-44 in both pediatric and adult patients with DMD that are exon 44 skipping amenable and leverage the regulatory precedents set by exon skipping programs both in the clinic and on the market in the United States. Pending clearance of our IND, we plan to initiate ascending dose studies in patients to assess safety and tolerability as well as evaluate pharmacokinetics (PK), exon skipping and dystrophin production in skeletal muscle. Pending the outcome of these studies, and subsequent regulatory feedback we then plan to initiate a potentially registrational Phase 2b study, in which we intend to assess changes in dystrophin levels as the primary endpoint, and a variety of clinical measures as secondary endpoints. We also plan to conduct exploratory assessments of cardiac and pulmonary function as part of this study. We plan to study our second program ongoing for patients with DMD that are exon 45 skipping amenable and follow a similar clinical development plan. We believe that generating clinical proof-of-concept in these underserved populations will create translational, regulatory and clinical development synergies, and improve our potential to create meaningful treatment for these patients and those patients with DMD that are exon 51 and exon 53 skipping amenable.

We plan to submit an IND to the FDA for ENTR-601-44 in 2022 and to submit an IND to the FDA for a potential EEV-PMO candidate for patients with DMD that are exon 45 skipping amenable in 2023.

Pompe Disease

Pompe disease is a rare, autosomal recessive lysosomal storage disease caused by a mutation in the gene that encodes for glucosidase alpha acid (GAA), which results in an absence or deficiency of GAA protein. Normally, the body uses GAA to break down the complex carbohydrate glycogen and convert it into glucose. Failure to achieve proper breakdown and abnormalities in glycogen metabolism result in the excessive accumulation of glycogen in the body's cells, particularly in cardiac, smooth, and skeletal muscle cells, which can lead to impairment and degradation of normal tissue and organ function. Patients with Pompe disease experience serious muscle-related problems, including progressive muscle weakness throughout the body, especially in the legs, trunk and diaphragm. As the disorder progresses, breathing problems can lead to respiratory failure.

To date, more than 300 pathogenic mutations have been identified in GAA. Pompe disease is commonly estimated to affect between 5,000 and 10,000 patients in the aggregate in the United States and Europe; however, the advent of newborn screening suggests the disease is underdiagnosed.

Based on the age of onset and severity of symptoms, Pompe disease is typically classified as either infantile-onset Pompe disease (IOPD) or late-onset Pompe disease (LOPD). IOPD is characterized by severe muscle weakness and abnormally diminished muscle tone and usually manifests within the first few months of life. If left untreated, IOPD is often fatal due to progressive cardiac failure, respiratory distress or malnutrition resulting from feeding difficulties. LOPD presents in childhood, adolescence or adulthood. Patients with LOPD typically have milder symptoms, such as reduced mobility and respiratory problems. Patients with LOPD experience progressive difficulty walking and respiratory decline. Initial symptoms of LOPD may be subtle and go unrecognized for years.

Current Treatment Landscape and Limitations

The only currently-approved therapies for Pompe disease are alglucosidase alfa (Lumizyme in the United States, Myozyme in other geographies) and avalglucosidase alfa-ngpt (Nexviazyme in the United States), which are both forms of ERT delivered via IV infusions. Although infantile patients treated with ERT for Pompe disease have demonstrated improved survival, ERT is not curative, and many patients in long-term observational studies continue to have increased risk of both cardiomyopathy and heart failure. These patients also experience residual muscle weakness, including difficulties swallowing and the attendant increased risk of aspiration. ERT is particularly limited in its ability to improve skeletal muscle myopathy and respiratory dysfunction, primarily due to its inability to penetrate key tissues affected by the disease, a lack of activity in the cytosol and potential immunogenicity. Despite the availability of ERT, there remains significant unmet medical need in patients with either IOPD or LOPD.

Our Solution

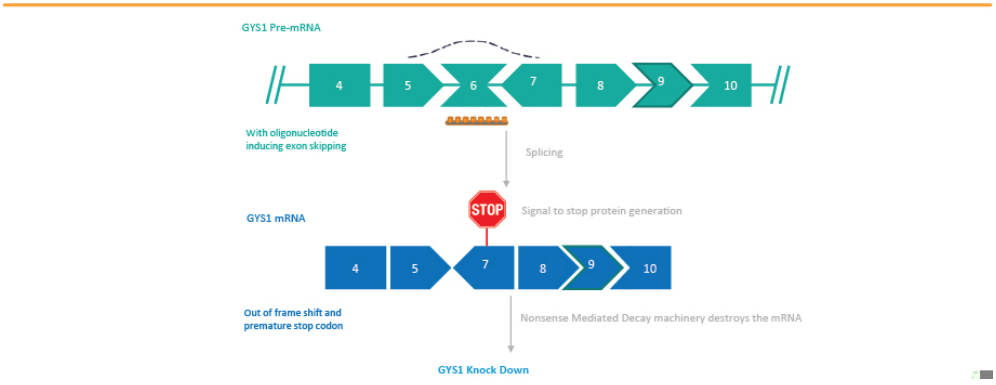
Our Pompe disease program focuses on the development of a potentially disease-modifying treatment, which mitigates the production of glycogen in the cytosol of the cell. Leveraging the modularity of our EEV Platform, we are utilizing EEV-PMOs that target the mRNA that encodes glycogen synthetase 1 (GYS1), a protein required for the synthesis of glycogen in muscle cells. Our EEV-PMO is expected to provide a complementary mechanism of action to GAA replacement, which increases glycogen processing in the lysosome. Together these therapies may improve therapeutic outcomes.

We believe that an EEV-PMO based approach is well suited for the treatment of patients with either IOPD or LOPD because of the ability to specifically inhibit GYS1 in the muscle.

Summary of Preclinical Data

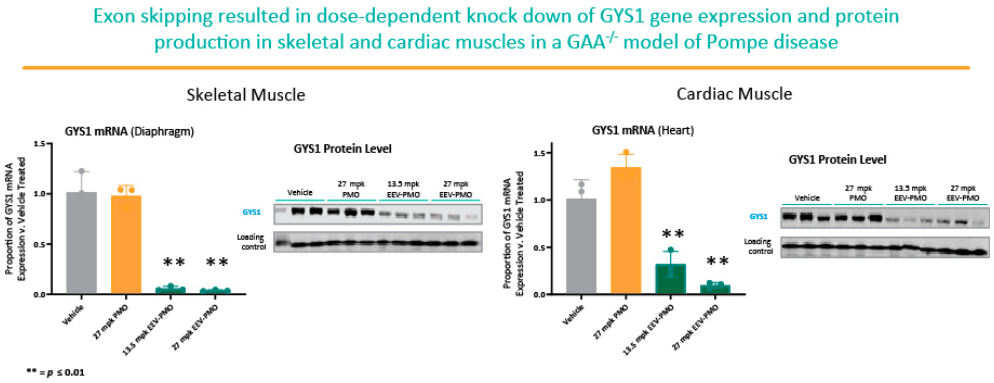
Our therapeutic strategy involves EEV-PMO induced exon skipping, which is similar to our DMD strategy. We believe the more advanced DMD programs lay the foundation for the potential clinical success of our Pompe disease program. The approach in Pompe disease involves knockdown of GYS1 expression by inducing exon skipping to shift the reading frame and induce the reading of a premature stop codon, as illustrated below, resulting in subsequent nonsense-mediated mRNA decay (NMD). NMD prevents the translation of protein production.

Our approach is designed to inhibit glycogen synthesis via exon skipping followed by premature stop codon presentation and GYS1 mRNA decay



GYS1/GAA double knockout mice, when compared to the GAA single knockout mice, have exhibited a profound reduction in the amount of glycogen in the heart and skeletal muscles, a significant decrease in lysosomal swelling and autophagic build-up. These cellular-level changes lead to cardiomegaly correction, normalization of glucose metabolism and correction of muscle atrophy. We believe, and medical literature suggests, that, despite the absence of GAA, the elimination of GYS1 plays an important role in glycogen metabolism. Furthermore, this mouse model allows us to test the more general utility of NMD and the more specific goal of GYS1 knockdown by an EEV-PMO *in vivo*.

Dose-Dependent EEV-PMO Knockdown of GYS1 Gene Expression and Protein Production in Skeletal and Cardiac Muscles Versus PMO Alone



In the experiment above, GAA knockout mice ($GAA^{-/-}$) were injected with a single IV dose of either 13.5 mg/kg of EEV-PMO, 27 mg/kg of EEV-PMO, 27 mg/kg of PMO or a negative control (vehicle). GYS1 mRNA and protein levels were measured one-week post-injection and a significant knockdown of both was observed in both the EEV-PMO arms, but not in the unconjugated PMO arm. This pharmacodynamic result is notable given that this is a single dose experiment administered at very low doses, and it suggests that GYS1 is an addressable target. We believe this result demonstrates the potential of using exon skipping to drive NMD, which potentially opens a broad range of therapeutic indications where a downregulation of gene expression is needed.

Development considerations for GYS1 (Pompe disease and beyond)

We plan to study our first Pompe EEV-PMO, once selected, in patients with LOPD. Although ERT is an effective treatment for some patients, many will fail to adequately respond, or appear to lose response over time. Pending completion of IND-enabling studies, submission of an IND and obtaining regulatory feedback, we expect to initiate trials in combination with ERT to assess safety, tolerability and PK in patients with LOPD. Additionally, we plan to initiate clinical trials involving pediatric patients with IOPD.

Beyond Pompe disease, we continue to explore a number of additional diseases where GYS1 knockdown is relevant. We are also continuing to evaluate the more general strategy of NMD in additional diseases.

DM1

DM1 is a rare disease, commonly estimated to affect over 40,000 people in the United States and over 50,000 in Europe. The disease is caused by a mutation driven alteration of normal RNA structure manifesting as an increase in the number of CUG triplet repeats found in the 3' non-coding region of the DM1 protein kinase (DMPK) gene. The number of CUG repeats ranges from up to approximately 35 copies in healthy individuals to many thousands in patients with DM1. It is believed that disease severity correlates with number of CUG repeats, and therefore can be used as a diagnostic marker. The excessive number of CUG repeats form large hairpin loops that entrap the DMPK pre-mRNA in the nucleus and impart toxic activity, referred to as a toxic gain-of-function. Specifically, mutant DMPK pre-mRNA sequesters a critical CUG-binding protein, muscle blind-like protein (MBNL), forming nuclear

foci and inhibiting its ability to perform its normal function of guiding pre-mRNA processing of gene transcription for many other genes. These genes include those encoding the insulin receptor, the chloride channel and the cardiac troponin T among others. As a result, multiple pre-mRNAs that encode key proteins are misprocessed and this contributes to the multisystemic nature of the disease. These abnormal proteins ultimately cause DM1. The progression of DM1 may depend on the growth of the expanded repeat over time, suggesting that stabilization of the repeat is a means to postpone the onset or slow the progression.

DM1 is typically categorized based on age of onset and severity of symptoms into various phenotypes: 75% classical (adult-onset in the second to fourth decade of life); 10% childhood; and 15% congenital. All forms of DM1, except the late-onset form, are associated with high levels of disease burden and in the most severe cases can be associated with premature mortality. Life expectancy ranges from 45 years to 60 years. Seventy percent of early mortality is caused by cardiorespiratory complications. Respiratory failure due to muscle weakness (especially diaphragmatic weakness) causes at least 40% of early mortality, and cardiac abnormalities account for approximately 30%. The clinical course of DM1 is usually slowly progressive, but may become extremely disabling, especially when more generalized limb weakness and respiratory muscle impairment develops. Systemic manifestations such as fatigue, gastrointestinal (GI) complications, incontinence and excessive daytime sleepiness greatly impact a patient's quality of life. As a result, DM1 leads to physical impairment, activity limitations and decreased participation in social activities and work.

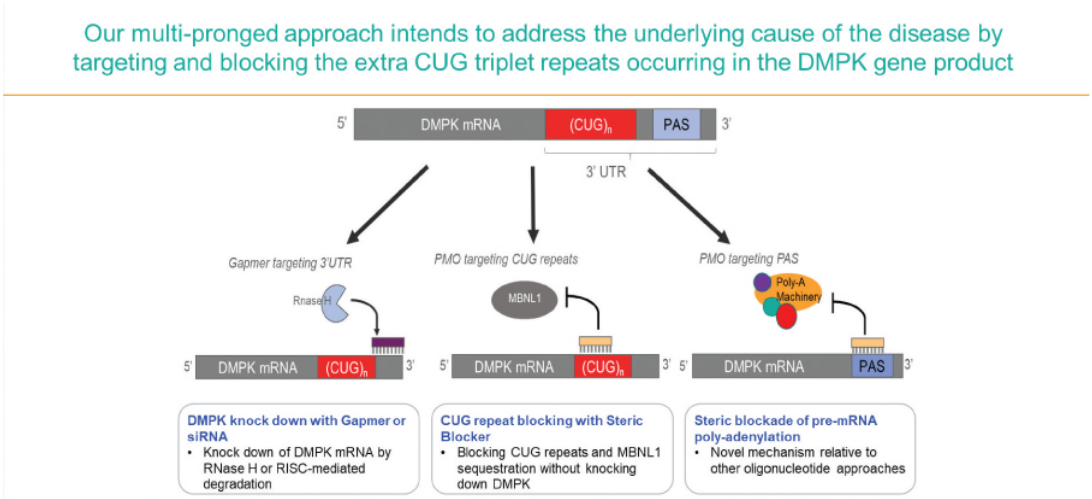
Current Treatment Landscape and Limitations

There are currently no approved therapies to treat DM1 and treatment is focused largely on symptom management, which is tailored to the system affected and can therefore range from diet modification and physical therapy to surgery and ventilatory support. A previous attempt at treating patients with DM1 with an unconjugated antisense oligonucleotide was discontinued due to lack of efficacy. Therefore, there remains a high unmet medical need for new disease modifying therapies.

Our solution

Our multi-pronged approach intends to address the underlying cause of the disease by targeting and blocking the extra CUG triplet repeats occurring in the DMPK gene product to generate functional DMPK. CAG-repeat antisense oligonucleotides are designed to bind CUG repeat RNA and have been shown to block RNA-protein interactions as well as reduce the level of CUG transcription. We are exploring three distinct approaches to allow for normal mRNA processing:

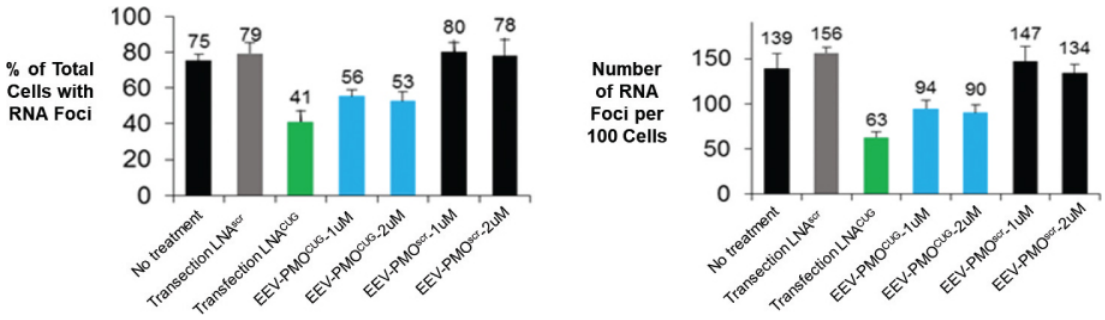
- Using a Gapmer or siRNA to knock down DMPK mRNA via RNase H or RNA-induced silencing complex (RISC)-mediated degradation.
- Using a PMO to sterically block CUG repeats and accomplish MBNL1 sequestration while allowing for the readthrough of the rest of the DMPK mRNA and leaving healthy levels of DMPK intact.
- Using a PMO to sterically block pre-mRNA poly-adenylation, which we would expect to destabilize the mRNA resulting in its decay.



Summary of Preclinical Data

Our initial *in vitro* work was conducted in cell lines engineered to display a very high number of CUG repeats to generate foci, as a model for testing the potential for foci reduction.

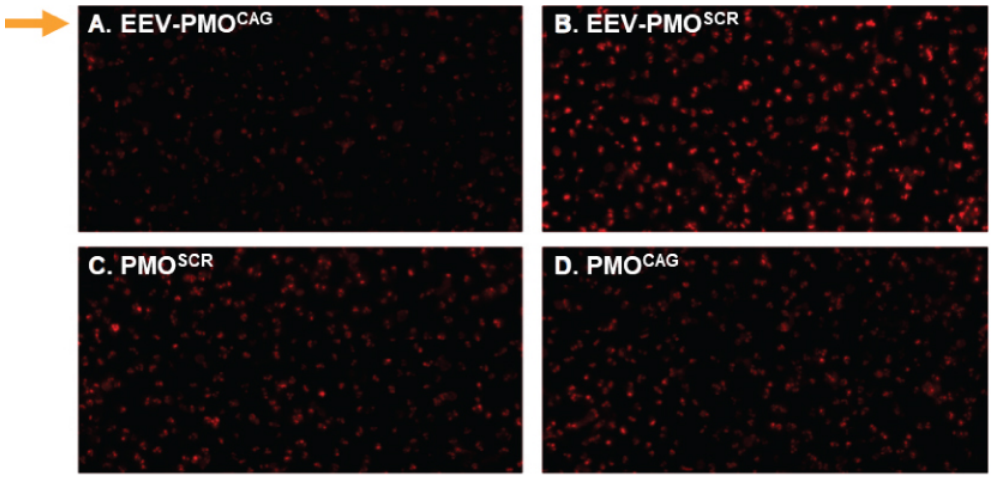
Reduction of RNA Foci Number in CUG-Repeat Knocked-in Cell Line



In the panels above, we demonstrated that 1-2 uM of treatment with EEV-PMO-CUG, designed to selectively knock down the pathogenic CUG repeats, reduced RNA foci in a mammalian cell line with 1500 CUG repeats knocked in. Further, this reduction in foci via treatment with EEV-PMO-CUG was comparable to that demonstrated in cells transfected with a second positive control; an alternative and well-studied locked nucleic acid chemistry gapmer (LNA-CUG). No significant reduction in foci was observed with EEV-PMO-SCR, a scrambled positive control, which involves a random nucleotide sequence.

We were also able to demonstrate in our preclinical studies dose-dependent downregulation of target gene splicing and RNA foci formation in a Hela480 cell line with high CUG repeat load and splicing defects knocked in.

Knockdown of RNA Foci in Hela480 Cell Line



Analysis showed only the EEV-conjugated CAG ASO targeting CUG repeats in Panel A, using 3 uM EEV-PMO-CAG, demonstrated substantial normalization after 24-48 hours of treatment.

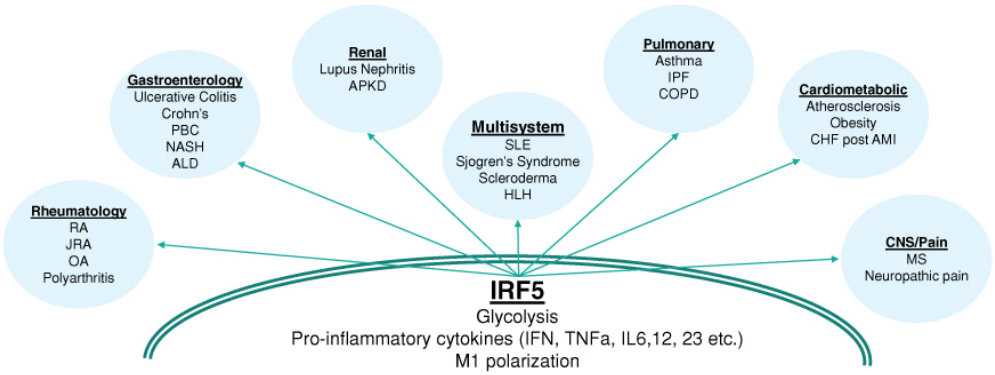
These experiments suggest the potential for effective MBNL release and ultimately for improved functional outcomes.

Additional Programs Beyond Neuromuscular Disease

Oligonucleotide Therapeutic Candidates

Interferon Regulatory Factors (IRFs) are a family of transcription factors that regulate transcription of interferons, which are associated with both innate and adaptive immunity pathways. IRF5 in particular operates as a master switch in macrophages and is implicated in proinflammatory cytokine release and fibrosis formation across a range of high unmet need diseases, making this an attractive potential “pipeline in a product.” IRF5 knockout mice have been shown to have reduced inflammatory phenotype and relevant fibrosis in many disease models including non-alcoholic steatohepatitis, systemic lupus erythematosus, inflammatory bowel disease, rheumatoid arthritis, asthma and neuropathic pain, among many others.

IRF5 has been shown to be a master switch implicated in proinflammatory cytokine release and M1 polarization across high unmet need diseases, making this an attractive pipeline in a product



Downregulating IRF5 represents a promising treatment strategy for multiple immune-mediated and inflammatory diseases. We are currently leveraging multiple oligonucleotide strategies for IRF5

downregulation. In preclinical studies, we have demonstrated knockdown of IRF5 mRNA levels and decreased downstream expression of IL6.

We are currently conducting preclinical studies evaluating the delivery of IRF5-targeting EEV-PMOs in both wild-type and disease mouse models.

Central Nervous System / Oligonucleotides

Neurodegenerative diseases are generally progressive in nature and result in the degeneration and often death of neurons in the brain, leading to cognitive decline, functional impairment and eventually death. The rapidly growing patient population represents one of the largest unmet medical needs of our time. We have successfully demonstrated delivery to a wide variety of structures, including the cerebellum, cortex, and hippocampus in the brain, as well as the dorsal root ganglia, the spinal cord, and cells within the nervous system. Importantly, we have observed EEV-PMO concentrations in these tissues up to 60-fold higher when compared with PMO alone.

Protein Inhibition and Degradation Therapeutics

When proteins become old, mutated, misfolded or expended, they are degraded by the body through the ubiquitin proteasome system in which cells mark or tag a particular protein for disposal by attaching several molecules of the small regulatory protein ubiquitin.

Several therapeutic approaches are designed to work at the protein level by modulating the ubiquitin proteasome system to harness the cell's natural protein disposal system to degrade and remove a protein. Unlike more traditional signaling inhibitors that need a 1:1 inhibitor-to-target activity ratio, degraders can continuously function and show sub-stoichiometric properties. We believe this means that potentially lower doses and a wider therapeutic index may be possible. This benefit may be enhanced if a higher percentage of the degrader can access the protein in the cell.

Our EEV Platform has the potential to deliver highly selective large molecule protein degraders with activity against disease-causing proteins. Our constructs are designed to induce the ubiquitination and subsequent degradation of proteins in one step, without the need for a separate E3 recruiting moiety or a molecular glue. Furthermore, large molecules are generally more selective than small molecules.

We are exploring biologically-validated targets that have been undruggable or have been suboptimally drugged. We have initially focused on β-catenin, a protein which is implicated in both mutagenesis and in immune resistance. This contributes to the carcinogenesis, tumor progression and metastasis of several cancers, including hepatocellular carcinoma, pancreatic, lung, breast, ovarian cancer and 80% of colon cancers. We believe a β-catenin degrader may both mitigate tumor progression and (re)sensitize the tumor to immunotherapy.

Our Solution

We are currently developing a library of high affinity intracellular antibodies using *in vitro* phage selection of an alpaca immune library and are screening for target engagement and degradation. At present we have identified several high affinity b-catenin degraders. We are in the process of optimizing a lead EEV to use *in vivo*.

Protein- and Enzyme-Based Therapeutic Candidates

Mitochondrial Neurogastrointestinal Encephalomyopathy (MNGIE): ENTR 501

MNGIE is a slowly progressive, rare autosomal recessive disease caused by mutations in the TYMP gene encoding thymidine phosphorylase (TP). MNGIE is a clinically distinct disorder characterized by extraocular muscle weakness, peripheral neuropathy, progressive gastrointestinal dysmotility, severe cachexia, leukoencephalopathy, and mitochondrial defects including abnormalities of mitochondrial DNA (mtDNA). The disease is highly variable in presentation and relentlessly progressive and fatal, with an average age-at-onset of around 18-years-old and an average age-at-death of

35-years-old. Studies in MNGIE patients have shown that biallelic TYMP mutations cause severe loss of TP activity and dramatic elevation of TP substrates, the pyrimidine nucleosides thymidine (Thd) and deoxyuridine (dUrd) in tissues and plasma. Increased Thd and dUrd leads to deoxynucleoside triphosphate (dNTP) pool imbalance, instability of mtDNA, mitochondrial damage, and, consequently, the resulting MNGIE phenotype.

Our ENTR-501, an intracellular TP ERT, program is in development for the treatment of MNGIE. ENTR-501 has shown robust reduction in the accumulation of thymidine in animal models. Preliminary preclinical studies have also demonstrated that ENTR-501 can reduce toxic TP substrate accumulation below the levels observed in wild-type mice. We believe that ENTR-501 could reduce plasma and tissue levels of toxic TP substrates in patients with MNGIE (both adults and children) to sub-pathogenic levels with the potential to improve clinical symptoms and impact the progression of disease.

We have completed IND-enabling studies for the MNGIE program. In 2020, we made the strategic decision to explore partnership opportunities for this program. We continue to believe that the program will have an important role in the future treatment of patients with MNGIE.

Additional Platform Applications

There are a number of additional EEV conjugates that are in discovery. We are leveraging the modularity of the platform to develop opportunities as diverse as EEV-CRISPR-Cas delivery for gene editing, EEV-antibody oligonucleotide conjugates for enhanced tissue tropism and blood brain barrier carriage, as well as novel EEV-ERT therapies. We continually explore strategic opportunities to develop therapies wherever the EEV Platform provides us with the ability to make a difference for patients with devastating diseases.

Competition

The biotechnology and biopharmaceutical industries generally, and the neuromuscular disease field specifically, are characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary products. While we believe that our technology, the expertise of our team, and our development experience and scientific knowledge in the field of muscle diseases, oligonucleotide therapeutics and manufacturing provide us with competitive advantages, we face potential competition from many different sources, including major pharmaceutical, specialty pharmaceutical and biotechnology companies, academic institutions, governmental agencies and public and private research institutions. Any therapeutic candidates that we successfully develop and commercialize may compete with existing therapies and new therapies that may become available in the future.

Currently, patients with DMD are treated with corticosteroids to manage the inflammatory component of the disease. EMFLAZA (deflazacort) is an FDA-approved corticosteroid marketed by PTC Therapeutics, Inc. (PTC). In addition, there are three FDA-approved exon skipping drugs: EXONDYS 51 (eteplirsen) and VYONDYS 53 (golodirsen), which are PMOs approved for the treatment of patients with DMD who are amenable to exon 51 and exon 53 skipping, respectively, and are marketed by Sarepta Therapeutics, Inc. (Sarepta), and VILTEPSO (vitolarsen), a PMO approved for the treatment of patients with DMD who are amenable to exon 53 skipping, which is marketed by Nippon Shinyaku Co. Ltd. Companies focused on developing treatments for DMD that target dystrophin mechanisms, as does our DMD program, include Sarepta with SRP-5051, a peptide-linked PMO currently being evaluated in a Phase 2 clinical trial for patients amenable to exon 51 skipping, PTC with ataluren, a small molecule targeting nonsense mutations in a Phase 3 clinical trial, Avidity Biosciences, Inc. (Avidity), which is in preclinical development with an antibody oligonucleotide conjugate for exons 44, 45 and 51 that targets dystrophin production, Wave Life Sciences Ltd., which is clinically evaluating WVE-N531, a splicing candidate that is designed to target exon 53 within the dystrophin gene, Dyne Therapeutics, Inc., which is pursuing antibody-oligonucleotide conjugates for exons 44, 45, 51, and 53, PepGen, Inc. with PGN-EDO51, a preclinical candidate designed to address exon 51, and BioMarin Pharmaceutical Inc., which is in preclinical development with BMN 351, an antisense oligonucleotide therapy for exon 51. In addition, several companies are developing gene therapies to treat DMD, including Pfizer Inc. (PF-06939926), Sarepta (SRP-9001 and Galgt2 gene therapy program), and Solid Biosciences Inc. (SGT-001). Gene editing treatments that are in preclinical development are also being pursued by Vertex

Pharmaceuticals, Inc. (Vertex) and Sarepta. We are also aware of several companies targeting non-dystrophin mechanisms for the treatment of DMD.

The only currently-approved therapies for Pompe disease are alglucosidase alfa (Lumizyme in the United States, Myozyme in other geographies) and avalglucosidase alfa-ngpt (Nexviazyme in the United States), which are both forms of ERT delivered via IV infusions. There are two next-generation GAA enzymes in registration from Sanofi S.A. and Amicus Therapeutics Inc. (Amicus), respectively, and there are four gene therapies in the early stages of clinical development from Astellas Pharma Inc., Bayer AG, Roche Holding AG and Lacerta Therapeutics, Inc. There are four gene therapies in preclinical development from AVROBIO, Inc., Amicus, Provention Bio Inc. and Sarepta. There are two preclinical therapies targeting GYS1 inhibition from Maze Therapeutics, Inc. and Avidity, respectively. Denali has an ERT in preclinical development.

There are currently no approved therapies to treat the underlying cause of DM1. Therapeutic candidates currently in development to treat DM1 include: tideglusib, a GSK3-ß inhibitor in late-stage clinical development by AMO Pharma Ltd. for the congenital phenotype of DM1; AT466, which is an AAV-antisense exon 2 skipping candidate and AT751 and AT753 which are AAV-antisense exon 51 and 53 skipping candidates respectively in preclinical development by Audentes Therapeutics, Inc.; an antibody linked siRNA in preclinical development by Avidity; gene editing treatments in preclinical development by Vertex; an RNA-targeting gene therapy in preclinical development by Locana, Inc.; and small molecules interacting with RNA in preclinical development by Expansion Therapeutics, Inc.

Many of our competitors, either independently or with strategic partners, have substantially greater financial, technical and human resources than we do. Accordingly, our competitors may be more successful than we are in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approval for treatments and achieving widespread market acceptance. These companies also compete with us in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites and patient registration for clinical trials and acquiring technologies complementary to, or necessary for, our programs. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies.

Our commercial potential could be substantially limited if our competitors develop and commercialize products that are more effective, safer, less toxic, more convenient or less expensive than any products we may develop. In geographies that are critical to our commercial success, competitors may also obtain regulatory approvals before us, resulting in our competitors building a strong market position in advance of the entry of our products. In addition, our ability to compete may be affected in many cases by insurers or other third-party payers seeking to encourage the use of other drugs. The key competitive factors affecting the success of any products we may develop are likely to be their efficacy, safety, convenience, price and availability of reimbursement.

Intellectual Property

We strive to protect our proprietary technology, inventions, improvements, platforms, program candidates, therapeutic candidates and components thereof, their methods of use and processes for their manufacture that we believe are important to our business, including by obtaining, maintaining, defending and enforcing patent and other intellectual property rights for the foregoing in the United States and in foreign jurisdictions. We also rely on trade secrets and confidentiality agreements to protect our confidential information and know-how and other aspects of our business that are not amenable to, or that we do not consider appropriate for, patent protection.

Our future commercial success depends in part on our ability to:

- obtain, maintain, enforce and defend patent and other intellectual property rights for our important technology, inventions and know-how; preserve the confidentiality of our trade secrets and other confidential information;
- obtain and maintain licenses to use and exploit intellectual property owned or controlled by third parties;

- operate without infringing, misappropriating or otherwise violating any valid and enforceable patents and other intellectual property rights of third parties; and
- defend against challenges and assertions by third parties challenging the validity or enforceability of our intellectual property rights, or our rights in our intellectual property, or asserting that the operation of our business infringes, misappropriates or otherwise violates their intellectual property rights.

Our portfolio consists of owned and exclusively licensed patents and applications. As of July 31, 2021, there are 33 distinct patent families (19 families with non-provisional applications and 14 families with pending provisional applications) covering compositions of matter, manufacturing and uses related to our business. Currently, we have 65 pending applications (including PCT, provisional and non-provisional applications) and 55 granted patents (including a total of 45 member state validations of three European patents).

Our owned and licensed patent estate covers various aspects of our programs and technology, including various embodiments of our EEV Platform; proprietary enzyme, peptide, oligonucleotide and CRISPR conjugates; methods of treatment; and aspects of manufacturing. The portfolio includes patents covering certain embodiments of the EEV Platform that don't relate to our lead therapeutic candidates with granted patents in the U.S. (2), India, Japan, China, Hong Kong and Europe (including 37 European validation states). The extent to which any patents, if and when granted, will cover our therapeutic candidates is uncertain. Any U.S. or foreign patents issued from national stage filings of our PCT patent applications and any U.S. patents issued from non-provisional applications we have filed or may file in connection with our provisional patent applications would be scheduled to expire on various dates from 2036 through 2042, without taking into account any possible patent term adjustments or extensions and assuming payment of all appropriate maintenance, renewal, annuity and other governmental fees.

Patent Prosecution

A PCT patent application is not eligible to become an issued patent until, among other things, we file one or more national stage patent applications in the jurisdictions in which we seek patent protection and do so within prescribed timelines of the PCT patent application's priority date. These prescribed timelines are generally 30 months, 31 months or 32 months, depending on the jurisdiction. If we do not timely file any national stage patent applications, we may lose our priority date and any potential patent protection on the inventions disclosed in such PCT patent application.

Moreover, a provisional patent application is not eligible to become an issued patent. A provisional patent application may serve as a priority filing for a non-provisional patent application we file within 12 months of such provisional patent application. If we do not timely file non-provisional patent applications, we may lose our priority date with respect to our existing provisional patent applications and any potential patent protection on the inventions disclosed in our provisional patent applications.

While we intend to timely file additional provisional patent applications, as well as national stage and non-provisional patent applications relating to our provisional applications or PCT patent applications, we cannot predict whether any of our patent applications will result in the issuance of patents. If we do not successfully obtain patent protection, or if the scope of the patent protection we or our licensors obtain with respect to our therapeutic candidates or technology is insufficient, we will be unable to use patent protection to prevent others from using our technology or from developing or commercializing technology and products similar or identical to ours or other similar competing products and technologies. Our ability to stop third parties from making, using, selling, offering to sell, importing or otherwise commercializing any of our technology, inventions and improvements, either directly or indirectly, will depend in part on our success in obtaining, maintaining, defending and enforcing patent claims that cover our technology, inventions and improvements.

The patent positions of companies like ours are generally uncertain and involve complex legal and factual questions. The protection afforded by a patent varies on a product-by-product basis, from jurisdiction-to-jurisdiction, and depends upon many factors, including the type of patent, the scope of its coverage, the availability of patent term adjustments and regulatory-related patent term extensions,

the availability of legal remedies in a particular jurisdiction, and the validity and enforceability of the patent. Patent laws and related enforcement in various jurisdictions outside of the United States are uncertain and may not protect our rights to the same extent as the laws of the United States. Changes in the patent laws and rules, whether by legislation, judicial decisions or regulatory interpretation, in the United States and other jurisdictions may have uncertain affects that could improve or diminish our ability to protect our inventions and obtain, maintain, defend and enforce our patent rights, and could therefore affect the value of our business in uncertain ways.

The area of patent and other intellectual property rights in biotechnology is evolving and has many risks and uncertainties, and third parties may have blocking patents and other intellectual property that could be used to prevent us from commercializing our platform and therapeutic candidates and practicing our proprietary technology. Our patent rights may be challenged, narrowed, circumvented, invalidated or ruled unenforceable, which could limit our ability to stop third parties from marketing and commercializing related platforms or therapeutic candidates or limit the term of patents that cover our platform and any therapeutic candidates. In addition, the rights granted under any issued patents may not provide us with protection or competitive advantages against third parties with similar technology, and third parties may independently develop similar technologies.

Moreover, because of the extensive time required for development, testing and regulatory review of a potential product, it is possible that before any of our therapeutic candidates can be commercialized, any related patent may expire or remain in force for only a short period following commercialization, thereby reducing any competitive advantage provided by the patent. For this and other risks related to our proprietary technology, inventions, improvements, platforms and therapeutic candidates and intellectual property rights related to the foregoing, please see the section entitled “Risk Factors—Risks Related to Our Intellectual Property.”

Patent Term

The term of individual patents depends upon the laws of the jurisdictions in which they are obtained. In most jurisdictions in which we file, the patent term is 20 years from the filing date of a PCT patent application or, if a PCT application is not filed, the earliest date of filing of the first non-provisional patent application to which the patent claims priority. However, the term of U.S. patents may be extended or adjusted for delays incurred due to compliance with FDA requirements or by delays encountered during prosecution that are caused by the United States Patent and Trademark Office (USPTO). For example, in the United States, a patent claiming a new chemical entity or biologic product, its method of use or its method of manufacture may be eligible for a limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984 (the Hatch-Waxman Act) for up to five years beyond the normal expiration date of the patent. Patent term extension cannot be used to extend the remaining term of a patent past a total of 14 years from the product’s approval date in the United States. Only one patent applicable to an approved product is eligible for the extension, and the application for the extension must be submitted prior to the expiration of the patent for which extension is sought and within 60 days of FDA approval of the product. A patent that covers multiple products for which approval is sought can only be extended in connection with one of the approvals. During the period of extension, if granted, the scope of exclusivity is limited to the approved product for approved uses. Some foreign jurisdictions, including Europe and Japan, have analogous patent term extension provisions, which allow for extension of the term of a patent that covers a drug approved by the applicable foreign regulatory agency. For more information on patent term extensions, see “Business—Government Regulation—Patent Term Restoration and Extension and Marketing Exclusivity.” In the future, if and when any therapeutic candidates we may develop receive FDA approval, we expect to apply for patent term extensions on issued patents covering those therapeutic candidates. Moreover, we intend to seek patent term adjustments and extensions for any of our issued patents in any jurisdiction where such adjustments and extensions are available. However, there is no guarantee that the applicable authorities, including the USPTO and the FDA, will agree with our assessment of whether such adjustments and extensions should be granted, and even if granted, the length of such adjustments and extensions.

Trade Secrets

In addition to patent protection, we also rely on trade secrets, know-how, unpatented technology and other proprietary information to strengthen our competitive position. We currently, and may continue

in the future continue to, rely on third parties to assist us in developing and manufacturing our products. Accordingly, we must, at times, share trade secrets, know-how, unpatented technology and other proprietary information, including those related to our platform, with them. We may in the future also enter into research and development collaborations with third parties that may require us to share trade secrets, know-how, unpatented technology and other proprietary information under the terms of research and development partnerships or similar agreements. Nonetheless, we take steps to protect and preserve our trade secrets and other confidential and proprietary information and prevent the unauthorized disclosure of the foregoing, including by entering into non-disclosure and invention assignment agreements with parties who have access to our trade secrets or other confidential and proprietary information, such as employees, consultants, outside scientific collaborators, contract research and manufacturing organizations, sponsored researchers and other advisors, at the commencement of their employment, consulting or other relationships with us. In addition, we take other appropriate precautions, such as maintaining physical security of our premises and physical and electronic security of our information technology systems, to guard against any misappropriation or unauthorized disclosure of our trade secrets and other confidential and proprietary information by third parties.

Despite these efforts, third parties may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets or other confidential or proprietary information. In addition, we cannot provide any assurances that all of the foregoing non-disclosure and invention assignment agreements have been duly executed, and any of the counterparties to such agreements may breach them and disclose our trade secrets and other confidential and proprietary information. Although we have confidence in the measures we take to protect and preserve our trade secrets and other confidential and proprietary information, they may be inadequate, our agreements or security measures may be breached, and we may not have adequate remedies for such breaches. Moreover, to the extent that our employees, contractors, consultants, collaborators and advisors use intellectual property owned by others in their work for us, disputes may arise as to our rights in any know-how or inventions arising out of such work. For more information, please see the section entitled “Risk Factors—Risks Related to Our Intellectual Property.”

License Agreement with The Ohio State University

On May 12, 2017, we entered into an option agreement with Ohio State Innovation Foundation (OSIF), an affiliate of The Ohio State University (OSU) responsible for the commercialization of technology developed at or created by or for OSU, in which the Company obtained an option (OSIF Option Agreement) to license all patents and patent applications involving technologies using cell-penetrating peptides arising out of or related to specified invention disclosures or through a sponsored research agreement executed with OSU on the same date (OSU SRA). On September 26, 2018, we exercised our option pursuant to the terms of the OSIF Option Agreement, and on December 14, 2018, we entered into a license agreement (OSIF License Agreement) for an exclusive, worldwide, sublicenseable license under these patents and patent rights, and a non-exclusive, worldwide, sublicenseable license under certain related know-how, to develop, commercialize or otherwise exploit products based on these cell-penetrating technologies for the treatment, prevention and diagnosis of any and all diseases or conditions. In addition, the OSIF License Agreement grants a worldwide, perpetual, irrevocable, fully-paid, royalty-free, sublicenseable, exclusive license to any rights held by OSIF, OSU or its affiliates covering specifically identified cell-penetrating platform technology.

The term of the OSIF License Agreement will continue until the later of (a) the expiration of the last to expire of the exclusively licensed patent rights, or (b) the end of our obligation to pay royalties under the OSIF License Agreement. Such obligation ends, on a licensed product-by-licensed product and country-by-country basis, on the later of (1) expiration of the last to expire of the valid claims of the exclusively licensed patent rights covering such licensed product in such country, or (2) ten (10) years after the first commercial sale of such licensed product in such country. Upon expiration of the OSIF License Agreement at the end of the royalty term, the Company will maintain all license rights as a perpetual and fully paid-up license. Both parties have the right to terminate under certain enumerated circumstances.

We have typical diligence obligations under the OSIF License Agreement, including the obligation to use commercially reasonable efforts to develop and commercialize at least one licensed product. We

may also be obligated to pay milestone payments of up to $7,950,000, tiered royalties on sales at low single digit percentages, certain license maintenance fees prior to the commercialization of the first licensed product and minimum annual payments of $125,000 after such commercialization. In addition, in the event of a sublicense, under certain circumstances we may be required to pay up to 15% of non-royalty sublicensing consideration.

Commercialization

Excluding ENTR-501, we intend to retain significant development and commercial rights to our potential therapeutic candidates and, if marketing approval is obtained, to commercialize our therapeutic candidates on our own, or potentially with a partner, in the United States and other regions. We currently have no sales, marketing, or commercial product distribution capabilities. We intend to build the necessary infrastructure and capabilities over time for the United States, and potentially other regions, following further advancement of our therapeutic candidates. We believe that such a focused sales and marketing organization will be able to address the key specialists in treating the patient populations for which our therapeutic candidates are being developed. Clinical data, the size of the addressable patient population, and the size of the commercial infrastructure and manufacturing needs may all influence or alter our commercialization plans. The responsibilities of the marketing organization would include developing educational initiatives with respect to approved products and establishing relationships with researchers and practitioners in relevant fields of medicine.

Manufacturing

We do not own or operate manufacturing facilities. We currently rely on third-party contract manufacturing organizations (CMOs), and suppliers for EEVs, linkers and nucleotides that comprise ENTR-601-44 and our potential therapeutic candidates and the conjugation of these components, and we expect to continue to do so to support our IND-enabling studies and our clinical trials and commercial activities; however, we may seek to establish our own manufacturing facility for IND-enabling studies, clinical studies and long-term commercial supply. As we scale manufacturing, we intend to continue to expand and strengthen our network of CMOs. We believe there are multiple sources for all of the materials required for the manufacture of our therapeutic candidates, as well as multiple CMOs who could assemble the aforementioned components that comprise ENTR-601-44 and our potential therapeutic candidates.

Manufacturing is subject to extensive regulations that impose procedural and documentation requirements. These regulations govern record keeping, manufacturing processes and controls, personnel, quality control and quality assurance. Our CMOs are required to comply with these regulations and are assessed through regular monitoring and formal audits. Our third-party manufacturers are required to manufacture any therapeutic candidates we develop under current Good Manufacturing Practice (cGMP), requirements and other applicable laws and regulations.

We have personnel with extensive technical, manufacturing, analytical and quality experience to oversee all contracted manufacturing and testing activities.

Government Regulation

Government authorities in the United States, at the federal, state and local level and in other countries and jurisdictions, including the European Union, extensively regulate, among other things, the research, development, testing, manufacture, pricing, reimbursement, sales, quality control, approval, packaging, storage, recordkeeping, labeling, advertising, promotion, distribution, marketing, post-approval monitoring and reporting and import and export of drugs and biological products such as those we are developing. The processes for obtaining marketing approvals in the United States and in foreign countries and jurisdictions, along with subsequent compliance with applicable statutes and regulations and other regulatory authorities, require the expenditure of substantial time and financial resources.

Licensure And Regulation Of Drugs and Biologics In The United States

In the United States, where we are initially focusing our product development, the FDA regulates drugs under the Federal Food, Drug, and Cosmetic Act (FDCA), and biologics under the FDCA and the

Public Health Service Act (PHSA), and their implementing regulations. Both drugs and biologics are also subject to other federal, state and local statutes and regulations. Our therapeutic candidates are early-stage and have not been approved by the FDA for marketing in the United States. Based on our novel therapeutic approach and the broad potential applicability of our EEV Platform to deliver a variety of therapeutic modalities into cells, we are developing therapeutic candidates that would be regulated under the FDCA, and/or the PHSA, and their implementing regulations, as drugs or biologics, depending on the modality of each product candidate. The failure to comply with the applicable U.S. requirements at any time during the product development process, including preclinical testing, clinical testing, the approval process, or post-approval process, may subject an applicant to delays in the conduct of the study, regulatory review and approval and/or administrative or judicial sanctions. These sanctions may include, but are not limited to, the FDA's refusal to allow an applicant to proceed with clinical testing, refusal to approve pending applications, license suspension, or revocation, withdrawal of an approval, warning letters, adverse publicity, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines and civil or criminal investigations and penalties brought by the FDA or the Department of Justice (DOJ), and other governmental entities, including state agencies.

An applicant seeking approval to market and distribute a new drug or biologic in the United States generally must satisfactorily complete each of the following steps: preclinical laboratory tests, animal studies and formulation studies all performed in accordance with the FDA's Good Laboratory Practices (GLP) regulations, as applicable; completion of the manufacture, under current Good Manufacturing Practices (cGMP) conditions, of the drug substance and drug product that the sponsor intends to use in human clinical trials along with required analytical and stability testing; submission to the FDA of an Investigational New Drug application (IND), for human clinical testing, which must become effective before human clinical trials may begin; approval by an independent institutional review board (IRB), representing each clinical trial site before each clinical trial site may be initiated; performance of adequate and well-controlled human clinical trials, in accordance with current Good Clinical Practices (GCP), and any additional nonclinical studies required to establish the safety, efficacy, potency and purity of the product candidate for each proposed indication; preparation and submission to the FDA of a new drug application (NDA), or a Biologics License Application (BLA), for a biologic product, requesting marketing for one or more proposed indications, including submission of detailed information on the manufacture and composition of the product in clinical development and proposed labelling; review of the product by an FDA advisory committee, where appropriate or if applicable; satisfactory completion of one or more FDA inspections of the manufacturing facility or facilities, including those of third parties, at which the product, or components thereof, are produced to assess compliance with cGMP and to assure that the facilities, methods and controls are adequate to preserve the product's identity, strength, quality and purity; satisfactory completion of any FDA audits of the preclinical studies and clinical trial sites to assure compliance with GLP, as applicable, and GCP, and the integrity of clinical data in support of the NDA or BLA; payment of user fees under the Prescription Drug User Fee Act (PDUFA); securing FDA approval of the NDA or BLA; and compliance with any post-approval requirements, including the potential requirement to implement a Risk Evaluation and Mitigation Strategy (REMS), and any post-approval studies or other post-marketing commitments required by the FDA.

Preclinical Studies and Investigational New Drug Application

Before testing any therapeutic product candidate in humans, the product candidate must undergo preclinical testing. Preclinical tests include laboratory evaluations of product chemistry, formulation and stability, as well as studies to evaluate the potential for efficacy and toxicity in animal studies. The conduct of the preclinical tests and formulation of the compounds for testing must comply with federal regulations and requirements. The results of the preclinical tests, together with manufacturing information and analytical data, are submitted to the FDA as part of an IND application.

An IND is an exemption from the FDCA that allows an unapproved product candidate to be shipped in interstate commerce for use in a clinical trial and a request for FDA authorization to administer such investigational product to humans. The IND automatically becomes effective 30 days after receipt by the FDA, unless before that time the FDA raises concerns or questions about the product or conduct of the proposed clinical trial, including concerns that human research subjects will be exposed to

unreasonable health risks. In that case, the IND sponsor and the FDA must resolve any outstanding FDA concerns before the clinical trials can begin or recommence.

As a result, submission of the IND may result in the FDA not allowing the trials to commence or allowing the trial to commence on the terms originally specified by the sponsor in the IND. If the FDA raises concerns or questions either during this initial 30-day period, or at any time during the IND review process, it may choose to impose a partial or complete clinical hold. Clinical holds may be imposed by the FDA when there is concern for patient safety, and may be a result of new data, findings, or developments in clinical, preclinical and/or chemistry, manufacturing and controls or where there is non-compliance with regulatory requirements. This order issued by the FDA would delay either a proposed clinical trial or cause suspension of an ongoing trial, until all outstanding concerns have been adequately addressed and the FDA has notified the company that investigations may proceed. A separate submission to an existing IND must also be made for each successive clinical trial conducted during drug development, and the FDA must grant permission, either explicitly or implicitly by not objecting, before each clinical trial can begin.

Human Clinical Trials in Support of an NDA or BLA

Clinical trials involve the administration of the investigational product candidate to healthy volunteers or patients with the disease or condition to be treated under the supervision of qualified investigators in accordance with GCP requirements. Clinical trials are conducted under protocols detailing, among other things, the objectives of the trial, inclusion and exclusion criteria, the parameters to be used in monitoring safety, and the effectiveness criteria to be evaluated. A protocol for each clinical trial and any subsequent protocol amendments must be submitted to the FDA as part of the IND.

A sponsor who wishes to conduct a clinical trial outside the United States may, but need not, obtain FDA authorization to conduct the clinical trial under an IND. When a foreign clinical trial is conducted under an IND, all FDA IND requirements must be met unless waived. The FDA will accept a well-designed and well-conducted foreign clinical study not conducted under an IND if the study was conducted in accordance with GCP requirements, and the FDA is able to validate the data through an onsite inspection if deemed necessary. The GCP requirements encompass both ethical and data integrity standards for clinical trials. The FDA's regulations are intended to help ensure the protection of human subjects enrolled in non-IND foreign clinical trials, as well as the quality and integrity of the resulting data. They further help ensure that non-IND foreign trials are conducted in a manner comparable to that required for clinical trials in the United States.

Further, each clinical trial must be reviewed and approved by an IRB either centrally or individually at each institution at which the clinical trial will be conducted. The IRB will consider, among other things, clinical trial design, patient informed consent, ethical factors, the safety of human subjects, and the possible liability of the institution. An IRB must operate in compliance with FDA regulations. The FDA, IRB, or the clinical trial sponsor may suspend or discontinue a clinical trial at any time for various reasons, including a finding that the clinical trial is not being conducted in accordance with GCP requirements or that the participants are being exposed to an unacceptable health risk. Clinical testing also must satisfy extensive GCP rules and the requirements for informed consent.

Additionally, some clinical trials are overseen by an independent group of qualified experts organized by the clinical trial sponsor, known as a data safety monitoring board (DSMB), or data monitoring committee (DMC). This group may recommend continuation of the trial as planned, changes in trial conduct, or cessation of the trial at designated check points based on certain available data from the trial to which only the DSMB/DMC has access. Finally, certain clinical trials involving recombinant or synthetic nucleic acid molecules may be subject to review and approval of an Institutional Biosafety Committee (IBC), in accordance with NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules (NIH Guidelines). An IBC is 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. While the NIH Guidelines are not mandatory unless the research in question is being conducted at or sponsored by institutions

receiving NIH funding for recombinant or synthetic nucleic acid molecule research, many companies and other institutions not otherwise subject to the NIH Guidelines voluntarily follow them.

Clinical trials typically are conducted in three sequential phases, but the phases may overlap or be combined. Additional studies may be required after approval.

- Phase 1 clinical trials are initially conducted in a limited population to test the product candidate for safety, including adverse effects, dose tolerance, absorption, metabolism, distribution, excretion and pharmacodynamics in healthy subjects or patients.
- Phase 2 clinical trials are generally conducted in a limited patient population to identify possible adverse effects and safety risks, evaluate the efficacy of the product candidate for specific targeted indications and determine dose tolerance and optimal dosage. Multiple Phase 2 clinical trials may be conducted by the sponsor to obtain information prior to beginning larger and more costly Phase 3 clinical trials.
- Phase 3 clinical trials typically proceed if the Phase 2 clinical trials demonstrate that a dose range of the product candidate is potentially effective and has an acceptable safety profile. Phase 3 clinical trials are generally undertaken within an expanded patient population to further evaluate dosage, provide substantial evidence of clinical efficacy and further test for safety in an expanded and diverse patient population at multiple, geographically dispersed clinical trial sites. A well-controlled, statistically robust Phase 3 trial may be designed to deliver the data that regulatory authorities will use to decide whether or not to approve, and, if approved, how to appropriately label a therapeutic.

In some cases, the FDA may approve an NDA or BLA for a product but require the sponsor to conduct additional clinical trials to further assess the product's safety and effectiveness after approval. Such post-approval trials are typically referred to as Phase 4 clinical trials. These studies are used to gain additional experience from the treatment of patients in the intended therapeutic indication and to document a clinical benefit for products approved under accelerated approval regulations. If the FDA approves a product while a company has ongoing clinical trials that were not necessary for approval, a company may be able to use the data from these clinical trials to meet all or part of any Phase 4 clinical trial requirement or to request a change in the product labeling. The failure to exercise due diligence with regard to conducting Phase 4 clinical trials could result in withdrawal of approval for products.

Information about applicable clinical trials must be submitted within specific timeframes to the NIH for public dissemination on its ClinicalTrials.gov website.

Under the Pediatric Research Equity Act of 2003, an NDA, BLA or supplement thereto must contain data that are adequate to assess the safety and effectiveness of the product 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 FDCA requires that a sponsor who is planning to submit a marketing application for a 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 (PSP), within sixty days of an end-of-Phase 2 meeting or as may be agreed between the sponsor and FDA. Those plans must contain an outline of the proposed pediatric study or studies the applicant plans to conduct, including study objectives and design, any deferral or waiver requests, and other information required by regulation. The sponsor and the FDA must reach agreement on the PSP. The FDA or the applicant may request an amendment to the plan at any time.

The FDA may, on its own initiative or at the request of the applicant, grant deferrals for submission of some or all pediatric data until after approval of the product for use in adults, or full or partial waivers from the pediatric data requirements. Additional requirements and procedures relating to deferral requests and requests for extension of deferrals are contained in the Food and Drug Administration Safety and Innovation Act. Unless otherwise required by regulation, the pediatric data requirements do not apply to products with orphan designation.

Expanded Access to an Investigational Drug for Treatment Use

Expanded access, sometimes called “compassionate use,” is the use of investigational products outside of clinical trials to treat patients with serious or immediately life-threatening diseases or conditions when there are no comparable or satisfactory alternative treatment options. The rules and regulations related to expanded access are intended to improve access to investigational products for patients who may benefit from investigational therapies. FDA regulations allow access to investigational products under an IND by the company or the treating physician for treatment purposes on a case-by-case basis for: individual patients (single-patient IND applications for treatment in emergency settings and non-emergency settings); intermediate-size patient populations; and larger populations for use of the investigational product under a treatment protocol or treatment IND application.

Expanded access may be appropriate when all of the following criteria apply: patient(s) have a serious or immediately life-threatening disease or condition, and there is no comparable or satisfactory alternative therapy to diagnose, monitor, or treat the disease or condition; patient enrollment in a clinical trial is not possible; the potential patient benefit justifies the potential risks of the treatment and the potential risks are not unreasonable in the context or condition to be treated; and the expanded use of the investigational drug for the requested treatment will not interfere with initiation, conduct, or completion of clinical investigations that could support marketing approval of the product or otherwise compromise the potential development of the product. There is no obligation for a sponsor to make its drug products available for expanded access; however, as required by the 21st Century Cures Act (Cures Act), a sponsor must make its policy regarding evaluating and responding to expanded access requests publicly available.

In addition, on May 30, 2018, the Right to Try Act was signed into law. The law, among other things, provides a federal framework for certain patients to access certain investigational products that have completed a Phase 1 clinical trial and that are undergoing investigation for FDA approval. Under certain circumstances, eligible patients can seek treatment without enrolling in clinical trials and without obtaining FDA permission under the FDA expanded access program. There is no obligation for a manufacturer to make its investigational products available to eligible patients as a result of the Right to Try Act.

Compliance with cGMP Requirements

Before approving an NDA or 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. The PHSA emphasizes the importance of manufacturing controls for products like biologics whose attributes cannot be precisely defined.

Manufacturers and others involved in the manufacture and distribution of products must also register their establishments with the FDA and certain state agencies. Both domestic and foreign manufacturing establishments must register and provide additional information to the FDA upon their initial participation in the manufacturing process. Any product manufactured by or imported from a facility that has not registered, whether foreign or domestic, is deemed misbranded under the FDCA. Establishments may be subject to periodic unannounced inspections by government authorities to ensure compliance with cGMPs and other laws. Noncompliance with such requirements can lead to adverse findings by the FDA during these inspections; in instances of significant or continued noncompliance, such adverse findings can serve as the basis for additional regulatory action by the FDA, including but not limited to warning and “untitled” letters.

Review and Approval of an NDA or BLA

The results of product candidate development, preclinical testing and clinical trials, including negative or ambiguous results as well as positive findings, are submitted to the FDA as part of an NDA or BLA requesting approval to market the product. The NDA or BLA must contain extensive manufacturing information and detailed information on the composition of the product and proposed

labeling as well as payment of a user fee. Under federal law, the submission of most NDAs and BLAs are subject to an application user fee. The sponsor of an approved NDA or BLA is also subject to an annual program fee. Certain exceptions and waivers are available for some of these fees, such as an exception from the application fee for products with orphan designation and a waiver for certain small businesses.

The FDA has 60 days after submission of the application to conduct an initial review to determine whether to accept it for filing based on the agency's threshold determination that it is sufficiently complete to permit substantive review. Once the submission has been accepted for filing, the FDA begins an in-depth review of the application. Under the goals and policies agreed to by the FDA under PDUFA, the FDA has ten months in which to complete its initial review of a standard application and respond to the applicant, and six months for a priority review of the application. The FDA does not always meet its PDUFA goal dates for standard and priority NDAs and BLAs. The review process may be significantly extended by FDA requests for additional information or clarification. The review process and the PDUFA goal date may be extended by three months if the FDA requests or if the applicant otherwise provides additional information or clarification regarding information already provided in the submission within the last three months before the PDUFA goal date.

The FDA reviews an NDA or BLA to determine, among other things, whether the product is safe and effective and whether the facility in which it is manufactured, processed, packaged or held meets standards designed to assure the product's continued safety, quality and purity. On the basis of the FDA's evaluation of the application and accompanying information, including the results of the inspection of the manufacturing facilities and any FDA audits of preclinical and clinical trial sites to assure compliance with GCPs, 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. If the application is not approved, the FDA will issue a complete response letter, which will contain the conditions that must be met in order to secure final approval of the application, and when possible, will outline recommended actions the sponsor might take to obtain approval of the application. Sponsors that receive a complete response letter have one year to submit to the FDA information that represents a complete response to the issues identified by the FDA. The FDA will then re-review the application, taking into consideration the response. Failure to respond to a complete response letter will serve as a withdrawal of an application. The FDA will not approve an application until issues identified in any complete response letters have been addressed.

The FDA may also refer the application to an advisory committee for review, evaluation and recommendation as to whether the application should be approved. In particular, the FDA may refer applications for novel products or products that present difficult questions of safety or efficacy to an advisory committee.

Typically, an advisory committee is a panel of independent experts, including clinicians and other scientific experts, that reviews, evaluates and provides a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

If the FDA approves a new product, it may limit the approved indication(s) for use of the product. It may also require that contraindications, warnings, or precautions be included in the product labeling. In addition, the FDA may call for post-approval studies, including Phase 4 clinical trials, to further assess the product's efficacy and/or safety after approval. The agency may also require testing and surveillance programs to monitor the product after commercialization, or impose other conditions, including distribution restrictions or other risk management mechanisms, including a REMS program, to help ensure that the benefits of the product outweigh the potential risks. A REMS can include medication guides, communication plans for healthcare professionals and elements to assure safe use (ETASU). ETASU can include, but are not limited to, special training or certification for prescribing or dispensing, dispensing only under certain circumstances, special monitoring and the use of patent registries. The FDA may prevent or limit further marketing of a product based on the results of post-market studies or surveillance programs. After approval, many types of changes to the approved product, such as adding new indications, manufacturing changes and additional labeling claims, are subject to further testing requirements and FDA review and approval.

Fast Track, Breakthrough Therapy and Priority Review

The FDA provides programs intended to facilitate and expedite development and review of new products that are intended to address an unmet medical need in the treatment of a serious or life-threatening disease or condition. These programs are referred to as fast track designation, breakthrough therapy designation, and priority review designation. These designations are not mutually exclusive, and a product candidate may qualify for one or more of these programs. While these programs are intended to expedite product development and approval, they do not alter the standards for FDA approval.

The FDA may designate a product for fast track designation if it is intended, whether alone or in combination with one or more other products, for the treatment of a serious or life-threatening disease or condition, and it demonstrates the potential to address unmet medical needs for such a disease or condition. For products with fast track designation, sponsors may have greater interactions with the FDA, the product is potentially eligible for accelerated approval and priority review, if relevant criteria are met, and the FDA may initiate review of sections of a product with fast track designation application before the application is complete. This rolling review may be available if the FDA determines, after preliminary evaluation of clinical data submitted by the sponsor, that a product with fast track designation may be effective. The sponsor must also provide, and the FDA must approve, a schedule for the submission of the remaining information and the sponsor must pay applicable user fees. However, the FDA's time period goal for reviewing a fast track application does not begin until the last section of the application is submitted. In addition, the fast track designation may be withdrawn by the FDA if the FDA believes that the designation is no longer supported by data emerging in the clinical trial process.

A product may be designated as a breakthrough therapy if it is intended, either alone or in combination with one or more other products, to treat a serious or life-threatening disease or condition and preliminary clinical evidence indicates that the product 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 FDA may take certain actions with respect to breakthrough therapies, including holding meetings with the sponsor throughout the development process; providing timely advice to the product sponsor regarding development and approval; involving senior managers in the review process; assigning a cross-disciplinary lead for the review team; and taking other steps to design the clinical trials in an efficient manner. Breakthrough designation may be rescinded if a product no longer meets the qualifying criteria.

The FDA may designate a product for priority review if it is a product that treats a serious condition and, if approved, would provide a significant improvement in safety or effectiveness. The FDA determines, on a case-by-case basis, whether the proposed product represents a significant improvement when compared with other available therapies. Significant improvement may be illustrated by evidence of increased effectiveness in the treatment of a condition, elimination or substantial reduction of a treatment-limiting adverse reaction, documented enhancement of patient compliance that may lead to improvement in serious outcomes, and evidence of safety and effectiveness in a new subpopulation. A priority review designation is intended to direct overall attention and resources to the evaluation of such applications, and to shorten the FDA's goal for taking action on a marketing application from ten months to six months. Priority review designation may be rescinded if a product no longer meets the qualifying criteria.

Accelerated Approval Pathway

The FDA may grant accelerated approval to a product for a serious or life-threatening condition that provides meaningful therapeutic advantage to patients over existing treatments based upon a determination that the product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit. For the purposes of accelerated approval, a surrogate endpoint is a marker, such as a laboratory measurement, radiographic image, physical sign, or other measure that is thought to predict clinical benefit but is not itself a measure of clinical benefit. The FDA may also grant accelerated approval for such a condition when the product has an effect on an intermediate clinical endpoint that can be measured earlier than an effect on irreversible morbidity or mortality (IMM), and that is reasonably likely to predict an effect on IMM or other clinical benefit, taking into account the severity, rarity or prevalence of the condition and the availability or lack of alternative treatments. The FDA has limited

experience with accelerated approvals based on intermediate clinical endpoints but has indicated that such endpoints generally may support accelerated approval where the therapeutic effect measured by the endpoint is not itself a clinical benefit and basis for traditional approval, if there is a basis for concluding that the therapeutic effect is reasonably likely to predict the ultimate clinical benefit of a product. Products granted accelerated approval must meet the same statutory standards for safety and effectiveness as those granted traditional approval.

The accelerated approval pathway is most often used in settings in which the course of a disease is long, and an extended period of time is required to measure the intended clinical benefit of a product, even if the effect on the surrogate or intermediate clinical endpoint occurs rapidly. Thus, accelerated approval has been used extensively in the development and approval of products for treatment of a variety of cancers in which the goal of therapy is generally to improve survival or decrease morbidity and the duration of the typical disease course requires lengthy and sometimes large trials to demonstrate a clinical or survival benefit.

The accelerated approval pathway is usually contingent on a sponsor's agreement to conduct, in a diligent manner, additional post-approval confirmatory studies to verify and describe the product's clinical benefit. As a result, a product candidate approved on this basis is subject to rigorous post-marketing compliance requirements, including the completion of Phase 4 or post-approval clinical trials to confirm the effect on the clinical endpoint. Failure to conduct required post-approval studies, confirm a clinical benefit during post-marketing studies or dissemination of false or misleading promotional materials would allow the FDA to withdraw the product from the market on an expedited basis. All promotional materials for therapeutic candidates approved under accelerated regulations are subject to prior review by the FDA.

Orphan Drug Designation

Orphan drug designation in the United States is designed to encourage sponsors to develop products intended for treatment of rare diseases or conditions. In the United States, a rare disease or condition is statutorily defined as a condition that affects fewer than 200,000 individuals in the United States or that affects 200,000 or more individuals in the United States and for which there is no reasonable expectation that the cost of developing and making available the biologic for the disease or condition will be recovered from sales of the product in the United States.

Orphan drug designation qualifies a company for tax credits and market exclusivity for seven years following the date of the product's marketing approval if granted by the FDA. An application for designation as an orphan product can be made any time prior to the filing of an application for approval to market the product. After the FDA grants orphan designation, the product must then go through the review and approval process like any other product.

A sponsor may request orphan drug designation of a previously unapproved product or new orphan indication for an already marketed product. In addition, a sponsor of a product that is otherwise the same product as an already approved orphan drug may seek and obtain orphan drug designation for the subsequent product for the same rare disease or condition if it can present a plausible hypothesis that its product may be clinically superior to the first drug. More than one sponsor may receive orphan drug designation for the same product for the same rare disease or condition, but each sponsor seeking orphan drug designation must file a complete request for designation.

If a product with orphan designation receives the first FDA approval for the disease or condition for which it has such designation or for a select indication or use within the rare disease or condition for which it was designated, the product generally will receive orphan drug exclusivity. Orphan drug exclusivity means that the FDA may not approve another sponsor's marketing application for the same product for the same indication for seven years, except in certain limited circumstances. If a product designated as an orphan drug ultimately receives marketing approval for an indication broader than what was designated in its orphan drug application, it may not be entitled to exclusivity.

The period of exclusivity begins on the date that the marketing application is approved by the FDA and applies only to the indication for which the product has been designated. The FDA may approve a

second application for the same product for a different use or a second application for a clinically superior version of the product for the same use. The FDA cannot, however, approve the same product made by another manufacturer for the same indication during the market exclusivity period unless it has the consent of the sponsor, or the sponsor is unable to provide sufficient quantities.

Pediatric Exclusivity

Pediatric exclusivity is another type of non-patent marketing exclusivity in the United States and, if granted, provides for the attachment of an additional six months of marketing protection to the term of any existing regulatory exclusivity, including orphan exclusivity. This six-month exclusivity may be granted if an NDA or BLA sponsor submits pediatric data that fairly respond to a written request from the FDA for such data. The data do not need to show the product to be effective in the pediatric population studied; rather, if the clinical trial is deemed to fairly respond to the FDA's request, the additional protection is granted. If reports of requested pediatric studies are submitted to and accepted by the FDA within the statutory time limits, whatever statutory or regulatory periods of exclusivity that cover the product are extended by six months.

U.S. Patent Term Restoration and Extension and Marketing Exclusivity

In the United States, a patent claiming a new biologic product, its method of use or its method of manufacture may be eligible for a limited patent term extension under the Hatch-Waxman Act, which permits a patent extension of up to five years for patent term lost during product development and FDA regulatory review. Assuming grant of the patent for which the extension is sought, the restoration period for a patent covering a product is typically one-half the time between the effective date of the IND and the submission date of the NDA or BLA, plus the time between the submission date of the NDA or BLA and the ultimate approval date, except that the review period is reduced by any time during which the applicant failed to exercise due diligence. Patent term restoration cannot be used to extend the remaining term of a patent past a total of 14 years from the product's approval date in the United States. Only one patent applicable to an approved product is eligible for the extension, and the application for the extension must be submitted prior to the expiration of the patent for which extension is sought. A patent that covers multiple products for which approval is sought can only be extended in connection with one of the approvals. The USPTO reviews and approves the application for any patent term extension in consultation with the FDA.

Marketing exclusivity provisions under the FDCA also can delay the submission or the approval of certain applications. The FDCA provides a five-year period of non-patent marketing exclusivity within the United States to the first applicant to gain approval of an NDA for a new chemical entity. A drug is a new chemical entity if the FDA has not previously approved any other new drug containing the same active moiety, which is the molecule or ion responsible for the action of the drug substance. During the exclusivity period, the FDA may not accept for review an abbreviated new drug application (ANDA), or a 505(b)(2) NDA submitted by another company for another version of such drug where the applicant does not own or have a legal right of reference to all the data required for approval. However, an application may be submitted after four years if it contains a certification of patent invalidity or non-infringement. The FDCA also provides three years of marketing exclusivity for an NDA, 505(b)(2) NDA or supplement to an existing NDA if new clinical investigations, other than bioavailability studies, that were conducted or sponsored by the applicant are deemed by the FDA to be essential to the approval of the application, for example, new indications, dosages or strengths of an existing drug. This three-year exclusivity covers only the conditions of use associated with the new clinical investigations and does not prohibit the FDA from approving ANDAs for drugs containing the original active agent. Five-year and three-year exclusivity will not delay the submission or approval of a full NDA. However, an applicant submitting a full NDA would be required to conduct or obtain a right of reference to all of the preclinical studies and adequate and well-controlled clinical trials necessary to demonstrate safety and effectiveness.

Biosimilars and Exclusivity

The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010 (collectively, the ACA), which was signed into law in March 2010, included a

subtitle called the Biologics Price Competition and Innovation Act of 2009 (BPCIA). The BPCIA established a regulatory scheme authorizing the FDA to approve biosimilars and interchangeable biosimilars. A biosimilar is a biological product that is highly similar to an existing FDA-licensed "reference product." The FDA has issued multiple guidance documents outlining an approach to review and approval of biosimilars. Additional guidance is expected to be finalized by the FDA in the near term. Under the BPCIA, a manufacturer may submit an application for licensure of a biologic product that is "biosimilar to" or "interchangeable with" a previously approved biological product or "reference product." In order for the FDA to approve a biosimilar product, it must find that there are no clinically meaningful differences between the reference product and proposed biosimilar product in terms of safety, purity and potency. For the FDA to approve a biosimilar product as interchangeable with a reference product, the agency must find that the biosimilar product can be expected to produce the same clinical results as the reference product, and (for products administered multiple times) that the biologic and the reference biologic may be switched after one has been previously administered without increasing safety risks or risks of diminished efficacy relative to exclusive use of the reference biologic.

Under the BPCIA, an application for a biosimilar product may not be submitted to the FDA until four years following the date of approval of the reference product. The FDA may not approve a biosimilar product until 12 years from the date on which the reference product was approved. Even if a product is considered to be a reference product eligible for exclusivity, another company could market a competing version of that product if the FDA approves a full BLA for such 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 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. Since the passage of the BPCIA, many states have passed laws or amendments to laws, including laws governing pharmacy practices, which are state regulated, to regulate the use of biosimilars.

Post-Approval Regulation

If regulatory approval for marketing of a product or new indication for an existing product is obtained, the sponsor will be required to comply with all regular post-approval regulatory requirements as well as any post-approval requirements that the FDA have imposed as part of the approval process. The sponsor will be required to report certain adverse reactions and production problems to the FDA, provide updated safety and efficacy information, and comply with requirements concerning advertising and promotional labeling requirements. Manufacturers and certain of 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 ongoing regulatory requirements, including cGMP regulations, which impose certain procedural and documentation requirements upon manufacturers. Accordingly, the sponsor and its third-party manufacturers must continue to expend time, money and effort in the areas of production and quality control to maintain compliance with cGMP regulations and other regulatory requirements.

A biological product may also be subject to official lot release, meaning that the manufacturer is required to perform certain tests on each lot of the product before it is released for distribution. If the product is subject to official lot release, the manufacturer must submit samples of each lot, together with a release protocol showing a summary of the history of manufacture of the lot and the results of all of the manufacturer's tests performed on the lot, to the FDA. The FDA may in addition perform certain confirmatory tests on lots of some products before releasing the lots for distribution. Finally, the FDA will conduct laboratory research related to the safety, purity, potency and effectiveness of pharmaceutical products.

Once an approval is granted, the FDA may withdraw the 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 trials to assess new safety risks; or imposition of distribution or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of the product;
- complete withdrawal of the product from the market or product recalls;
- fines, warning letters or holds on post-approval clinical trials;
- refusal of the FDA to approve pending applications or supplements to approved applications, or suspension or revocation of product license approvals;
- product recall, seizure or detention, or refusal to permit the import or export of products; or
- injunctions or the imposition of civil or criminal penalties.

The FDA strictly regulates the marketing, labeling, advertising and promotion of prescription drug products placed on the market. This regulation includes, among other things, standards and regulations for direct-to-consumer advertising, communications regarding unapproved uses, industry-sponsored scientific and educational activities and promotional activities involving the Internet and social media. Promotional claims about a drug's safety or effectiveness are prohibited before the drug is approved. After approval, a drug product generally may not be promoted for uses or patient populations that are not approved by the FDA, as reflected in the product's prescribing information (known as "off-label" use). In the United States, healthcare professionals are generally permitted to prescribe drugs for such off-label uses because the FDA does not regulate the practice of medicine. However, FDA regulations impose rigorous restrictions on manufacturers' communications, prohibiting the promotion of off-label uses.

If a company, including any agent of the company or anyone speaking on behalf of the company, is found to have promoted off-label uses, the company may become subject to adverse public relations and administrative and judicial enforcement by the FDA, the DOJ, or the Office of the Inspector General of the Department of Health and Human Services, as well as state authorities. This could subject a company to a range of penalties that could have a significant commercial impact, including civil and criminal fines and agreements that materially restrict the manner in which a company promotes or distributes drug products. The federal government has levied large civil and criminal fines against companies for alleged improper promotion and has also requested that companies enter into consent decrees or permanent injunctions under which specified promotional conduct is changed or curtailed.

Federal and State Data Privacy and Security Laws

Under the federal Health Insurance Portability and Accountability Act of 1996 (HIPAA), the U.S. Department of Health and Human Services (HHS), has issued regulations to protect the privacy and security of protected health information (PHI), used or disclosed by covered entities including certain healthcare providers, health plans and healthcare clearinghouses. HIPAA also regulates standardization of data content, codes and formats used in healthcare transactions and standardization of identifiers for health plans and providers. HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 or HITECH, and their regulations, including the final omnibus rule published on January 25, 2013, also imposes certain obligations on the business associates of covered entities that obtain protected health information in providing services to or on behalf of covered entities. In addition to federal privacy regulations, there are a number of state laws governing confidentiality and security of health information that are applicable to our business. In addition to possible federal administrative, civil and criminal penalties for HIPAA violations, state attorneys general are authorized to file civil actions for damages or injunctions in federal courts to enforce HIPAA and seek attorney's fees and costs associated with pursuing federal civil actions. Accordingly, state attorneys general have brought civil actions seeking injunctions and damages resulting from alleged violations of HIPAA's privacy and security rules. New laws and regulations governing privacy and security may be adopted in the future as well.

Additionally, states, such as California, Virginia and Colorado have recently enacted the consumer privacy laws that grant rights to data subjects and place increased privacy and security obligations on

entities handling personal data of consumers or households. While we are not currently subject to laws such as the California Consumer Privacy Act (CCPA), some observers note that the CCPA and similar legislation could mark the beginning of a trend toward more stringent privacy legislation in the U.S., which could increase our potential liability and adversely affect our business.

Because of the breadth of these laws and the narrowness of the statutory exceptions under such laws, it is possible that some of our current or future business activities, including certain clinical research, sales and marketing practices and the provision of certain items and services to our customers, could be subject to challenge under one or more of such privacy and data security laws. The heightening compliance environment and the need to build and maintain robust and secure systems to comply with different privacy compliance and/or reporting requirements in multiple jurisdictions could increase the possibility that we may fail to comply fully with one or more of these requirements. If our operations are found to be in violation of any applicable privacy or data security laws or regulations, we may be subject to penalties, including potentially significant criminal, civil and administrative penalties, damages, fines, imprisonment, contractual damages, reputational harm, diminished profits and future earnings, additional reporting requirements and/or oversight if we become subject to a consent decree or similar agreement to resolve allegations of non-compliance with these laws, and the curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations. To the extent that we collect or otherwise process personal information, we may be subject to privacy or data protection laws that are in effect in such third countries foreign laws.

Regulation and Procedures Governing Approval of Medicinal Products Outside the United States

In order to market any product outside of the United States, a company must also comply with numerous and varying regulatory requirements of other countries and jurisdictions regarding quality, safety and efficacy and governing, among other things, clinical trials, marketing authorization, commercial sales and distribution of products. Whether or not it obtains FDA approval for a product, an applicant will need to obtain the necessary approvals by the comparable foreign regulatory authorities before it can commence clinical trials or marketing of the product in those countries or jurisdictions. For example, the process governing approval of medicinal products in the European Union generally follows the same lines as in the United States. It entails satisfactory completion of preclinical studies and adequate and well-controlled clinical trials to establish the safety and efficacy of the product for each proposed indication. It also requires the submission to the relevant competent authorities of a marketing authorization application (MAA) and granting of a marketing authorization by these authorities before the product can be marketed and sold in the European Union.

Clinical Trial Approval

Pursuant to the currently applicable Clinical Trials Directive 2001/20/EC and the Directive 2005/ 28/EC on GCP, a system for the approval of clinical trials in the European Union has been implemented through national legislation of the member states. Under this system, an applicant must obtain approval from the competent national authority of a European Union member state in which the clinical trial is to be conducted, or in multiple member states if the clinical trial is to be conducted in a number of member states. Furthermore, the applicant may only start a clinical trial at a specific site after the competent ethics committee has issued a favorable opinion. The clinical trial application must be accompanied by an investigational medicinal product dossier with supporting information prescribed by Directive 2001/20/EC and Directive 2005/28/EC and corresponding national laws of the member states and further detailed in applicable guidance documents.

In April 2014, the European Union adopted a new Clinical Trials Regulation (EU) No 536/2014, but it has not yet become effective. It will overhaul the current system of approvals for clinical trials in the European Union. Specifically, the new legislation, which will be directly applicable in all member states, aims at simplifying and streamlining the approval of clinical trials in the European Union. For instance, the new Clinical Trials Regulation provides for a streamlined application procedure via a single-entry point and strictly defined deadlines for the assessment of clinical trial applications. It is expected that the new Regulation will apply following confirmation of full functionality of the Clinical Trials Information System, the centralized EU portal and database for clinical trials foreseen by the regulation, through an

independent audit, which is currently anticipated to occur in December 2021. Parties conducting certain clinical trials must, as in the United States, post clinical trial information in the European Union at the EudraCT website: https://eudract.ema.europa.eu.

PRIME Designation in the European Union

In March 2016, the European Medicines Agency (EMA) launched an initiative to facilitate development of therapeutic candidates in indications, often rare, for which few or no therapies currently exist. The PRIority MEdicines (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. Eligible products must target conditions for which there is an unmet medical need (there is no satisfactory method of diagnosis, prevention or treatment in the European Economic Area (EEA) or, if there is, the new medicine will bring a major therapeutic advantage) and they must demonstrate the potential to address the unmet medical need by introducing new methods of therapy or improving existing ones. Products from small- and medium-sized enterprises may qualify for earlier entry into the PRIME scheme than larger companies. Many benefits accrue to sponsors of therapeutic 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 accelerated marketing authorization application assessment once a dossier has been submitted. Importantly, a dedicated EMA contact and rapporteur from the Committee for Human Medicinal Products (CHMP), or Committee for Advanced Therapies are appointed early in the PRIME scheme facilitating increased understanding of the product at the EMA's Committee level. A kick-off meeting initiates these relationships and includes a team of multidisciplinary experts at the EMA to provide guidance on the overall development and regulatory strategies. Where, during the course of development, a medicine no longer meets the eligibility criteria, support under the PRIME scheme may be withdrawn.

Marketing Authorization

To obtain a marketing authorization for a product under the European Union regulatory system, an applicant must submit a Marketing Authorization Application (MAA), either under a centralized procedure administered by the EMA or one of the procedures administered by competent authorities in European Union Member States (decentralized procedure, national procedure, or mutual recognition procedure). A marketing authorization may be granted only to an applicant established in the European Union. Regulation (EC) No 1901/2006 provides that prior to obtaining a marketing authorization in the European Union, an applicant must demonstrate compliance with all measures included in an EMA-approved Pediatric Investigation Plan (PIP), covering all subsets of the pediatric population, unless the EMA has granted a product-specific waiver, class waiver or a deferral for one or more of the measures included in the PIP. The Paediatric Committee of the EMA (PDCO), may grant deferrals for some medicines, allowing a company to delay development of the medicine for children until there is enough information to demonstrate its effectiveness and safety in adults. The PDCO may also grant waivers when development of a medicine for children is not needed or is not appropriate, such as for diseases that only affect the elderly population. The respective requirements for all marketing authorization procedures are laid down in Regulation (EC) No 1901/2006, the so-called Paediatric Regulation. This requirement also applies when a company wants to add a new indication, pharmaceutical form or route of administration for a medicine that is already authorized. Products that are granted a marketing authorization with the results of the pediatric clinical trials conducted in accordance with the PIP (even where such results are negative) are eligible for six months' supplementary protection certificate extension. In the case of orphan medicinal products, a two-year extension of the orphan market exclusivity may be available. This pediatric reward is subject to specific conditions and is not automatically available when data in compliance with the PIP are developed and submitted.

The centralized procedure provides for the grant of a single marketing authorization by the European Commission that is valid for all European Union member states. Pursuant to Regulation (EC) No. 726/2004, the centralized procedure is compulsory for specific products, including for medicines produced by certain biotechnological processes, products designated as orphan medicinal products, advanced therapy products and products with a new active substance indicated for the treatment of

certain diseases, including products for the treatment of cancer. The centralized procedure is optional for products containing a new active substance not yet authorized in the EEA, or for products that constitute a significant therapeutic, scientific or technical innovation or which are in the interest of public health in the European Union. Manufacturers must demonstrate the quality, safety and efficacy of their products to the EMA, which provides an opinion regarding the MAA. The European Commission grants or refuses marketing authorization in light of the opinion delivered by the EMA.

Under the centralized procedure, the CHMP established at the EMA is responsible for conducting an initial assessment of a product. Under the centralized procedure in the European Union, the maximum timeframe for the evaluation of an MAA is 210 days, excluding clock stops when additional information or written or oral explanation is to be provided by the applicant in response to questions of the CHMP. Clock stops may extend the timeframe of evaluation of a MA application considerably beyond 210 days. Where the CHMP gives a positive opinion, the EMA provides the opinion together with supporting documentation to the European Commission, who make the final decision to grant a marketing authorization, which is issued within 67 days of receipt of the EMA's recommendation. Accelerated evaluation may be granted by the CHMP in exceptional cases, when a medicinal product is of major interest from the point of view of public health and, in particular, from the viewpoint of therapeutic innovation. If the CHMP accepts such a request, the time limit of 210 days will be reduced to 150 days, but it is possible that the CHMP may revert to the standard time limit for the centralized procedure if it determines that it is no longer appropriate to conduct an accelerated assessment.

National MAs, which are issued by the competent authorities of the Member States of the EEA and only cover their respective territory, are available for products not falling within the mandatory scope of the centralized procedure. Where a product has already been authorized for marketing in a Member State of the EEA, this national MA can be recognized in other Member States through the mutual recognition procedure. If the product has not received a national MA in any Member State at the time of application, it can be approved simultaneously in various Member States through the decentralized procedure. Under the decentralized procedure an identical dossier is submitted to the competent authorities of each of the Member States in which the MA is sought, one of which is selected by the applicant as the Reference Member State (RMS). The competent authority of the RMS prepares a draft assessment report, a draft summary of the product characteristics (SmPC), and a draft of the labeling and package leaflet, which are sent to the other Member States (referred to as the Concerned Member States (CMSs)) for their approval. If the CMSs raise no objections, based on a potential serious risk to public health, to the assessment, SmPC, labeling, or packaging proposed by the RMS, the product is subsequently granted a national MA in all the Member States (i.e., in the RMS and the CMSs).

Now that the UK (which comprises Great Britain and Northern Ireland) has left the European Union, Great Britain will no longer be covered by centralized MAs (under the Northern Irish Protocol, centralized MAs will continue to be recognized in Northern Ireland). All medicinal products with a current centralized MA were automatically converted to Great Britain MAs on January 1, 2021. For a period of two years from January 1, 2021, the Medicines and Healthcare Products Regulatory Agency (MHRA), the UK medicines regulator, may rely on a decision taken by the European Commission on the approval of a new marketing authorization in the centralized procedure, in order to more quickly grant a new Great Britain MA. A separate application will, however, still be required.

Regulatory Data Protection in the European Union

In the European Union, new chemical entities approved on the basis of a complete independent data package qualify for eight years of data exclusivity upon marketing authorization and an additional two years of market exclusivity pursuant to Regulation (EC) No 726/2004, as amended, and Directive 2001/83/EC, as amended. Data exclusivity prevents regulatory authorities in the European Union from referencing the innovator's data to assess a generic (abbreviated) application for a period of eight years. During the additional two-year period of market exclusivity, a generic marketing authorization application can be submitted, and the innovator's data may be referenced, but no generic medicinal product can be marketed until the expiration of the market exclusivity. The overall ten-year period will be extended to a maximum of eleven years if, during the first eight years of those ten years, the marketing authorization holder obtains an authorization for one or more new therapeutic indications which, during the scientific

evaluation prior to authorization, is held to bring a significant clinical benefit in comparison with existing therapies. Even if a compound is considered to be a new chemical entity so that the innovator gains the prescribed period of data exclusivity, another company may market another version of the product if such company obtained marketing authorization based on an MAA with a complete independent data package of pharmaceutical tests, preclinical tests and clinical trials.

Patent Term Extensions in the European Union and Other Jurisdictions

The European Union also provides for patent term extension through Supplementary Protection Certificates (SPCs). The rules and requirements for obtaining a SPC are similar to those in the United States. An SPC may extend the term of a patent for up to five years after its originally scheduled expiration date and can provide up to a maximum of fifteen years of marketing exclusivity for a drug. In certain circumstances, these periods may be extended for six additional months if pediatric exclusivity is obtained; and in the case of orphan medicinal products, a two-year extension of the orphan market exclusivity may be available. Although SPCs are available throughout the European Union, sponsors must apply on a country-by-country basis. Similar patent term extension rights exist in certain other foreign jurisdictions outside the European Union.

Periods of Authorization and Renewals

A marketing authorization is valid for five years, in principle, and it may be renewed after five years on the basis of a reevaluation of the risk-benefit balance by the EMA or by the competent authority of the authorizing member state. To that end, the marketing authorization holder must provide the EMA or the competent authority with a consolidated version of the file in respect of quality, safety and efficacy, including all variations introduced since the marketing authorization was granted, at least six months before the marketing authorization ceases to be valid. Once renewed, the marketing authorization is valid for an unlimited period, unless the European Commission or the competent authority decides, on justified grounds relating to pharmacovigilance, to proceed with one additional five-year renewal period. Any authorization that is not followed by the placement of the drug on the European Union market (in the case of the centralized procedure) or on the market of the authorizing member state within three years after authorization ceases to be valid.

Regulatory Requirements After Marketing Authorization

Following approval, the holder of the marketing authorization is required to comply with a range of requirements applicable to the manufacturing, marketing, promotion and sale of the medicinal product, and must adhere in strict compliance with the applicable EU laws, regulations and guidance, including Directive 2001/83/EC, Directive 2003/94/EC, Regulation (EC) No 726/2004 and the European Commission Guidelines for Good Manufacturing Practice. These include compliance with the European Union's stringent pharmacovigilance or safety reporting rules, pursuant to which post-authorization studies and additional monitoring obligations can be imposed. In addition, the manufacturing of authorized products, for which a separate manufacturer's license is mandatory, must also be conducted in strict compliance with the EMA's GMP requirements and comparable requirements of other regulatory bodies in the European Union, which mandate the methods, facilities and controls used in manufacturing, processing and packing of drugs to assure their safety and identity.

Much like the Anti-Kickback Statue prohibition in the United 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 also prohibited in the European Union. The provision of benefits or advantages to induce or reward improper performance generally is usually governed by the national anti-bribery laws of European Union Member States, and the Bribery Act 2010 in the UK. Infringement of these laws could result in substantial fines and imprisonment. EU Directive 2001/83/EC, which is the EU Directive governing medicinal products for human use, further provides that, where medicinal products are being promoted to persons qualified to prescribe or supply them, no gifts, pecuniary advantages or benefits in kind may be supplied, offered or promised to such persons unless they are inexpensive and relevant to the practice of medicine or pharmacy. This provision has

been transposed into the Human Medicines Regulations 2012 and so remains applicable in the UK despite its departure from the European Union.

Payments made to physicians in certain European Union Member States must be publicly disclosed. Moreover, agreements with physicians often must be the subject of prior notification and approval by the physician's employer, his or her competent professional organization and/or the regulatory 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 EU Member States. Failure to comply with these requirements could result in reputational risk, public reprimands, administrative penalties, fines or imprisonment.

Orphan Drug Designation and Exclusivity

Regulation (EC) No 141/2000 and Regulation (EC) No. 847/2000 provide that a product can be designated as an orphan drug by the European Commission if its sponsor can establish: that the product is intended for the diagnosis, prevention or treatment of (1) a life-threatening or chronically debilitating condition affecting not more than five in ten thousand persons in the European Union when the application is made, or (2) a life-threatening, seriously debilitating or serious and chronic condition in the European Union and that without incentives it is unlikely that the marketing of the drug in the European Union would generate sufficient return to justify the necessary investment. For either of these conditions, the applicant must demonstrate that there exists no satisfactory method of diagnosis, prevention or treatment of the condition in question that has been authorized in the European Union or, if such method exists, the drug will be of significant benefit to those affected by that condition.

An orphan drug designation provides a number of benefits, including fee reductions, regulatory assistance and the possibility to apply for a centralized European Union marketing authorization. Marketing authorization for an orphan drug leads to a ten-year period of market exclusivity being granted following marketing approval of the orphan product. During this market exclusivity period, neither the EMA nor the European Commission or the member states may only grant marketing authorization to a "similar medicinal product" for the same therapeutic indication if: (i) a second applicant can establish that its product, although similar to the authorized product, is safer, more effective or otherwise clinically superior; (ii) the marketing authorization holder for the authorized product consents to a second orphan medicinal product application; or (iii) the marketing authorization holder for the authorized product cannot supply enough orphan medicinal product. A "similar medicinal product" is defined as a medicinal product containing a similar active substance or substances as contained in an authorized orphan medicinal product, and which is intended for the same therapeutic indication. The market exclusivity period for the authorized therapeutic indication may, however, 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 drug designation because, for example, the product is sufficiently profitable not to justify market exclusivity. Orphan drug designation must be requested before submitting an application for marketing approval. Orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review and approval process.

Brexit and the Regulatory Framework in the United Kingdom

In June 2016, the electorate in the UK voted in favor of leaving the European Union (commonly referred to as Brexit). Thereafter, in March 2017, the country formally notified the European Union of its intention to withdraw pursuant to Article 50 of the Lisbon Treaty and the UK formally left the European Union on January 31, 2020. A transition period began on February 1, 2020, during which EU pharmaceutical law remained applicable to the UK, which ended on December 31, 2020. Since the regulatory framework in the UK covering the quality, safety and efficacy of medicinal products, clinical trials, marketing authorization, commercial sales and distribution of medicinal products is derived from EU Directives and Regulations, Brexit could materially impact the future regulatory regime which applies to products and the approval of therapeutic candidates in the UK, as UK legislation now has the potential to diverge from EU legislation. It remains to be seen how Brexit will impact regulatory requirements for therapeutic candidates and products in the UK in the long-term. The MHRA, the UK medicines and medical devices regulator, has recently published detailed guidance for industry and organizations to

follow from January 1, 2021 now that the transition period is over, which will be updated as the UK's regulatory position on medicinal products evolves over time.

Since the regulatory framework for pharmaceutical products in the United Kingdom covering quality, safety and efficacy of pharmaceutical products, clinical trials, marketing authorization, commercial sales and distribution of pharmaceutical products is derived from European Union directives and regulations, Brexit could materially impact the future regulatory regime that applies to products and the approval of therapeutic candidates in the United Kingdom. Any delay in obtaining, or an inability to obtain, any marketing approvals, as a result of Brexit or otherwise, may force us to restrict or delay efforts to seek regulatory approval in the United Kingdom for any therapeutic candidates we may develop, which could significantly and materially harm our business.

In addition, once we begin to conduct business in the United Kingdom, we will be subject to stringent data protection laws that are in effect in the United Kingdom. As of January 1, 2021, the United Kingdom's European Union (Withdrawal) Act 2018 incorporated the GDPR (as it existed on December 31, 2020 but subject to certain UK specific amendments) into UK law, referred to as the UK GDPR. The UK GDPR and the UK Data Protection Act 2018 set out the United Kingdom's data protection regime, which is independent from but aligned to the European Union's data protection regime. Non-compliance with the UK GDPR may result in monetary penalties of up to £17.5 million or 4% of worldwide revenue, whichever is higher.

General Data Protection Regulation

Once we begin processing of personal data regarding individuals in the European Union, including personal health data, our activities will be subject to the GDPR, which became effective on May 25, 2018. The GDPR is wide-ranging in scope and imposes numerous requirements on companies that process personal data, including requirements relating to processing health and other sensitive data, obtaining consent of the individuals to whom the personal data relates, providing information to individuals regarding data processing activities, implementing safeguards to protect the security and confidentiality of personal data, providing notification of data breaches, and taking certain measures when engaging third-party processors. The GDPR also imposes strict rules on the transfer of personal data to countries outside the European Union, including the United States, and permits data protection authorities to impose large penalties for violations of the GDPR, including potential fines of up to €20 million or 4% of annual global revenues, whichever is greater. The GDPR also confers a private right of action on data subjects and consumer associations to lodge complaints with supervisory authorities, seek judicial remedies and obtain compensation for damages resulting from violations of the GDPR. Compliance with the GDPR will be a rigorous and time-intensive process that may increase the cost of doing business or require us to change our business practices to ensure full compliance.

Coverage, Pricing and Reimbursement

Significant uncertainty exists as to the coverage and reimbursement status of any therapeutic candidates for which we may seek regulatory approval by the FDA or other government authorities. In the United States and markets in other countries, patients who are prescribed treatments for their conditions and providers performing the prescribed services generally rely on third-party payers to reimburse all or part of the associated healthcare costs. Patients are unlikely to use any therapeutic candidates we may develop unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of such therapeutic candidates. Even if any therapeutic candidates we may develop are approved, sales of such therapeutic candidates will depend, in part, on the extent to which third-party payers, including government health programs in the United States such as Medicare and Medicaid, commercial health insurers and managed care organizations, provide coverage and establish adequate reimbursement levels for, such therapeutic candidates. The process for determining whether a payer will provide coverage for a product may be separate from the process for setting the price or reimbursement rate that the payer will pay for the product once coverage is approved. Third-party payers are increasingly challenging the prices charged, examining the medical necessity, and reviewing the cost-effectiveness of medical products and services and imposing controls to manage costs. Third-party payers may limit coverage to specific products on an approved list, also known as a formulary, which might not include all of the approved products for a particular indication.

In order to secure coverage and reimbursement for any product that might be approved for sale, a company may need to conduct expensive pharmacoeconomic studies in order to demonstrate the medical necessity and cost-effectiveness of the product, in addition to the costs required to obtain FDA or other comparable marketing approvals. Nonetheless, therapeutic candidates may not be considered medically necessary or cost effective. A decision by a third-party payer not to cover any therapeutic candidates we may develop could reduce physician utilization of such therapeutic candidates once approved and have a material adverse effect on our sales, results of operations and financial condition. Additionally, a payer's decision to provide coverage for a product does not imply that an adequate reimbursement rate will be approved. Further, one payer's determination to provide coverage for a product does not assure that other payers will also provide coverage and reimbursement for the product, and the level of coverage and reimbursement can differ significantly from payer to payer. Third-party reimbursement and coverage may not be available to enable us to maintain price levels sufficient to realize an appropriate return on our investment in product development. In addition, any 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 any companion diagnostics.

The containment of healthcare costs also has become a priority of federal, state and foreign governments and the prices of pharmaceuticals have been a focus in this effort. Governments have shown significant interest in implementing cost-containment programs, including price controls, restrictions on reimbursement and requirements for substitution of generic products. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit a company's revenue generated from the sale of any approved products. Coverage policies and third-party reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained for one or more products for which a company or its collaborators receive marketing approval, less favorable coverage policies and reimbursement rates may be implemented in the future.

Outside the United States, ensuring adequate coverage and payment for any therapeutic candidates we may develop will face challenges. Pricing of prescription pharmaceuticals is subject to governmental control in many countries. Pricing negotiations with governmental authorities can extend well beyond the receipt of regulatory marketing approval for a product and may require us to conduct a clinical trial that compares the cost effectiveness of any therapeutic candidates we may develop to other available therapies. The conduct of such a clinical trial could be expensive and result in delays in our commercialization efforts.

In the European Union, pricing and reimbursement schemes vary widely from country to country. Some countries provide that products may be marketed only after a reimbursement price has been agreed. Some countries may require the completion of additional studies that compare the cost-effectiveness of a particular product candidate to currently available therapies (so called health technology assessments) in order to obtain reimbursement or pricing approval. For example, the European Union provides options for its member states to restrict the range of products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. European Union member states may approve a specific price for a product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the product on the market. Other member states allow companies to fix their own prices for products but monitor and control prescription volumes and issue guidance to physicians to limit prescriptions. Recently, many countries in the European Union have increased the amount of discounts required on pharmaceuticals and these efforts could continue as countries attempt to manage healthcare expenditures, especially in light of the severe fiscal and debt crises experienced by many countries in the European Union. The downward pressure on healthcare costs in general, particularly prescription products, has become intense. As a result, increasingly high barriers are being erected to the entry of new products. Political, economic and regulatory developments may further complicate pricing negotiations and pricing negotiations may continue after reimbursement has been obtained. Reference pricing used by various European Union member states, and parallel trade (arbitrage between low-priced and high-priced member states), can further reduce prices. There can be no assurance that any country that has price controls

or reimbursement limitations for pharmaceutical products will allow favorable reimbursement and pricing arrangements for any of our products, if approved in those countries.

Healthcare Law and Regulation

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 that may constrain the financial arrangements and relationships through which we research, as well as sell, market and distribute any products for which we obtain marketing authorization. Such laws include, without limitation, state and federal anti-kickback, fraud and abuse, false claims, and transparency laws and regulations related to drug pricing and payments and other transfers of value made to physicians and other healthcare providers. If our operations are found to be in violation of any such laws or any other governmental regulations that apply, we may be subject to penalties, including, without limitation, administrative, civil and criminal penalties, damages, fines, disgorgement, the curtailment or restructuring of operations, integrity oversight and reporting obligations, exclusion from participation in federal and state healthcare programs and responsible individuals may be subject to imprisonment.

Healthcare Reform

A primary trend in the U.S. healthcare industry and elsewhere is cost containment. There have been a number of federal and state proposals during the last few years regarding the pricing of pharmaceutical and biopharmaceutical products, limiting coverage and reimbursement for drugs and other medical products, government control and other changes to the healthcare system in the United States.

By way of example, the United States and state governments continue to propose and pass legislation designed to reduce the cost of healthcare. In March 2010, the United States Congress enacted the ACA, which, among other things, includes changes to the coverage and payment for products under government healthcare programs. The ACA, among other things, subjected biologic products to potential competition by lower-cost biosimilars; addressed 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; increased the minimum Medicaid rebates owed by most manufacturers under the Medicaid Drug Rebate Program; extended the Medicaid Drug Rebate program to utilization of prescriptions of individuals enrolled in Medicaid managed care organizations; subjected manufacturers to new annual fees and taxes for certain branded prescription drugs; created a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 50% (increased to 70% pursuant to the Bipartisan Budget Act of 2018, effective as of January 1, 2019) point-of-sale discounts off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer’s outpatient drugs to be covered under Medicare Part D; and provided incentives to programs that increase the federal government’s comparative effectiveness research.

Since enactment of the ACA, there have been, and continue to be, numerous judicial, administrative, executive, and legislative challenges to certain aspects of the ACA. On June 17, 2021, the U.S. Supreme Court dismissed the most recent judicial challenge to the ACA brought by several states without specifically ruling on the constitutionality of the ACA. Prior to the Supreme Court’s decision, President Biden issued an Executive Order to initiate a special enrollment period from February 15, 2021 through August 15, 2021 for purposes of obtaining health insurance coverage through the ACA marketplace. The Executive Order also instructed certain governmental agencies to review and reconsider their existing policies and rules that limit access to healthcare, including among others, reexamining Medicaid demonstration projects and waiver programs that include work requirements, and policies that create unnecessary barriers to obtaining access to health insurance coverage through Medicaid or the ACA. It is unclear how other healthcare reform measures of the Biden administrations or other efforts, if any, to challenge repeal or replace the ACA, will impact our business.

Other legislative changes have been proposed and adopted in the United States since the Affordable Care Act was enacted. In August 2011, the Budget Control Act of 2011, among other things, created

measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions of Medicare payments to providers up to 2% per fiscal year, and, due to subsequent legislative amendments, will remain in effect through 2030 unless additional Congressional action is taken. Pursuant to the Coronavirus Aid, Relief, and Economic Security Act, also known as the CARES Act, as well as subsequent legislation, these reductions have been suspended from May 1, 2020 through December 31, 2021 due to the COVID-19 pandemic.

Employees and Human Capital Resources

As of June 30, 2021, we had 78 full-time employees, including a total of 39 employees with Ph.D. degrees. Of these full-time employees, 58 employees are engaged in research and development. 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.

Our human capital resources objectives include, as applicable, identifying, recruiting, retaining, incentivizing and integrating our existing and new employees. The principal purposes of our equity and cash incentive plans are to attract, retain and reward personnel, whether existing employees or new hires, through the granting of stock-based and cash-based compensation awards. We believe that this increases value to our stockholders and the success of our company by motivating such individuals to perform to the best of their abilities and achieve our objectives.

As the success of our business is fundamentally connected to the well-being of our employees, we are committed to their health, safety and wellness. We provide our employees and their families with access to convenient health and wellness programs, including benefits that provide protection and security giving them peace of mind concerning events that may require time away from work or that impact their financial well-being; and that offer choices where possible so they can customize their benefits to meet their needs and the needs of their families. In response to the COVID-19 pandemic, we implemented significant changes that we determined were in the best interest of our employees, as well as the community in which we operate, and which comply with government regulations, including working in a remote environment where appropriate or required.

Facilities

Our corporate headquarters are located in Boston, Massachusetts, where we lease office, research and development and laboratory space. The lease expires on November 30, 2025, subject to an option to extend for three additional years. We believe our facilities are adequate and suitable for our current needs and that should it be needed, suitable additional or alternative space at commercially reasonable terms will be available as needed to accommodate any future expansion of our operations.

Legal Proceedings

From time to time, we may become involved in litigation or other legal proceedings or be subject to claims arising in the ordinary course of our business. Regardless of outcome, such proceedings or claims can have an adverse impact on our business, financial condition, results of operations and prospects because of defense and settlement costs, diversion of management resources and other factors, and favorable outcomes may not be obtained. We are not currently a party to any material legal proceedings.

MANAGEMENT

Executives and directors

The following table sets forth the name, age and position of each of our executive officers and directors as of June 30, 2021.

Name	Age	Position
Executive Officers:		
Dipal Doshi	45	Chief Executive Officer, President and Director
Kory Wentworth	42	Chief Financial Officer
Nathan J. Dowden	51	Chief Operating Officer
Nerissa C. Kreher, M.D.	48	Chief Medical Officer
Natarajan Sethuraman, Ph.D.	59	Chief Scientific Officer
Non-Executive Directors:		
Kush M. Parmar, M.D., Ph.D.	40	Board Chairman and Director
John F. Crowley	54	Director
Todd Foley	49	Director
Peter S. Kim, Ph.D.	63	Director
Carole Nuechterlein	60	Director
Mary Thistle	61	Director

Executive team

Dipal Doshi, has served as our Chief Executive Officer and President and as a member of our board of directors since August 2017. Prior to joining us, from July 2014 to August 2017, Mr. Doshi served as Chief Business Officer at Amicus Therapeutics Inc., a publicly traded biotechnology company, where he led Amicus' business and corporate development, global strategy, new product planning and commercial planning functions. Previously, from 2008 to 2013, Mr. Doshi served as Senior Vice President at Auven Therapeutics Management L.L.L.P., a healthcare private equity fund. From 2005 to 2008, Mr. Doshi held corporate development and operating roles at Catalent Pharma Solutions (now Catalent, Inc.). He was also a member of Merrill Lynch's Investment Banking Group. Mr. Doshi received his B.A. from Rutgers University and his M.B.A. from The Wharton School of the University of Pennsylvania. Mr. Doshi is a Fellow of the Aspen Institute.

We believe that Mr. Doshi is qualified to serve on our board of directors because of his considerable qualifications, attributes and skills, including his distinguished scientific background and experience in leadership roles in the biopharmaceutical industry.

Kory Wentworth, has served as our Chief Financial Officer since November 2020. Prior to joining us, from December 2017 to October 2020, Mr. Wentworth served as Vice President of Finance at bluebird bio, Inc., a publicly traded biotechnology company, where he led the accounting, tax, treasury, finance operations and reporting functions and was responsible for building a global finance team capable of supporting rapid operational expansion, commercial readiness for multiple product launches, equity financing and strategic collaboration arrangements. Prior to joining bluebird bio, from December 2008 to December 2017, Mr. Wentworth held positions of increasing responsibility overseeing finance and accounting teams at Alexion Pharmaceuticals Inc., a publicly traded pharmaceutical company, most recently as Executive Director and Corporate Controller. Previously, Mr. Wentworth was at PricewaterhouseCoopers LLP, a multinational accounting firm, from October 2002 to December 2008, with various titles, his most recent being Audit Manager within the Assurance and Business Advisory practice. Mr. Wentworth received his B.S. in Accounting from Susquehanna University and is a licensed Certified Public Accountant.

Nathan J. Dowden, has served as our Chief Operating Officer since November 2019. Prior to joining us, from April 2016 to October 2019, Mr. Dowden was Senior Vice President of Corporate Development at Rubius Therapeutics, Inc., a publicly traded biopharmaceutical company, where he helped develop and integrate the company's technology, capital formation and communication strategy in support of the organization's evolution from Series A to public listing, and from discovery to clinical stage status. Prior to Rubius, from January 2014 to April 2016, Mr. Dowden served as Managing Director at the Huron Consulting Group Inc., a publicly traded management consulting firm. He joined Huron after having served as Managing Director of The Frankel Group LLC (acquired by Huron) for 16 years. Mr. Dowden received a B.S. in Finance from the University of Connecticut and an M.B.A. in Finance and Marketing from the University of Chicago Booth School of Business.

Nerissa C. Kreher, M.D. has served as our Chief Medical Officer since December 2020. Prior to joining us, from February 2019 to October 2020, Dr. Kreher served as Chief Medical Officer at Tiburio Therapeutics, Inc., a biotechnology company, where she was responsible for clinical development, clinical operations, regulatory and patient advocacy. From October 2016 to December 2018, Dr. Kreher served as Chief Medical Officer of Avrobio, Inc., a publicly traded clinical-stage gene therapy company, where she oversaw clinical and regulatory development strategy for the company's rare disease, ex vivo lentiviral gene therapy pipeline programs. From March 2015 to July 2016, Dr. Kreher served as Global Head (VP) of Clinical and Medical Affairs of Zafgen, Inc., a publicly traded biopharmaceutical company, where she was a strategic leader of a cross-functional team charged with creation of global development strategy for beloranib. Dr. Kreher currently serves as a member of the board of directors of Rezolute, Inc., a publicly traded biotechnology company. Dr. Kreher received a B.S. in Biology from University of North Carolina at Chapel Hill, an M.S. in Clinical Research from Indiana University-Purdue University Indianapolis, an M.B.A. from Northeastern University Graduate School of Business Administration, and an M.D. from East Carolina University. Dr. Kreher is a board-certified pediatric endocrinologist.

Natarajan Sethuraman, Ph.D. has served as our Chief Scientific Officer since September 2017 and previously served as a consultant from October 2016 to August 2017. Prior to joining us, from August 2012 to July 2016, Dr. Sethuraman was Executive Director and the GlycoFi Site Head at Merck & Co., Inc., a publicly traded multinational pharmaceutical company, and previously served as Senior Director and GlycoFi Site Head from August 2006 to July 2012. At Merck, Dr. Sethuraman was responsible for the development of GlycoFi's glyco-engineered platform for differentiated biologics and was an integral member of the Biologics Discovery leadership team at Merck Research Laboratories which set the strategy and prioritization of all Merck biologics. Dr. Sethuraman received a B.S. in Agriculture from the Tamil Nadu Agricultural University, an M.Sc. in Entomology and Biochemistry and a Ph.D. in Entomology, Molecular Biology and Biochemistry from the Indian Agricultural Research Institute. He received his post-doctoral training at Duke University where he worked on the elucidation of the termination of DNA replication in E. coli.

Non-executive directors

Kush M. Parmar, M.D., Ph.D., has served as a member of our board of directors since October 2016 and, as Chairman since December 2020. Dr. Parmar is Managing Partner at 5AM Venture Management LLC, an early stage venture capital firm focused on the life sciences, where he has been employed since 2010. Prior to joining 5AM, from 2002 to 2010, Dr. Parmar was at Harvard Medical School, where he was an NIH-sponsored M.D./Ph.D. physician scientist fellow in the joint Harvard-MIT Health Sciences and Technology Program. Dr. Parmar currently serves on the boards of 5:01 Acquisition Corp., a publicly traded special purpose acquisition company, Homology Medicines, Inc., a publicly traded genetic medicines company, Akouos, Inc., a publicly traded precision genetic medicine company and Vor Biopharma, Inc., a publicly traded cell therapy company. He also serves as member of the scientific advisory boards of Harvard Medical School, Penn Medicine, Princeton University's Department of Molecular Biology, and the Grace Science Foundation, and is a fellow of the Society of Kauffman Fellows. Dr. Parmar received a B.A. in Molecular Biology and Medieval Studies from Princeton University, a Ph.D. in Experimental Pathology from Harvard University, and an M.D. from Harvard Medical School.

We believe that Dr. Parmar's experience in the life sciences industry, his experience as a venture capitalist and senior executive, as well as his service on the boards of directors of numerous companies provide him with the qualifications to serve as a director of our company.

John F. Crowley, has served as a member of our board of directors since June 2019. Since 2005, Mr. Crowley has served as a Director, Chairman and Chief Executive Officer of Amicus Therapeutics, Inc., a publicly traded global biotechnology company since February 2010 and has been its Chief Executive Officer since January 2005, except for the period from April 2011 through August 2011 during which time he served as Executive Chairman. Mr. Crowley has also served as a director of Amicus since August 2004, except for the period from September 2006 to March 2007 when he was in active-duty service in the United States Navy (Reserve). Previously, Mr. Crowley was President and Chief Executive Officer of Orexigen Therapeutics, Inc., a publicly traded pharmaceutical company, from September 2003 to December 2004. Mr. Crowley was President and Chief Executive Officer of Novazyme Pharmaceuticals, Inc., a biotechnology company, from March 2000 until its acquisition by Genzyme Corporation (now Sanofi S.A., a publicly traded multinational pharmaceutical company) in September 2001; thereafter he served as Senior Vice President of Genzyme Therapeutics until December 2002. Currently, Mr. Crowley serves as a member of the board of directors of Intellia Therapeutics, Inc., a publicly traded biotechnology company. He has also held governing roles at several nonprofit organizations, including the Global Genes Project as a founding board member and the Make-A-Wish Foundation of America as a former national chairman. Mr. Crowley is a Henry Crown Fellow at the Aspen Institute. He received a B.S. in Foreign Service from Georgetown University, a J.D. from the University of Notre Dame Law School and an M.B.A. from the Harvard Business School.

We believe that Mr. Crowley's diverse experience, qualifications, attributes and skills, including his leadership experience in the life sciences industry, provides him with the qualifications and skills necessary to serve as a member of our board of directors.

Todd Foley has served as a member of our board of directors since December 2018. Mr. Foley is a Managing Director at MPM Capital LLC, a healthcare-focused venture capital firm, which he joined in 1999. At MPM, Mr. Foley focuses on biotech investments and serves on a number of MPM portfolio company boards as well as several other privately-held life sciences and pharmaceutical companies, including Repare Therapeutics Inc., Aktis Oncology, Inc., CODA Biotherapeutics Inc., Iconic Therapeutics, Inc. and Tetherex Pharmaceuticals, Inc. In addition, Mr. Foley currently serves as President of Turmeric Acquisition Corp., a recently founded special purpose acquisition company. Mr. Foley received a B.S. in Chemistry from the Massachusetts Institute of Technology and an M.B.A. from Harvard Business School.

We believe that Mr. Foley's broad experience in the life sciences industry as a venture capitalist, as well as his service on the boards of directors of numerous companies provide him with the qualifications to serve as a director of our company.

Peter S. Kim, Ph.D., has served as a member of our board of directors since December 2020. Since 2014, Dr. Kim is the Virginia & D.K. Ludwig Professor of Biochemistry at Stanford University School of Medicine and an Institute Scholar of Stanford ChEM-H. He is also the Lead Investigator of the Infectious Disease Initiative at the Chan Zuckerberg Biohub. Prior to his current role in academia, he was President of Merck Research Laboratories from 2003 to 2013 and oversaw development of more than 20 new medicines and vaccines, including JANUVIA, the first DPP 4 inhibitor for type 2 diabetes; GARDASIL, the first vaccine for the prevention of cervical cancer; ISENTRESS, the first HIV-1 integrase inhibitor; ZOSTAVAX, the first vaccine for the prevention of shingles; and KEYTRUDA, the first FDA approved PD-1 immune checkpoint inhibitor for the treatment of cancer. Earlier, he was Professor of Biology at MIT, Member of the Whitehead Institute and an HHMI Investigator, where he discovered a salient component of how proteins cause viral membranes to fuse with cells, designed novel compounds to stop membrane fusion by HIV-1, and pioneered efforts to create an AIDS vaccine based on similar principles. His current service includes the Medical Advisory Board of the Howard Hughes Medical Institute (HHMI); the Scientific Advisory Board of the NIH Vaccine Research Center; and the Biology Department Visiting Committee of the MIT Corporation. He is a member of the National

Academy of Sciences, the National Academy of Medicine and the National Academy of Engineering. Dr. Kim received a B.A. in Chemistry from Cornell University and a Ph.D. in Biochemistry from Stanford University.

We believe that Mr. Kim is qualified to serve as a member of our board of directors because of his scientific background and his extensive experience in the life sciences industry.

Carole Nuechterlein, has served as a member of our board of directors since March 2020. Ms. Nuechterlein joined F. Hoffmann-La Roche Ltd., a publicly traded healthcare company, in 2001, and currently serves as Head of the Roche Venture Fund. Ms. Nuechterlein began her legal career in private practice and later held senior legal positions, including as General Counsel to SangStat, Inc., a global pharmaceutical company, which was later acquired by Genzyme Corporation. Ms. Nuechterlein currently serves as a member of the boards of directors Aligos Therapeutics, Inc., a publicly traded clinical stage biopharmaceutical company and BCTG Acquisition Corp., a publicly traded special purpose acquisition company. Previously, from March 2017 to June 2021 Ms. Nuechterlein served on the board of directors of Millendo Therapeutics, Inc., a publicly traded Biotech company and from October 2014 to May 2017 she served on the board of directors of AveXis, Inc., a publicly traded gene therapy company. She received a B.A. in English, History and Humanities from Valparaiso University and a J.D. from the University of Michigan.

We believe that Ms. Nuechterlein's extensive experience as a venture capital investor in, and director of, several biotechnology companies, provides her with the qualifications and skills necessary to serve as a member of our board of directors.

Mary Thistle, has served as a member of our board of directors since May 2021. Since 2020, Ms. Thistle has served as Special Advisor to the Bill & Melinda Gates Medical Research Institute, a non-profit biotech organization, and previously served as the organization's Chief of Staff from January 2018 until she assumed her current role. Previously, she held senior leadership positions at Dimension Therapeutics, Inc., a gene therapy company, including Chief Operating Officer from 2016 to 2017 and Chief Business Officer from 2015 to 2016. Prior to joining Dimension Therapeutics, Inc., Ms. Thistle held various leadership positions at Cubist Pharmaceuticals, Inc., a biopharmaceutical company, including Senior Vice President, Business Development from 2014 to 2015, Vice President, Business Development from 2012 to 2013 and Senior Director, Business Development from 2009 to 2012. Ms. Thistle currently serves as a member of the board of directors of Homology Medicines, Inc., a publicly traded gene medicines company, Ziopharm Oncology, Inc., a publicly traded biopharmaceutical company, as well as on the boards of several private companies. Ms. Thistle received a B.S. in Accounting from the University of Massachusetts.

We believe that Ms. Thistle is qualified to serve on our board of directors due to her finance background and industry experience.

Composition of our board of directors

Our board consists of members, each of whom are members pursuant to the board composition provisions of our certificate of incorporation and agreements with our stockholders. These board composition provisions will terminate upon the completion of this offering. Upon the termination of these provisions, there will be no further contractual obligations regarding the election of our directors. Our nominating and corporate governance committee and our board of directors may therefore consider a broad range of factors relating to the qualifications and background of nominees. Our nominating and corporate governance committee's and our board of directors' priority in selecting board members is identification of persons who will further the interests of our stockholders through their established record of professional accomplishment, the ability to contribute positively to the collaborative culture among board members, knowledge of our business, understanding of the competitive landscape, professional and personal experiences, and expertise relevant to our growth strategy. Our directors hold office until their successors have been elected and qualified or until the earlier of their resignation or removal. Our fourth amended and restated certificate of incorporation that will become effective upon the closing of this offering and amended and restated bylaws that will become effective upon the effectiveness of the registration statement of which this prospectus is a part, also provide that our

directors may be removed only for cause by the affirmative vote of the holders of at least two-thirds of the votes that all our stockholders would be entitled to cast in an annual election of directors, and that any vacancy on our board of directors, including a vacancy resulting from an enlargement of our board of directors, may be filled only by vote of a majority of our directors then in office.

Director independence

Our board of directors has determined that all members of the board of directors, except Mr. Doshi, are independent directors, including for purposes of the rules of the Nasdaq Global Market and the SEC. In making such independence determination, our board of directors considered the relationships that each non-employee director has with us and all other facts and circumstances that our board of directors deemed relevant in determining their independence, including the beneficial ownership of our capital stock by each non-employee director. In considering the independence of the directors listed above, our board of directors considered the association of our directors with the holders of more than 5% of our common stock. Upon the completion of this offering, we expect that the composition and functioning of our board of directors and each of our committees will comply with all applicable requirements of the Nasdaq Global Market and the rules and regulations of the SEC. There are no family relationships among any of our directors or executive officers. Mr. Doshi is not an independent director under these rules because he is the current President and Chief Executive Officer of the Company.

Staggered board

In accordance with the terms of our fourth amended and restated certificate of incorporation that will become effective upon the closing of this offering and amended and restated bylaws that will become effective upon the effectiveness of the registration statement of which this prospectus is a part, our board of directors will be divided into three staggered classes of directors and each will be assigned to one of the three classes. At each annual meeting of the stockholders, a class of directors will be elected for a three-year term to succeed the directors of the same class whose terms are then expiring. 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 for Class I directors, for Class II directors and for Class III directors.

- Our Class I directors will be ;
- Our Class II directors will be ; and
- Our Class III directors will be .

Our fourth amended and restated certificate of incorporation that will become effective upon the closing of this offering and amended and restated bylaws that will become effective upon the effectiveness of the registration statement of which this prospectus is a part provide that the number of our directors shall be fixed from time to time by a resolution of the majority of our board of directors.

The division of our board of directors into three classes with staggered three-year terms may delay or prevent stockholder efforts to effect a change of our management or a change in control.

Board leadership structure and board's role in risk oversight

Currently, the role of chairman of the board of directors is separated from the role of Chief Executive Officer. Our Chief Executive Officer is responsible for recommending strategic decisions and capital allocation to the board of directors and to ensure the execution of the recommended plans. The chairman of the board of directors is responsible for leading the board of directors in its fundamental role of providing advice to and independent oversight of management. Our board of directors recognizes the time, effort, and energy that the Chief Executive Officer is required to devote to his position in the current business environment, as well as the commitment required to serve as our chairman, particularly as the board of directors' oversight responsibilities continue to grow. While our amended and restated bylaws and corporate governance guidelines will not require that our chairman and Chief Executive Officer positions be separate, our board of directors believes that having separate positions is the appropriate leadership structure for us at this time.

Risk is inherent with every business, and how well a business manages risk can ultimately determine its success. We face a number of risks, including the risks more fully discussed in the section entitled "Business" appearing elsewhere in this prospectus. Management is responsible for the day-to-day management of risks we face, while our board of directors, as a whole and through its committees, has responsibility for the oversight of risk management. In its risk oversight role, our board of directors has the responsibility to satisfy itself that the risk management processes designed and implemented by management are adequate and functioning as designed.

The role of the board of directors in overseeing the management of our risks is conducted primarily through committees of the board of directors, as disclosed in the descriptions of each of the committees below and in the charters of each of the committees. The full board of directors (or the appropriate board committee in the case of risks that are under the purview of a particular committee) discusses with management our major risk exposures, their potential impact on us, and the steps we take to manage them. When a board committee is responsible for evaluating and overseeing the management of a particular risk or risks, the chairman of the relevant committee reports on the discussion to the full board of directors during the committee reports portion of the next board meeting. This enables the board of directors and its committees to coordinate the risk oversight role, particularly with respect to risk interrelationships.

Committees of our board of directors

Our board of directors has established an audit committee, a compensation committee and a nominating and corporate governance committee, each of which will operate pursuant to a charter to be adopted by our board of directors and will be effective upon the effectiveness of the registration statement of which this prospectus is a part. The board of directors may also establish other committees from time to time to assist the Company and the board of directors. Upon the effectiveness of the registration statement of which this prospectus is a part, the composition and functioning of all of our committees will comply with all applicable requirements of the Sarbanes-Oxley Act of 2002, Nasdaq and SEC rules and regulations, if applicable. Upon our listing on Nasdaq, each committee's charter will be available on our website at www.entradatx.com. The reference to our website address does not constitute incorporation by reference of the information contained at or available through our website, and you should not consider it to be part of this prospectus.

Audit committee

Effective upon the completion of this offering, , and will serve on the audit committee, which is chaired by . Our board of directors has determined that each member of the audit committee is "independent" for audit committee purposes as that term is defined by the rules of the SEC and Nasdaq, and that each has sufficient knowledge in financial and auditing matters to serve on the audit committee. Our board of directors has designated as an "audit committee financial expert," as defined under the applicable rules of the SEC. Under Rule 10A-3 under the Exchange Act, we are permitted to phase in our compliance with the independent audit committee requirements set forth in Nasdaq Rule 5605(c) and Rule 10A-3 under the Exchange Act as follows: (1) one independent member at the time of listing, (2) a majority of independent members within 90 days of listing and (3) all independent members within one year of listing. Our board of directors intends to cause our audit committee to comply with the transition rules within the applicable time periods. The audit committee's responsibilities include:

- appointing, approving the compensation of, and assessing the independence of our independent registered public accounting firm;
- pre-approving auditing and permissible non-audit services, and the terms of such services, to be provided by our independent registered public accounting firm;
- reviewing the overall audit plan with our independent registered public accounting firm and members of management responsible for preparing our financial statements;
- reviewing and discussing with management and our independent registered public accounting firm our annual and quarterly financial statements and related disclosures as well as critical accounting policies and practices used by us;

- coordinating the oversight and reviewing the adequacy of our internal control over financial reporting;
- establishing policies and procedures for the receipt and retention of accounting-related complaints and concerns;
- recommending, based upon the audit committee's review and discussions with management and our independent registered public accounting firm, whether our audited financial statements shall be included in our Annual Report on Form 10-K;
- monitoring the integrity of our financial statements and our compliance with legal and regulatory requirements as they relate to our financial statements and accounting matters;
- preparing the audit committee report required by SEC rules to be included in our annual proxy statement;
- reviewing all related person transactions for potential conflict of interest situations and approving all such transactions; and
- reviewing quarterly earnings releases.

Compensation committee

Effective upon the completion of this offering, , and will serve on the compensation committee, which is chaired by . Our board of directors has determined that each member of the compensation committee is "independent" as defined in the applicable Nasdaq rules. We are permitted to phase in our compliance with the independent compensation committee requirements set forth by Nasdaq listing standards as follows: (1) one independent member at the time of listing, (2) a majority of independent members within 90 days of listing and (3) all independent members within one year of listing. Our board of directors intends to cause our compensation committee to comply with the transition rules within the applicable time periods. The compensation committee's responsibilities include:

- annually reviewing and recommending to the board of directors the corporate goals and objectives relevant to the compensation of our Chief Executive Officer;
- evaluating the performance of our Chief Executive Officer in light of such corporate goals and objectives and based on such evaluation: (i) reviewing and approving the cash compensation of our Chief Executive Officer, and (ii) reviewing and approving grants and awards to our Chief Executive Officer under equity-based plans;
- reviewing and approving the cash compensation of our other executive officers;
- reviewing and establishing our overall management compensation, philosophy and policy;
- overseeing and administering our compensation and similar plans;
- reviewing and approving the retention or termination of any consulting firm or outside advisor to assist in the evaluation of compensation matters and evaluating and assessing potential and current compensation advisors in accordance with the independence standards identified in the applicable Nasdaq rules;
- retaining and approving the compensation of any compensation advisors;
- reviewing and approving our policies and procedures for the grant of equity-based awards;
- reviewing and recommending to the board of directors the compensation of our directors; and
- preparing the compensation committee report required by SEC rules, if and when required, to be included in our annual proxy statement.

Nominating and corporate governance committee

Effective upon the completion of this offering, , and will serve on the nominating and corporate governance committee, which is chaired by . Our board of

directors has determined that each member of the nominating and corporate governance committee is "independent" as defined in the applicable Nasdaq rules. We are permitted to phase in our compliance with the independent compensation committee requirements set forth by Nasdaq listing standards as follows: (1) one independent member at the time of listing, (2) a majority of independent members within 90 days of listing and (3) all independent members within one year of listing. Our board of directors intends to cause our nominating and corporate governance committee to comply with the transition rules within the applicable time periods. The nominating and corporate governance committee's responsibilities include:

- developing and recommending to the board of directors criteria for board and committee membership;
- establishing procedures for identifying and evaluating board of director candidates, including nominees recommended by stockholders;
- reviewing the composition of the board of directors to ensure that it is composed of members containing the appropriate skills and expertise to advise us;
- identifying individuals qualified to become members of the board of directors;
- recommending to the board of directors the persons to be nominated for election as directors and to each of the board's committees;
- reviewing and recommending to the board of directors appropriate corporate governance guidelines; and
- overseeing the evaluation of our board of directors.

Compensation committee interlocks and insider participation

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 of directors or compensation committee.

Corporate governance

Prior to the effectiveness of the registration statement of which this prospectus is a part, we will adopt a written code of business conduct and ethics that applies to our directors, officers, and employees, including our principal executive officer, principal financial officer, principal accounting officer, or controller, or persons performing similar functions. Following the effectiveness of the registration statement of which this prospectus is a part, a current copy of this code will be posted on the Corporate Governance section of our website, which is located at www.entradatx.com. The information on our website is deemed not to be incorporated in this prospectus or to be a part of this prospectus. If we make any substantive amendments to, or grant any waivers from, the code of business conduct and ethics for any officer or director, we will disclose the nature of such amendment or waiver on our website or in a Current Report on Form 8-K.

EXECUTIVE AND DIRECTOR COMPENSATION

The following discussion contains forward-looking statements that are based on our current plans, considerations, expectations and determinations regarding future compensation programs. The actual amount and form of compensation and the compensation policies and practices that we adopt in the future may differ materially from currently planned programs as summarized in this discussion.

As an emerging growth company, we have opted to comply with the executive compensation disclosure rules applicable to "smaller reporting companies," as such term is defined in the rules promulgated under the Securities Act. This section provides an overview of the compensation awarded to, earned by, or paid to each individual who served as our principal executive officer during our fiscal year 2020, and our next two most highly compensated executive officers in respect of their service to our company for the fiscal year ended December 31, 2020. We refer to these individuals as our named executive officers. The compensation provided to our named executive officers for the fiscal year ended December, 31, 2020 is detailed in the 2020 Summary Compensation Table and accompanying footnotes and narrative that follow. Our named executive officers for the fiscal year ended December 31, 2020 are:

- Dipal Doshi, our President and Chief Executive Officer;
- Natarajan Sethuraman, Ph.D., our Chief Scientific Officer; and
- Nathan Dowden, our Chief Operating Officer.

To date, the compensation of our named executive officers has consisted of a combination of base salary, cash bonuses and long-term incentive compensation in the form of stock options and restricted stock awards. Our named executive officers, like all full-time employees, are eligible to participate in our health and welfare benefit plans. As we transition from a private company to a publicly traded company, we intend to evaluate our compensation values and philosophy and compensation plans and arrangements as circumstances require.

2020 Summary Compensation Table

The following table presents information regarding the total compensation awarded to, earned by, and paid to our named executive officers for services rendered to us in all capacities for the fiscal year ended December 31, 2020.

NAME AND PRINCIPAL POSITION	YEAR	SALARY ($)	BONUS ($)	STOCK AWARDS ($)	OPTION AWARDS ($)[1]	NON-EQUITY INCENTIVE PLAN COMPENSATION ($)[2]	ALL OTHER COMPENSATION ($)	TOTAL ($)
Dipal Doshi *President and Chief Executive Officer*	2020	385,000	—	—	310,753	134,750	75,000[3]	905,503
Natarajan Sethuraman, Ph.D. *Chief Scientific Officer*	2020	359,625	—	—	93,965	126,175	—	579,765
Nathan Dowden *Chief Operating Officer*	2020	354,488	—	—	82,636	124,373	—	561,497

(1) The amount reported represents the aggregate grant date fair value of the stock options awarded to the named executive officers during the 2020 fiscal year, calculated in accordance with Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Topic 718. Such grant date fair value does not take into account any estimated forfeitures. The assumptions used in calculating the grant date fair value of the stock option reported in this column are set forth in Note 2 to our financial statements included elsewhere in this prospectus. The amount reported in this column reflects the accounting cost for these stock option awards and does not correspond to the actual economic value that may be received by the named executive officers upon the vesting of the stock options or any sale of the shares.

(2) The amount reported represents annual bonuses paid for performance during the year ended December 31, 2020 and that are based on achievement of certain Company performance metrics.

(3) The amount reported reflects the aggregate housing allowance provided for in Mr. Doshi's employment agreement.

Narrative to Summary Compensation Table

Base Salaries

We use base salaries to recognize the experience, skills, knowledge and responsibilities required of all our employees, including our named executive officers. Base salaries are reviewed annually, typically in connection with our annual performance review process, and adjusted from time to time to realign salaries with market levels after taking into account individual responsibilities, performance and experience. For 2020, the base salary for Mr. Doshi was $385,000 and the base salaries for Dr. Sethuraman and Mr. Dowden were increased in February 2020 to $360,500 and $355,350, respectively.

Equity Compensation

Although we do not have a formal policy with respect to the grant of equity incentive awards to our executive officers, we believe that equity grants provide our executives with a strong link to our long-term performance, create an ownership culture and help to align the interests of our executives and our stockholders. In addition, we believe that equity grants with a time-based vesting feature promote executive retention because this feature incentivizes our executive officers to remain in our employment during the vesting period. During the year ended December 31, 2020, we granted awards of stock options pursuant to our 2016 Plan (described in further detail below) to each of the named executive officers, as described in more detail in the “Outstanding Equity Awards at 2020 Fiscal Year-End” table.

Non-Equity Incentive Plan Compensation

We pay discretionary cash bonuses to reward our executives for their performance over the fiscal year, based on the achievement of certain corporate performance goals, as further described below. We believe such bonuses properly incentivize our named executive officers and allow us to remain competitive within the marketplace. During 2020, each of Mr. Doshi, Dr. Sethuraman and Mr. Dowden were entitled to receive a target bonus of up to 35% of his base salary, respectively. Based on our achievement of the applicable performance goals for 2020, each named executive officer earned the amounts set forth in the 2020 Summary Compensation Table above.

Employment Arrangements with Our Named Executive Officers

Dipal Doshi

On May 14, 2019, the Company and Dipal Doshi entered into an Amended and Restated Employment Agreement, which amended and restated an employment agreement entered into on May 26, 2017 (the Doshi Agreement) which provides for an annual base salary, an annual bonus opportunity and eligibility to participate in our employee benefit plans. In addition, the Doshi Agreement provided for an option grant of 3,383,304 shares under the 2016 Plan, which such award would vest as follows: 25% would be vested as of December 31, 2019, with 2.0833% of the remaining 75% vesting on the last day of each month thereafter, subject to acceleration in connection with a termination without “cause” or for “good reason” within 90 days before or 18 months following a Change of Control (as defined in the Doshi Agreement). If Mr. Doshi’s employment is terminated for “good reason,” Mr. Doshi is entitled to severance equal to (i) base salary continuation for 9 months, (ii) any unpaid bonus for any completed prior fiscal year based on actual performance when it would otherwise have been paid, (iii) pro rata bonus for the year of termination based on actual performance, (iv) reimbursement of any unreimbursed expenses incurred through the date of termination, and (v) if Mr. Doshi elects to maintain medical insurance coverage under COBRA, payments to Mr. Doshi equal to the amounts the Company would have paid to the carrier with respect to Mr. Doshi’s coverage for 9 months. Additionally, the Doshi Agreement provides for a housing allowance up to $55,000 a year, which was increased to $75,000 per year effective January 1, 2020, to accommodate commuting to the Company’s corporate headquarters. The Doshi Agreement, also provides for proprietary and confidential information and assignment provisions, non-competition, and non-solicitation provisions.

Natarajan Sethuraman, Ph.D.

On March 4, 2019, the Company and Natarajan Sethuraman entered into an Amended and Restated Employment Agreement, which amended and restated an employment agreement entered into on July 13, 2017, as amended on August 23, 2017 (the Sethuraman Agreement), which provides for an annual base salary, an annual bonus opportunity and eligibility to participate in our employee benefit plans. In addition, the Sethuraman Agreement provided for an option grant of 910,965 shares under the 2016 Plan, which such award would vest as follows: 25% would be vested as of March 4, 2020, with 2.0833% of the remaining 75% vesting on the last day of each month thereafter, subject to acceleration in connection with a termination without "cause" or for "good reason" within 90 days before or 12 months following a Change of Control (as defined in the Sethuraman Agreement). If Mr. Sethuraman's employment is terminated for "good reason," Mr. Sethuraman is entitled to severance equal to (i) base salary continuation for 6 months, (ii) any unpaid bonus for any completed prior fiscal year based on actual performance when it would otherwise have been paid, (iii) reimbursement of any unreimbursed expenses incurred through the date of termination, and (iv) if Mr. Sethuraman elects to maintain medical insurance coverage under COBRA, payments to Mr. Sethuraman equal to the amounts the Company would have paid to the carrier with respect to Mr. Sethuraman's coverage for 6 months. The Sethuraman Agreement, also provides for proprietary and confidential information and assignment provisions, non-competition, and non-solicitation provisions.

Nathan Dowden

On November 4, 2019, the Company and Nathan Dowden entered into an Employment Agreement (the Dowden Agreement), which provides for an annual base salary, an annual bonus opportunity and eligibility to participate in our employee benefit plans. In addition, the Dowden Agreement provided for an option grant of 1,030,500 shares under the 2016 Plan, which such award would vest as follows: 25% would be vested as of November 4, 2020, with 2.0833% of the remaining 75% vesting on the last day of each month thereafter, subject to acceleration in connection with a termination without "cause" or for "good reason" within 90 days before or 12 months following a Change of Control (as defined in the Dowden Agreement). If Mr. Dowden's employment is terminated for "good reason," Mr. Dowden is entitled to severance equal to (i) base salary continuation for 6 months, (ii) any unpaid bonus for any completed prior fiscal year based on actual performance when it would otherwise have been paid, (iii) reimbursement of any unreimbursed expenses incurred through the date of termination, and (iv) if Mr. Dowden elects to maintain medical insurance coverage under COBRA, payments to Mr. Dowden equal to the amounts the Company would have paid to the carrier with respect to Mr. Dowden's coverage for 6 months. The Dowden Agreement, also provides for proprietary and confidential information and assignment provisions, non-competition, and non-solicitation provisions.

Outstanding Equity Awards at 2020 Fiscal Year-End

	Options Awards					Stock Awards	
Name	Vesting Commencement Date[1]	Number Of Securities Underlying Unexercised Options (#) Exercisable[2]	Number Of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($)	Option Expiration Date	Number Of Shares Or Units Of Stock That Have Not Vested (#)	Market Value Of Shares Or Units Of Stock That Have Not Vested ($)
Dipal Doshi	8/7/2017[3]					83,482[3][4]	28,384
	12/31/2018[3]	3,383,304	—	0.24	5/14/2029		
	8/12/2020[3]	1,360,475	—	0.29	12/16/2030		
Natarajan Sethuraman, Ph.D.	9/1/2017[6]					46,875[5][6]	15,938
	3/4/2019[5]	910,965	—	0.24	3/5/2029		
	8/12/2020[5]	419,248	—	0.29	12/16/2030		
Nathan Dowden	12/10/2019[5]	751,407	—	0.24	12/10/2029		
	8/12/2020[5]	360,943	—	0.29	12/16/2030		

(1) Unless otherwise noted, 25% of the shares subject to each award vest upon the first anniversary of the vesting commencement date, with the remainder vesting in 36 equal monthly installments thereafter, such that the award is fully vested as of the fourth anniversary of the vesting commencement date, subject to the named executive officer's continuous service relationship through each such date.

(2) Each stock option has an early exercise feature. In the event of an early exercise, all options exercised that are still subject to vesting conditions are treated as restricted stock until those vesting conditions are met. In the event of a termination of the named executive's officer service prior to meeting the vesting conditions, we have the right to repurchase any unvested shares at the original purchase price. such that each option shall be immediately exercisable, subject to the Company's right of repurchase of unvested shares upon termination of service.

(3) This award shall immediately accelerate and vest in full upon termination of the named executive officer's service relationship by us without cause or the named executive officer for good reason, in either case, within 90 days prior to or 18 months following a change in control.

(4) These shares of restricted stock vest in equal monthly installments through August 7, 2021, subject to the named executive officer's continuous service relationship through each such date.

(5) This award shall immediately accelerate and vest in full upon termination of the named executive officer's service relationship by us without cause or the named executive officer for good reason, in either case, within 90 days prior to or 12 months following a change in control.

(6) These shares of restricted stock were acquired upon the early exercise of a stock option. Such shares vest in equal monthly installments through September 1, 2021, subject to the named executive officer's continuous service relationship through each such date.

Employee Benefit and Equity Compensation Plans

2021 Stock Option and Incentive Plan

Our 2021 Stock Option and Incentive Plan (2021 Plan) was adopted by our board of directors on , and approved by our stockholders on and will become effective as of the date immediately prior to the date of the effectiveness of the registration statement of which this prospectus is a part. The 2021 Plan allows the board of directors' compensation committee to make equity-based incentive awards to our officers, employees, directors and other key persons (including consultants). The 2021 Plan will replace our 2016 Plan. Our 2021 Plan provides flexibility to our compensation committee to use various equity-based incentive awards as compensation tools to motivate our workforce.

We have initially reserved shares of our common stock (the Initial Limit) for the issuance of awards under the 2021 Plan. The 2021 Plan provides that the number of shares reserved and available for issuance under the plan will automatically increase each January 1, beginning on January 1, 2022, by % of the outstanding number of shares of our common stock on the immediately preceding December 31 or such lesser number of shares as determined by our compensation committee (the Annual Increase). This number is subject to adjustment in the event of a stock split, stock dividend or other change in our capitalization.

The shares we issue under the 2021 Plan will be authorized but unissued shares or shares that we reacquire. The shares of common stock underlying any awards that are forfeited, cancelled, held back upon exercise or settlement of an award to satisfy the exercise price or tax withholding, reacquired by us prior to vesting, satisfied without any issuance of stock, expire or are otherwise terminated (other than by exercise) under each of the 2021 Plan and the 2016 Plan will be added back to the shares of common stock available for issuance under the 2021 Plan.

The maximum aggregate number of shares that may be issued in the form of incentive stock options shall not exceed the Initial Limit cumulatively increased on January 1, 2022 and on each January 1 thereafter by the lesser of the Annual Increase for such year or shares of common stock.

The 2021 Plan will be administered by our compensation committee. Our compensation committee has full power to select, from among the individuals eligible for awards, the individuals to whom awards will be granted, to make any combination of awards to participants, and to determine the specific terms and conditions of each award, subject to the provisions of the 2021 Plan. Persons eligible to participate in the 2021 Plan will be those full or part-time officers, employees, non-employee directors and other key persons (including consultants) as selected from time to time by our compensation committee in its discretion.

The 2021 Plan permits the granting of both options to purchase common stock intended to qualify as incentive stock options under Section 422 of the Code and options that do not so qualify. The option exercise price of each option will be determined by our compensation committee but may not be less than 100% of the fair market value of our common stock on the date of grant. The term of each option will be fixed by our compensation committee and may not exceed 10 years from the date of grant. Our compensation committee will determine at what time or times each option may be exercised.

Our compensation committee may award stock appreciation rights subject to such conditions and restrictions as it may determine. Stock appreciation rights entitle the recipient to shares of common stock, or cash, equal to the value of the appreciation in our stock price over the exercise price. The exercise price of each stock appreciation right may not be less than 100% of the fair market value of the common stock on the date of grant.

Our compensation committee may award shares of restricted common stock and restricted stock units to participants subject to such conditions and restrictions as it may determine. These conditions and restrictions may include the achievement of certain performance goals and continued employment with us through a specified vesting period. Our compensation committee may also grant shares of common stock that are free from any restrictions under the 2021 Plan. Unrestricted stock may be granted to participants in recognition of past services or other valid consideration and may be issued in lieu of cash compensation due to such participant.

Our compensation committee may grant cash bonuses under the 2021 Plan to participants, subject to the achievement of certain performance goals.

The 2021 Plan provides that in the case of, and subject to, the consummation of a “sale event” as defined in the 2021 Plan, all outstanding awards may be assumed, substituted or otherwise continued by the successor entity. To the extent that the successor entity does not assume, substitute or otherwise continue such awards, then (i) all stock options and stock appreciation rights will automatically become fully exercisable and the restrictions and conditions on all other awards with time-based conditions will automatically be deemed waived, and awards with conditions and restrictions relating to the attainment of performance goals may become vested and non-forfeitable in connection with a sale event in the compensation committee’s discretion and (ii) upon the effectiveness of the sale event, the 2021 Plan and all awards will automatically terminate. In the event of such termination, (a) individuals holding options and stock appreciation rights will be permitted to exercise such options and stock appreciation rights (to the extent exercisable) prior to the sale event; or (b) we may make or provide for a cash payment to participants holding options and stock appreciation rights equal to the difference between the per share cash consideration payable to stockholders in the sale event and the exercise price of the options or stock appreciation rights (to the extent exercisable).

Our board of directors may amend or discontinue the 2021 Plan and our compensation committee may amend the exercise price of options and amend or cancel outstanding awards for purposes of satisfying changes in law or any other lawful purpose, but no such action may adversely affect rights under an award without the holder’s consent. Certain amendments to the 2021 Plan require the approval of our stockholders.

No awards may be granted under the 2021 Plan after the date that is ten years from the date of stockholder approval. No awards under the 2021 Plan have been made prior to the date of this prospectus.

2016 Stock Incentive Plan

Our 2016 Stock Incentive Plan (2016 Plan) was approved and adopted by our board of directors and stockholders on October 25, 2016 and was most recently amended on March 29, 2021. As of June 30, 2021, we have reserved for issuance an aggregate of 22,507,876 shares of our common stock for the issuance of stock options and restricted stock awards under the 2016 Plan. This number of shares of common stock reserved for issuance is subject to adjustment in the event of a reverse stock split, stock split, stock dividend, recapitalization, reorganization, reclassification, merger, consolidation, sale, or other similar change in capitalization or similar event. As of June 30, 2021, options to purchase

15,600,579 shares of common stock were outstanding under the 2016 Plan. Our board of directors has determined not to make any further awards under the 2016 Plan following the closing of this offering, but all outstanding awards under the 2016 Plan will continue to be governed by their existing terms. As of June 30, 2021, the maximum number of shares that may be issued as incentive stock options may not exceed 22,507,876.

The shares of common stock underlying any awards that are forfeited, surrendered, reacquired by us prior to vesting, expire, or are otherwise terminated (other than by exercise) under the 2016 Plan will be added back to the shares of common stock available for issuance under the 2021 Plan.

Our board of directors has acted as administrator of the 2016 Plan. The administrator has full power to select, from among the individuals eligible for awards, the individuals to whom awards will be granted, to make any combination of awards to participants, and to determine the specific terms and conditions of each award, subject to the provisions of our 2016 Plan. Persons eligible to participate in our 2016 Plan are those employees, officers, directors, consultants and advisors of the Company as selected from time to time by the administrator in its discretion. Our 2016 Plan permits the granting of both options to purchase common stock intended to qualify as incentive stock options under Section 422 of the Code and options that do not so qualify. The option exercise price of each option is determined by our board of directors but may not be less than 100% of the fair market value of our common stock on the date of grant, or in the case of an incentive stock option granted to a 10% owner, the exercise price shall not be less than 110% of the fair market value of our common stock on the date of grant. The term of each option is fixed by our board of directors and may not exceed ten years from the date of grant. Our board of directors determines at what time or times each option may be exercised.

Our board of directors may award restricted shares of common stock to participants subject to such conditions and restrictions as it may determine. These conditions and restrictions may include the achievement of certain performance goals and/or continued employment with us through a specified vesting period.

In the event of certain corporate transactions and events, including a reverse stock split, stock split, stock dividend, recapitalization, reorganization, reclassification, merger, consolidation, sale, or other similar change in capitalization or similar event, the board of directors shall make appropriate adjustments to the maximum number of shares reserved for issuance under the 2016 Plan, the number and kind of securities subject to outstanding awards under the 2016 Plan and the repurchase or exercise price of any outstanding awards under the 2016 Plan.

Upon the effective time of a Change in Control Transaction (as defined in our 2016 Plan), our board of directors shall take any of the following actions or any combination thereof: (i) make appropriate provision for the continuation by the Company or the assumption and substitution of an award by the surviving or acquiring entity; (ii) accelerate the date of exercise or vesting of an award; (iii) permit the exchange of such award for the right to participate in any stock option or other employee benefit plan of any successor corporation; (iv) provide for the repurchase of an award for an amount equal to the difference of the per share transaction consideration minus any applicable per share exercise price of such award; or (v) provide for the termination of an award immediately prior to the consummation of the Change in Control, provided that no such termination will be effective if the Change in Control is not consummated.

No awards may be granted under our 2016 Plan after the date that is ten years from the effective date of our 2016 Plan.

Employee Stock Purchase Plan

On , our board of directors adopted the Employee Stock Purchase Plan (the ESPP) and on , our stockholders approved the ESPP. The ESPP is intended to qualify as an "employee stock purchase plan" within the meaning of Section 423(b) of the Code. The ESPP initially reserves and authorizes the issuance of up to a total of shares of common stock to participating employees. The ESPP provides that the number of shares reserved and available for issuance will automatically increase each January 1, beginning on January 1, 2022 and each January 1 thereafter

through January 1, 2031, by the least of (i) % of the outstanding number of shares of our common stock on the immediately preceding December 31, (ii) shares or (iii) such number of shares as determined by the ESPP administrator. The number of shares reserved under the ESPP is subject to adjustment in the event of a stock split, stock dividend or other change in our capitalization.

All employees whose customary employment is for more than 20 hours per week are eligible to participate in the ESPP. However, any participating employee who would own 5% or more of the total combined voting power or value of all classes of stock after an option were granted under the ESPP would not be eligible to purchase shares under the ESPP.

We will make one or more offerings each year to our employees to purchase shares under the ESPP. Each eligible employee may elect to participate in any offering by submitting an enrollment form at least 15 business days before the relevant offering date.

Each employee who is a participant in the ESPP may purchase shares by authorizing payroll deductions of up to % of his or her base compensation during an offering period. Unless the participating employee has previously withdrawn from the offering, his or her accumulated payroll deductions will be used to purchase shares on the last business day of the offering period at a price equal to 85% of the fair market value of the shares on the first business day or the last business day of the offering period, whichever is lower. Under applicable tax rules, an employee may purchase no more than $25,000 worth of shares of common stock, valued at the start of the purchase period, under the ESPP in any calendar year.

The accumulated payroll deductions of any employee who is not a participant on the last day of an offering period will be refunded. An employee's rights under the ESPP terminate upon voluntary withdrawal from the plan or when the employee ceases employment with us for any reason.

Senior Executive Cash Incentive Bonus Plan

In , our board of directors adopted the Senior Executive Cash Incentive Bonus Plan (the Bonus Plan). The Bonus Plan provides for cash bonus payments based upon the attainment of performance targets established by our compensation committee.

The payment targets will be related to financial and operational measures or objectives with respect to our company, or corporate performance goals, as well as individual performance objectives. Our compensation committee may select corporate performance goals from among the following: achievement of specified research and development, publication, clinical and/or regulatory milestones, adjusted billings, earnings before interest, taxes, depreciation and amortization, net income (loss) (either before or after interest, taxes, depreciation and/or amortization), changes in the market price of our common stock, economic value-added, funds from operations or similar measure, sales or revenue, acquisitions or strategic transactions, operating income (loss), cash flow (including, but not limited to, operating cash flow and free cash flow), return on capital, assets, equity, or investment, stockholder returns, return on sales, gross or net profit levels, productivity, efficiency, margins, operating efficiency, customer satisfaction, working capital, earnings (loss) per share of stock, bookings, new bookings or renewals, sales or market shares; number of customers number of new customers or customer references; operating income and/or net annual recurring revenue, any of which may be measured in absolute terms, as compared to any incremental increase, in terms of growth, or as compared to results of a peer group, against the market as a whole, compared to applicable market indices and/or measured on a pre-tax or post-tax basis.

Each executive officer who is selected to participate in the Bonus Plan will have a target bonus opportunity set for each performance period. The bonus formulas will be adopted in each performance period by the compensation committee and communicated to each executive. The corporate performance goals will be measured at the end of each performance period after our financial reports have been published or such other appropriate time as the compensation committee determines. If the corporate performance goals and individual performance objectives are met, payments will be made as soon as practicable following the end of each performance period. Subject to the rights contained in any agreement between the executive officer and us, an executive officer must be employed by us on the

bonus payment date to be eligible to receive a bonus payment. The Bonus Plan also permits the compensation committee to adjust or approve additional bonuses to executive officers in its sole discretion.

Director Compensation

The following table presents the total compensation paid by the Company to members of our board of directors during the fiscal year ended December 31, 2020. Other than as set forth in the table and described more fully below, we did not pay any compensation, make any equity awards or non-equity awards to, or pay any other compensation to any of the members of our board of directors in 2020 for their services as members of the board of directors. Mr. Doshi, our President and Chief Executive Officer, does not receive any compensation from the Company for his service on our board of directors. See the section titled "Executive and Director Compensation" for more information on the compensation paid to or earned by Mr. Doshi as an employee for the year ended December 31, 2020.

	Fees Earned or Paid in Cash ($)	Option Awards ($)[1]	All Other Compensation ($)	Total ($)
Christine Brennan	—	—	—	—
John Crowley[2]	35,000	—	—	35,000
Todd Foley	—	—	—	—
Anja Harmeier[3]	—	—	—	—
Peter Kim[4]	—	55,178	—	55,178
Carole Nuechterlein[5]	—	—	—	—
Kush Parmar	—	—	—	—
Louis Tartaglia[6]	—	—	—	—

(1) The amount reported represents the aggregate grant date fair value of stock options awarded to our non-employee directors during the 2020 fiscal year, calculated in accordance with FASB, ASC Topic 718. Such grant date fair value does not take into account any estimated forfeitures. The assumptions used in calculating the grant date fair value of the stock option reported in this column are set forth in Note 2 to our financial statements included elsewhere in this prospectus. The amount reported in this column reflects the accounting cost for these stock option awards and does not correspond to the actual economic value that may be received by the directors upon the vesting of the stock options or any sale of the shares.

(2) Mr. Crowley is entitled to receive an annual cash retainer, payable on a quarterly basis, equal to $35,000 for his service as a member of our board of directors. As of December 31, 2020, Mr. Crowley held an outstanding and unexercised stock option to purchase 237,808 shares.

(3) Ms. Harmeier resigned from our board of directors effective March 31, 2020.

(4) Mr. Kim was appointed to our board of directors on December 18, 2020. He is entitled to receive an annual cash retainer, payable on a quarterly basis, equal to $35,000 for his service as a member of our Board of Directors, with the first quarterly payment made in the first quarter of 2021. As of December 31, 2020, Mr. Kim held an outstanding and unexercised stock option to purchase 237,808 shares.

(5) Ms. Nuechterlein was appointed to our board of directors effective March 24, 2020.

(6) Mr. Tartaglia resigned from our board of directors effective December 7, 2020.

Non-Employee Director Compensation Policy

In connection with this offering, we intend to adopt a non-employee director compensation policy that will become effective upon the completion of this offering and will be designed to enable us to attract and retain, on a long-term basis, highly qualified non-employee directors.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

The following is a description of transactions or series of transactions since January 1, 2018, to which we were or will be a party, in which:

- the amount involved in the transaction exceeds, or will exceed, the lesser of $120,000 or one percent of the average of the Company's total assets for the last two completed fiscal years; and
- in which any of our executive officers, directors or holder of five percent or more of any class of our capital stock, including their immediate family members or affiliated entities, had or will have a direct or indirect material interest.

Compensation arrangements for our named executive officers and our directors are described elsewhere in this prospectus under "Executive and Director Compensation."

Private placements of securities

Series A Preferred Stock Financing

In December 2018, with subsequent closings in January 2020 and August 2020, we issued an aggregate of 82,879,139 shares of our Series A preferred stock, 72,046,104 of which were issued at a purchase price of $1.0410 per share for gross cash proceeds of approximately $75.0 million, and 10,833,035 of which were issued in satisfaction of principal and accrued interest of approximately $9.0 million on outstanding convertible promissory notes issued in 2017 and 2018 at a discounted purchase price of $0.8328 per share, resulting in an aggregate gross cash proceeds of approximately $83.5 million.

Each share of our Series A preferred stock will automatically convert into share of our common stock immediately prior to the completion of this offering. The following table summarizes purchases of our Series A preferred stock by related parties:

Participant	Shares of Series A Preferred Stock	Aggregate Consideration ($)
Entities affiliated with MPM Capital[(1)]	27,617,675	$28,749,999.68
Entities affiliated with 5AM Ventures[(2)]	21,244,257	$21,442,217.74
Roche Finance Ltd[(3)]	18,056,333	$17,887,314.23

(1) Consists of (i) 431,662 shares of Series A preferred stock held by MPM Asset Management Investors BV2014 LLC (MPM 2014 LLC), (ii) 254,019 shares of Series A preferred stock held by MPM Asset Management Investors BV2018 LLC (MPM 2018 LLC), (iii) 836,446 shares of Series A preferred stock held by MPM BioVentures 2014 (B), L.P. (MPM B 2014), (iv) 12,540,730 shares of Series A preferred stock held by MPM BioVentures 2014, L.P., or MPM 2014 (v) 684,068 shares of Series A preferred stock held by MPM BioVentures 2018 (B), L.P. (MPM B 2018) and (vi) 12,870,750 shares of Series A preferred stock held by MPM BioVentures 2018, L.P. (MPM 2018). MPM 2014 LLC, MPM 2018 LLC, MPM 2014, MPM B 2014, MPM 2018 and MPM B 2018 are collectively referred to as the MPM Capital Entities. MPM BioVentures 2014 LLC (BV2014 LLC) is the Managing Member of MPM BioVentures 2014 GP LLC, which is the General Partner of MPM 2014 and MPM B 2014. BV2014 LLC is the Manager of MPM 2014 LLC. Dr. Ansbert Gadicke, Dr. Luke Evnin and Todd Foley, a member of our board of directors, are the Managing Directors of BV2014 LLC and share voting and dispositive power over the shares held by each of MPM 2014, MPM B 2014 and MPM 2014 LLC. MPM BioVentures 2018 LLC (BV2018 LLC) is the Managing Member of MPM BioVentures 2018 GP LLC, which is the General Partner of MPM 2018 and MPM B 2018. BV2018 LLC is the Manager of MPM 2018 LLC. Dr. Ansbert Gadicke, Dr. Luke Evnin, Todd Foley, a member of our board of directors, and Edward Hurwitz are the Managing Directors of BV2018 LLC and share voting and dispositive power over the shares held by each of MPM 2018, MPM B 2018 and MPM 2018 LLC. Each of the entities and individuals listed above expressly disclaims beneficial ownership of the securities listed above except to the extent of any pecuniary interest therein. The MPM Capital Entities collectively hold more than 5% of our voting securities.

(2) Consists of (i) 17,161,644 shares of Series A preferred stock held by 5AM Ventures V, L.P. (5AM Ventures V) and (ii) 4,082,613 shares of Series A preferred stock held by 5AM Opportunities I, L.P. (5AM Opportunities and, together with 5AM Ventures V, 5AM Ventures). Kush M. Parmar, M.D., Ph.D., a member of our board of directors, is a Managing Member of 5AM Partners V, LLC, the General Partner of 5AM Ventures V and 5AM Opportunities I (GP), LLC, and as a result, may be deemed to share voting and investment power with respect to the shares held by 5AM Ventures and 5AM Opportunities. Entities affiliated with 5AM Ventures collectively hold more than 5% of our voting securities.

(3) Roche Finance Ltd (Roche Finance) is a wholly owned subsidiary of Roche Holding Ltd (Roche Holding), a publicly held Swiss corporation, traded on the SIX Swiss Exchange. Carole Nuechterlein, a member of our board of directors, is an employee of F. Hoffmann-La Roche Ltd, a subsidiary of Roche Finance and disclaims beneficial ownership of the shares held by Roche Finance. Roche Finance holds more than 5% of our voting securities.

Series B Preferred Stock Financing

In March 2021, we sold an aggregate of 53,522,099 shares of our Series B preferred stock at a purchase price of $2.1720 per share for an aggregate purchase price of approximately $116.2 million. Each share of our Series B preferred stock will automatically convert into share of our common stock immediately prior to the completion of this offering. The following table summarizes purchases of our Series B preferred stock by related parties:

Participant	Shares of Series B Preferred Stock	Total Purchase Price ($)
Entities affiliated with 5AM Ventures(1)	4,143,646	$8,999,999.11
Entities affiliated with MPM Capital(2)	3,683,241	$7,999,999.45
Roche Finance Ltd(3)	2,302,026	$5,000,000.47

(1) Consists of (i) 1,841,620 shares of Series B preferred stock held by 5AM Ventures V, L.P. (5AM Ventures V) and (ii) 2,302,026 shares of Series B preferred stock held by 5AM Opportunities I, L.P. (5AM Opportunities and, together with 5AM Ventures V, 5AM Ventures). Kush M. Parmar, M.D., Ph.D., a member of our board of directors, is a Managing Member of 5AM Partners V, LLC, the General Partner of 5AM Ventures V and 5AM Opportunities I (GP), LLC, and as a result, may be deemed to share voting and investment power with respect to the shares held by 5AM Ventures and 5AM Opportunities. Entities affiliated with 5AM Ventures collectively hold more than 5% of our voting securities.

(2) Consists of (i) 57,569 shares of Series B preferred stock held by MPM Asset Management Investors BV2014 LLC (MPM 2014 LLC), (ii) 33,877 shares of Series B preferred stock held by MPM Asset Management Investors BV2018 LLC (MPM 2018 LLC), (iii) 111,553 shares of Series B preferred stock held by MPM BioVentures 2014 (B), L.P. (MPM B 2014), (iv) 1,672,499 shares of Series B preferred stock held by MPM BioVentures 2014, L.P. (MPM 2014), (v) 91,231 shares of Series B preferred stock held by MPM BioVentures 2018 (B), L.P. (MPM B 2018), (vi) 1,716,512 shares of Series B preferred stock held by MPM BioVentures 2018, L.P. (MPM 2018). MPM 2014 LLC, MPM 2018 LLC, MPM 2014, MPM B 2014, MPM 2018 and MPM B 2018 are collectively referred to as the MPM Capital Entities. MPM BioVentures 2014 LLC (BV2014 LLC) is the Managing Member of MPM BioVentures 2014 GP LLC, which is the General Partner of MPM 2014 and MPM B 2014. BV2014 LLC is the Manager of MPM 2014 LLC. Dr. Ansbert Gadicke, Dr. Luke Evnin and Todd Foley, a member of our board of directors, are the Managing Directors of BV2014 LLC and share voting and dispositive power over the shares held by each of MPM 2014, MPM B 2014 and MPM 2014 LLC. MPM BioVentures 2018 LLC (BV2018 LLC) is the Managing Member of MPM BioVentures 2018 GP LLC, which is the General Partner of MPM 2018 and MPM B 2018. BV2018 LLC is the Manager of MPM 2018 LLC. Dr. Ansbert Gadicke, Dr. Luke Evnin, Todd Foley, a member of our board of directors, and Edward Hurwitz are the Managing Directors of BV2018 LLC and share voting and dispositive power over the shares held by each of MPM 2018, MPM B 2018 and MPM 2018 LLC. Each of the entities and individuals listed above expressly disclaims beneficial ownership of the securities listed above except to the extent of any pecuniary interest therein. The MPM Capital Entities collectively hold more than 5% of our voting securities.

(3) Roche Finance Ltd (Roche Finance) is a wholly owned subsidiary of Roche Holding Ltd (Roche Holding), a publicly held Swiss corporation, traded on the SIX Swiss Exchange. Carole Nuechterlein, a member of our board of directors, is an employee of F. Hoffmann-La Roche Ltd, a subsidiary of Roche Finance and disclaims beneficial ownership of the shares held by Roche Finance. Roche Finance holds more than 5% of our voting securities.

Agreements with our stockholders

In connection with our preferred stock financings, we entered into an investor rights agreement, voting agreement and right of first refusal agreement, in each case, with the purchasers of our preferred stock and certain holders of our common stock.

Our amended and restated investors' rights agreement (the investor rights agreement) provides certain holders of our preferred stock with a participation right to purchase their pro rata share of new securities that we may propose to sell and issue, subject to certain exceptions. Such participation right will terminate upon the closing of this offering. The investor rights agreement further provides certain holders of our capital stock with the right to demand that we file a registration statement, subject to certain limitations, and to request that their shares be covered by a registration statement that we are otherwise filing. See the section titled "Description of Capital Stock—Registration Rights" appearing elsewhere in this prospectus, for additional information regarding such registration rights.

Our amended and restated voting agreement (as amended, the voting agreement), provides for drag-along rights in respect of sales by certain holders of our capital stock. The voting agreement also contains provisions with respect to the elections of our board of directors and its composition. The rights under the voting agreement will terminate upon the closing of this offering.

Our amended and restated right of first refusal and co-sale agreement (the right of first refusal and co-sale agreement), provides for rights of first refusal and co-sale rights in respect of sales by certain holders of our capital stock. The rights under the right of first refusal and co-sale agreement will terminate upon the closing of this offering.

Indemnification agreements

In connection with this offering, we intend to enter into new 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 of directors to the maximum extent allowed under Delaware law.

Policies for approval of related party transactions

Our board of directors reviews and approves transactions with directors, officers and holders of 5% or more of our voting securities and their affiliates, each a related party. Prior to this offering, the material facts as to the related party's relationship or interest in the transaction are disclosed to our board of directors prior to their consideration of such transaction, and the transaction is not considered approved by our board of directors unless a majority of the directors who are not interested in the transaction approve the transaction. Further, when stockholders are entitled to vote on a transaction with a related party, the material facts of the related party's relationship or interest in the transaction are disclosed to the stockholders, who must approve the transaction in good faith.

In connection with this offering, we expect to adopt a written related party transactions policy that will provide that such transactions must be approved by our audit committee. This policy will become effective on the date on which the registration statement of which this prospectus forms a part is declared effective by the SEC. Pursuant to this policy, the audit committee has the primary responsibility for reviewing and approving or disapproving "related party transactions," which are transactions between us and related persons in which the aggregate amount involved exceeds or may be expected to exceed $120,000 and in which a related person has or will have a direct or indirect material interest. For purposes of this policy, a related person will be defined as a director, executive officer, nominee for director, or greater than 5% beneficial owner of our common stock, in each case since the beginning of the most recently completed year, and their immediate family members.

PRINCIPAL STOCKHOLDERS

The following table sets forth certain information known to us regarding beneficial ownership of our capital stock as of June 30, 2021, as adjusted to reflect the sale of common stock offered by us in this offering, for:

- each person or group of affiliated persons known by us to be the beneficial owner of more than 5% of our capital stock;
- each of our named executive officers;
- each of our directors; and
- all of our executive officers and directors as a group.

Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to securities. Under those rules, beneficial ownership includes any shares as to which the individual or entity has sole or shared voting power or investment power. Except as noted by footnote, and subject to community property laws where applicable, we believe, based on the information provided to us, that the persons and entities named in the table below have sole voting and investment power with respect to all common stock shown as beneficially owned by them.

The percentage of beneficial ownership prior to this offering in the table below is based on 11,774,460 shares of common stock deemed to be outstanding as of June 30, 2021, after giving effect to the automatic conversion of all outstanding shares of our redeemable convertible preferred stock upon the closing of this offering, and assuming an initial public offering price or $ per share, which is the midpoint of the offering range set forth on the cover page of this prospectus, and the percentage of beneficial ownership at this offering in the table below is based on shares of common stock assumed to be outstanding after the closing of the offering. The information in the table below assumes no exercise of the underwriters' option to purchase additional shares.

Unless otherwise noted below, the address for each beneficial owner listed in the table below is c/o Entrada Therapeutics, Inc., 6 Tide Street, Boston, MA 02210.

	Shares Beneficially Owned Prior to Offering	Percentage of Shares Beneficially Owned	
	Number	Before Offering	After Offering
Name and Address of Beneficial Owner			
Entities affiliated with MPM Capital[1]	31,300,916	20.78%	
Entities affiliated with 5AM Ventures[2]	30,089,583	19.98%	
Roche Finance Ltd[3]	20,358,359	13.52%	
MRL Ventures Fund, LLC[4]	12,588,773	8.36%	
Executive Officers and Directors			
Dipal Doshi[5]	7,507,704	4.79%	
Kory Wentworth[6]	1,302,358	*	
Nathan J. Dowden[7]	1,991,840	1.31%	
Nerissa C. Kreher, M.D.[8]	1,532,199	1.01%	
Natarajan Sethuraman, Ph.D.[9].	2,313,597	1.52%	
John F. Crowley[10].	340,420	*	
Todd Foley	—	*	
Peter S. Kim, Ph.D.[11]	340,420	*	
Carole Nuechterlein	—	*	
Kush M. Parmar, M.D., Ph.D.	—	*	
Mary Thistle[12]	337,227	*	
All executive officers and directors as a group (11 persons)[13]	15,665,765	9.62%	

* Represents beneficial ownership of less than 1%.

(1) Consists of (i) 431,662 shares of common stock issuable upon conversion of Series A preferred stock held by MPM Asset Management Investors BV2014 LLC (MPM 2014 LLC), (ii) 57,569 shares of common stock issuable upon conversion of Series B preferred stock held by MPM 2014 LLC, (iii) 254,019 shares of common stock issuable upon conversion of Series A preferred stock held by MPM Asset Management Investors BV2018 LLC (MPM 2018 LLC), (iv) 33,877 shares of common stock issuable upon conversion of Series B preferred stock held by MPM 2018 LLC, (v) 12,540,730 shares of common stock issuable upon conversion of Series A preferred stock held by MPM BioVentures 2014, L.P. (MPM 2014), (vi) 1,672,499 shares of common stock issuable upon conversion of Series B preferred stock held by MPM 2014, (vii) 836,446 shares of common stock issuable upon conversion of Series A preferred stock held by MPM BioVentures 2014(B), L.P. (MPM B 2014), (viii) 111,553 shares of common stock issuable upon conversion of Series B preferred stock held by MPM B 2014, (ix) 12,870,750 shares of common stock issuable upon conversion of Series A preferred stock held by MPM BioVentures 2018, L.P. (MPM 2018), (x) 1,716,512 shares of common stock issuable upon conversion of Series B preferred stock held by MPM 2018, (xi) 684,068 shares of common stock issuable upon conversion of Series A preferred stock held by MPM BioVentures 2018(B), L.P. (MPM B 2018) and (xii) 91,231 shares of common stock issuable upon conversion of Series B preferred stock held by MPM B 2018. MPM 2014 LLC, MPM 2018 LLC, MPM 2014, MPM B 2014, MPM 2018 and MPM B 2018 are collectively referred to as the MPM Capital Entities. MPM BioVentures 2014 LLC (BV2014 LLC) is the Managing Member of MPM BioVentures 2014 GP LLC, which is the General Partner of MPM 2014 and MPM B 2014. BV2014 LLC is the Manager of MPM 2014 LLC. Dr. Ansbert Gadicke, Dr. Luke Evnin and Todd Foley, a member of our board of directors, are the Managing Directors of BV2014 LLC and share voting and dispositive power over the shares held by each of MPM 2014, MPM B 2014 and MPM 2014 LLC. MPM BioVentures 2018 LLC (BV2018 LLC) is the Managing Member of MPM BioVentures 2018 GP LLC, which is the General Partner of MPM 2018 and MPM B 2018. BV2018 LLC is the Manager of MPM 2018 LLC. Dr. Ansbert Gadicke, Dr. Luke Evnin, Todd Foley, a member of our board of directors, and Edward Hurwitz are the Managing Directors of BV2018 LLC and share voting and dispositive power over the shares held by each of MPM 2018, MPM B 2018 and MPM 2018 LLC. Each of the entities and individuals listed above expressly disclaims beneficial ownership of the securities listed above except to the extent of any pecuniary interest therein. The address for each of the entities listed in this footnote is c/o MPM Capital, 450 Kendall Street, Cambridge, MA 02142.

(2) Consists of (i) 4,082,613 shares of common stock issuable upon conversion of Series A preferred stock held by 5AM Opportunities I, L.P. (5AM Opportunities), (ii) 2,302,026 shares of common stock issuable upon conversion of Series B preferred stock held by 5AM Opportunities, (iii) 2,396,207 shares of common stock held by 5AM Ventures V, L.P. (5AM Ventures V and, together with 5AM Opportunities, 5AM Ventures), (iv) 2,305,473 shares of common stock issuable upon conversion of Series Seed preferred stock held by 5AM Ventures V, (v) 17,161,644 shares of common stock issuable upon conversion of Series A preferred stock held by 5AM Ventures V and (vi) 1,841,620 shares of common stock issuable upon conversion of Series B preferred stock held by 5AM Ventures V. 5AM Partners V, LLC is the general partner of 5AM Ventures V and may be deemed to have sole investment and voting power over the shares held by 5AM Ventures V. 5AM Opportunities I (GP), LLC is the general partner of 5AM Opportunities and may be deemed to have sole investment and voting power over the shares held by 5AM Opportunities. Kush M. Parmar, M.D., Ph.D., a member of our board of directors, is a managing member of 5AM Partners V, LLC and 5AM Opportunities I (GP), LLC, and may be deemed to share voting and dispositive power over the shares held by 5AM Ventures. The address of the above persons and entities is 501 2nd Street, Suite 350, San Francisco, CA 94107.

(3) Consists of (i) 18,056,333 shares of common stock issuable upon conversion of Series A preferred stock held by Roche Finance Ltd (Roche Finance) and (ii) 2,302,026 shares of common stock issuable upon conversion of Series B preferred stock held by Roche Finance. Roche Finance is a wholly owned subsidiary of Roche Holding Ltd (Roche Holding), a publicly held Swiss corporation, traded on the SIX Swiss Exchange. Carole Nuechterlein, a member of our board of directors, is an employee of F. Hoffmann-La Roche Ltd, a subsidiary of Roche Finance and disclaims beneficial ownership of the shares held by Roche Finance. The address of Roche Finance is Grenzacherstrasse 122, Basel, 4058 Switzerland and the address of Roche Holding is Grenzacherstrasse 124, Basel, 4058 Switzerland.

(4) Consists of (i) 12,358,570 shares of common stock issuable upon conversion of Series A preferred stock held by MRL Ventures Fund, LLC (MRL Ventures) and (ii) 230,203 shares of common stock issuable upon conversion of Series B preferred stock held by MRL Ventures. All shares are held directly by MRL Ventures, which is a subsidiary of Merck Sharp & Dohme Corp. The address for MRL Ventures Fund, LLC is 320 Bent Street, Cambridge, MA 02141.

(5) Consists of (i) 243,055 shares of common stock, (ii) 500,890 shares of restricted common stock, (iii) 518,438 shares of restricted common stock issued upon early exercise of stock options and (iv) 6,245,321 shares of common stock subject to options with an early exercise feature. This amount does not include a stock option to purchase 600,000 shares of common stock awarded to Mr. Doshi on August 2, 2021.

(6) Consists of (i) 69,000 shares of restricted common stock issued upon early exercise of stock options and (ii) 1,233,358 shares of common stock subject to options with an early exercise feature. This amount does not include a stock option to purchase 229,841 shares of common stock awarded to Mr. Wentworth on August 2, 2021.

(7) Consists of (i) 407,906 shares of common stock and (ii) 1,583,934 shares of common stock subject to options with an early exercise feature. This amount does not include a stock option to purchase 30,000 shares of common stock awarded to Mr. Dowden on August 2, 2021.

(8) Consists of 1,532,199 shares of common stock subject to options with an early exercise feature.

(9) Consists of (i) 562,041 shares of common stock, (ii) 485,452 shares of restricted common stock issued upon early exercise of stock options and (iii) 1,266,104 shares of common stock subject to options with an early exercise feature. This amount does not include a stock option to purchase 30,000 shares of common stock awarded to Mr. Sethuraman on August 2, 2021.

(10) Consists of (i) 104,041 shares of common stock, (ii) 133,767 shares of restricted common stock issued upon early exercise of stock options held by John F. Crowley 2021 Family Trust and (iii) 102,612 shares of common stock subject to options with an early exercise feature. John F. Crowley exercises voting and dispositive power over the shares beneficially owned by Re John F. Crowley 2021 Family Trust.

(11) Consists of (i) 9,230 shares of common stock and (ii) 331,190 shares of restricted common stock issued upon early exercise of stock options.

(12) Consists of 337,227 shares of common stock subject to options with an early exercise feature.

(13) Includes options to purchase 12,300,755 shares of common stock with an early exercise feature held by executive officers and directors, as described in notes 5 through 12 above.

DESCRIPTION OF CAPITAL STOCK

The following descriptions are summaries of the material terms of our amended and restated certificate of incorporation, which will be effective upon the closing of this offering and amended and restated bylaws, which will be effective upon the effectiveness of the registration statement of which this prospectus is a part. The descriptions of the common stock and preferred stock give effect to changes to our capital structure that will occur immediately prior to the completion of this offering. We refer in this section to our fourth amended and restated certificate of incorporation as our certificate of incorporation, and we refer to our amended and restated bylaws as our bylaws.

General

Upon completion of this offering, our authorized capital stock will consist of shares of common stock, par value $0.0001 per share, and shares of preferred stock, par value $0.0001 per share, all of which shares of preferred stock will be undesignated.

As of June 30, 2021, 11,774,460 shares of our common stock were outstanding and held by 29 stockholders of record. This amount assumes the conversion of all outstanding shares of our preferred stock into common stock, which will occur immediately prior to the closing of this offering.

Common Stock

The holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of the stockholders. The holders of our common stock do not have any cumulative voting rights. Holders of our common stock are entitled to receive ratably any dividends declared by our board of directors out of funds legally available for that purpose, subject to any preferential dividend rights of any outstanding preferred stock. Our common stock has no preemptive rights, conversion rights or other subscription rights or redemption or sinking fund provisions.

In the event of our liquidation, dissolution or winding up, holders of our common stock will be entitled to share ratably in all assets remaining after payment of all debts and other liabilities and any liquidation preference of any outstanding preferred stock. The shares to be issued by us in this offering will be, when issued and paid for, validly issued, fully paid and non-assessable.

Preferred Stock

Immediately prior to the completion of this offering, all outstanding shares of our preferred stock will be converted into shares of our common stock. Upon the consummation of this offering, our board of directors will have the authority, without further action by our stockholders, to issue up to shares of preferred stock in one or more series and to fix the rights, preferences, privileges and restrictions thereof. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms and the number of shares constituting, or the designation of, such series, any or all of which may be greater than the rights of common stock. The issuance of our preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon our liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deferring or preventing a change in control of our Company or other corporate action. Immediately after consummation of this offering, no shares of preferred stock will be outstanding, and we have no present plan to issue any shares of preferred stock.

Registration Rights

Upon the completion of this offering, certain holders of our common stock, including those issuable upon the conversion of preferred stock, will be entitled to rights with respect to the registration of these securities under the Securities Act. These rights are provided under the terms of an investor rights agreement between us and the holders of our preferred stock. The investor rights agreement includes demand registration rights, short-form registration rights, and piggyback registration rights. All fees, costs

and expenses of underwritten registrations under this agreement will be borne by us and all selling expenses, including underwriting discounts and selling commissions, will be borne by the holders of the shares being registered.

Demand registration rights

Beginning six months after the completion of this offering, certain holders of our common stock, including those issuable upon the conversion of shares of our preferred stock upon closing of this offering, will be entitled to demand registration rights. Under the terms of the investors' rights agreement, we will be required, upon the written request of a majority of holders of the registerable securities then outstanding that would result in an aggregate offering price of at least $15 million, to file a registration statement on Form S-1 with respect to at least a majority of the registrable securities then outstanding and to use commercially reasonable efforts to effect the registration of all or a portion of these shares for public resale.

Short-form registration rights

Upon the completion of this offering, certain holders of our common stock, including those issuable upon the conversion of shares of our preferred stock upon closing of this offering, are also entitled to short-form registration rights. Pursuant to the investor rights agreement, if we are eligible to file a registration statement on Form S-3, upon the written request of holders of at least 15% of the registrable securities then outstanding to sell registrable securities at an aggregate price of at least $5 million, we will be required to use commercially reasonable efforts to effect a registration of such shares. We are required to effect only two registrations in any twelve-month period with respect to any requests from other holders, pursuant to this provision of the investor rights agreement.

Piggyback registration rights

Upon the completion of this offering, certain holders of our common stock, including those issuable upon the conversion of shares of our preferred stock upon closing of this offering, are entitled to piggyback registration rights. If we register any of our securities either for our own account or for the account of other security holders, the holders of these shares are entitled to include their shares in the registration. Subject to certain exceptions contained in the investor rights agreement, we and the underwriters may limit the number of shares included in the underwritten offering to the number of shares which we and the underwriters determine in our sole discretion will not jeopardize the success of the offering.

Indemnification

Our investor rights agreement contains customary cross-indemnification provisions, under which we are obligated to indemnify holders of registrable securities in the event of material misstatements or omissions in the registration statement attributable to us, and they are obligated to indemnify us for material misstatements or omissions attributable to them.

Expiration of registration rights

The demand registration rights and short-form registration rights granted under the investor rights agreement will terminate on the fifth anniversary of the completion of this offering or at such time after this offering when the holders' shares may be sold without restriction pursuant to Rule 144 within a three-month period.

Anti-takeover effects of our certificate of incorporation and bylaws and Delaware Law

Our certificate of incorporation and bylaws 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 of directors rather than pursue non-negotiated takeover attempts. These provisions include the items described below.

Board composition and filling vacancies

Our certificate of incorporation will provide for the division of our board of directors into three classes serving staggered three-year terms, with one class being elected each year. Our certificate of incorporation also will provide that directors may be removed only for cause and then only by the affirmative vote of the holders of two-thirds or more of the shares then entitled to vote at an election of directors. Furthermore, any vacancy on our board of directors, however occurring, including a vacancy resulting from an increase in the size of our board, may only be filled by the affirmative vote of a majority of our directors then in office even if less than a quorum. The classification of directors, together with the limitations on removal of directors and treatment of vacancies, has the effect of making it more difficult for stockholders to change the composition of our board of directors.

No written consent of stockholders

Our certificate of incorporation provides that all stockholder actions are required to 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 bylaws or removal of directors by our stockholders without holding a meeting of stockholders.

Meetings of stockholders

Our certificate of incorporation and bylaws provide that only a majority of the members of our board of directors then in office may 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. Our bylaws limit the business that may be conducted at an annual meeting of stockholders to those matters properly brought before the meeting.

Advance notice requirements

Our bylaws establish advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of our stockholders. These procedures provide that notice of stockholder proposals must be timely given in writing to our corporate secretary prior to the meeting at which the action is to be taken. Generally, to be timely, notice must be received at our principal executive offices not less than 90 days nor more than 120 days prior to the first anniversary date of the annual meeting for the preceding year. Our bylaws specify the requirements as to form and content of all stockholders' notices. These requirements may preclude stockholders from bringing matters before the stockholders at an annual or special meeting.

Amendment to certificate of incorporation and bylaws

Any amendment of our certificate of incorporation must first be approved by a majority of our board of directors, and if required by law or our certificate of incorporation, must thereafter be approved by 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 the provisions relating to stockholder action, board composition, and limitation of liability must be approved by not less than two-thirds of the outstanding shares entitled to vote on the amendment, and not less than two-thirds of the outstanding shares of each class entitled to vote thereon as a class. Our bylaws may be amended by the affirmative vote of a majority of the directors then in office, subject to any limitations set forth in the bylaws; and may also be amended by the affirmative vote of a majority of the outstanding shares entitled to vote on the amendment, voting together as a single class, except that the amendment of the provisions relating to notice of stockholder business and nominations and special meetings must be approved by not less than two-thirds of the outstanding shares entitled to vote on the amendment, and not less than two-thirds of the outstanding shares of each class entitled to vote thereon as a class, or, if our board of directors recommends that the stockholders approve the amendment, by the affirmative vote of the majority of the outstanding shares entitled to vote on the amendment, in each case voting together as a single class.

Undesignated preferred stock

Our certificate of incorporation provides for authorized shares of preferred stock. The existence of authorized but unissued shares of preferred stock may enable our board of directors to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of our stockholders, our board of directors could cause shares of preferred stock to be issued without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquirer or insurgent stockholder or stockholder group. In this regard, our certificate of incorporation grants our board of directors broad power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of common stock. The issuance may also adversely affect the rights and powers, including voting rights, of these holders and may have the effect of delaying, deterring or preventing a change in control of us.

Choice of forum

Our bylaws provide that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for any state law claims for (1) any derivative action or proceeding brought on our behalf, (2) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, and employees to us or our stockholders, (3) any action asserting a claim arising pursuant to the Delaware General Corporation Law, our certificate of incorporation or our bylaws, (4) any action to interpret, apply, enforce or determine the validity of our certificate of incorporation or bylaws, or (5) any action asserting a claim that is governed by the internal affairs doctrine; provided, however, that the this provision shall not apply to any causes of action arising under the Securities Act or Exchange Act. In addition, our bylaws provide that, unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States shall be the sole and exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act. Any person or entity purchasing or otherwise acquiring any interest in our securities shall be deemed to have notice of and consented to these forum provisions. These forum provisions may impose additional costs on stockholders, may limit our stockholders' ability to bring a claim in a forum they find favorable, and the designated courts may reach different judgments or results than other courts. In addition, there is uncertainty as to whether the federal forum provision for Securities Act claims will be enforced, which may impose additional costs on us and our stockholders.

Section 203 of the Delaware General Corporation Law

Upon completion of this offering, we will be subject to the provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a three-year period following the time that this stockholder becomes an interested stockholder, unless the business combination is approved in a prescribed manner. Under Section 203, a business combination between a corporation and an interested stockholder is prohibited unless it satisfies one of the following conditions:

- before the stockholder became interested, our board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, shares owned by persons who are directors and also officers, and employee stock plans, in some instances, but not the outstanding voting stock owned by the interested stockholder; or
- at or after the time the stockholder became interested, the business combination was approved by our board of directors and authorized at an annual or special meeting of the stockholders

by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

- Section 203 defines a business combination to include:
- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, lease, pledge or other disposition involving the interested stockholder of 10% or more of the assets of the corporation;
- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- subject to exceptions, any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; and
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges, or other financial benefits provided by or through the corporation.

In general, Section 203 defines an interested stockholder as any entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by the entity or person.

Nasdaq Global Market listing

We have applied to list our common stock on the Nasdaq Global Market under the trading symbol “TRDA.”

Transfer agent and registrar

The transfer agent and registrar for our common stock will be .

SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, there has been no public market for our shares. Future sales of our common stock in the public market, or the availability of such shares for sale in the public market, could adversely affect market prices prevailing from time to time. As described below, only a limited number of shares will be available for sale shortly after this offering due to contractual and legal restrictions on resale. Nevertheless, sales of our common stock in the public market after such restrictions lapse, or the perception that those sales may occur, could adversely affect the prevailing market price at such time and our ability to raise equity capital in the future.

Based on the number of shares outstanding as of June 30, 2021, upon the completion of this offering, shares of our common stock will be outstanding, after giving effect to the automatic conversion of all outstanding preferred stock into an aggregate of shares of our common stock and assuming no exercise of the underwriters' option to purchase additional shares and no exercise of outstanding options. Of the outstanding shares, all of the shares sold in this offering will be freely tradable, except that any shares held by our affiliates, as that term is defined in Rule 144 under the Securities Act, may only be sold in compliance with the limitations described below.

Rule 144

In general, a person who has beneficially owned restricted stock for at least six months would be entitled to sell their securities provided that (i) such person is not deemed to have been one of our affiliates at the time of, or at any time during the 90 days preceding, a sale and (ii) we are subject to the Securities Exchange Act of 1934, as amended, or the Exchange Act, periodic reporting requirements for at least 90 days before the sale. Persons who have beneficially owned restricted shares for at least six months but who are our affiliates at the time of, or any time during the 90 days preceding, a sale, would be subject to additional restrictions, by which such person would be entitled to sell within any three-month period only a number of securities that does not exceed the greater of either of the following:

- 1% of the number of shares then outstanding, which will equal approximately shares immediately after this offering assuming no exercise of the underwriters' option to purchase additional shares, based on the number of shares outstanding as of June 30, 2021; 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 the sale;

provided, in each case, that we are subject to the Exchange Act periodic reporting requirements for at least 90 days before the sale. Such sales both by affiliates and by non-affiliates must also comply with the manner of sale, current public information and notice provisions of Rule 144.

Rule 701

Rule 701 under the Securities Act, as in effect on the date of this prospectus, permits resales of shares in reliance upon Rule 144 but without compliance with certain restrictions of Rule 144, including the holding period requirement. Most of our employees, executive officers, or directors who purchased shares under a written compensatory plan or contract may be entitled to rely on the resale provisions of Rule 701, but all holders of Rule 701 shares are required to wait until 90 days after the date of this prospectus before selling their shares. However, substantially all Rule 701 shares are subject to lock-up agreements as described below and under "Underwriting" included elsewhere in this prospectus and will become eligible for sale upon the expiration of the restrictions set forth in those agreements.

Lock-up agreements

We, all of our directors and executive officers, and the holders of substantially all of our capital stock and securities convertible into or exchangeable for our capital stock have entered into lock-up agreements with the underwriters and/or are subject to market standoff agreements or other agreements with us, which prevents them from selling any of our common stock or any securities convertible into

or exercisable or exchangeable for common stock for a period of not less than 180 days from the date of this prospectus without the prior written consent of Goldman Sachs & Co. LLC, Cowen and Company, LLC and Evercore Group, L.L.C., subject to certain exceptions. See the section entitled “Underwriting” appearing elsewhere in this prospectus for more information.

Registration rights

Upon completion of this offering, certain holders of our securities will be entitled to various rights with respect to registration of their shares under the Securities Act. Registration of these shares under the Securities Act would result in these shares becoming fully tradable without restriction under the Securities Act immediately upon the effectiveness of the registration. See the section entitled “Description of Capital Stock — Registration rights” appearing elsewhere in this prospectus for more information.

Equity incentive plans

We intend to file one or more registration statements on Form S-8 under the Securities Act to register our shares issued or reserved for issuance under our equity incentive plans. The first such registration statement is expected to be filed soon after the date of this prospectus and will automatically become effective upon filing with the SEC. Accordingly, shares registered under such registration statement will be available for sale in the open market, unless such shares are subject to vesting restrictions with us or the lock-up restrictions described above.

CERTAIN MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR NON-U.S. HOLDERS OF COMMON STOCK

The following discussion is a summary of certain material U.S. federal income tax considerations applicable to non-U.S. holders (as defined below) with respect to their purchase, ownership and disposition of shares of our common stock that is not a "U.S. holder" or a partnership (including any entity or arrangement treated as a partnership) for U.S. federal income tax purposes. A U.S. holder 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 (1) whose administration is subject to the primary supervision of a U.S. court and which has one or more U.S. persons (within the meaning of Section 7701(a)(30) of the U.S. Internal Revenue Code of 1986, as amended (Code)) who have the authority to control all substantial decisions of the trust or (2) that has a valid election in effect under applicable Treasury Regulations to be treated as a U.S. person.

This discussion does not address the tax treatment of partnerships or other entities that are pass-through entities for U.S. federal income tax purposes or persons that hold their common stock through partnerships or other pass-through entities. A partner in a partnership or other pass-through entity that will hold our common stock should consult his, her or its own tax advisor regarding the tax consequences of acquiring, holding and disposing of our common stock through a partnership or other pass-through entity, as applicable.

This discussion is based on current provisions of the Code, existing and proposed U.S. Treasury Regulations promulgated thereunder, current administrative rulings and judicial decisions, all as in effect as of the date of this prospectus and, all of which are subject to change or to differing interpretation, possibly with retroactive effect. Any such change or differing interpretation could alter the tax consequences to non-U.S. holders described in this prospectus. We have not sought any ruling from the Internal Revenue Service, which we refer to as the IRS, with respect to the statements made and the conclusions reached in this summary, and there can be no assurance that the IRS will not challenge one or more of the tax consequences described herein. We assume in this discussion that each non-U.S. holder holds shares of 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 aspects of U.S. federal income taxation that may be relevant to a particular non-U.S. holder in light of that non-U.S. holder's individual circumstances nor does it address any aspects of U.S. state, local or non-U.S. taxes, the alternative minimum tax, the Medicare contribution tax on net investment income, any tax treaties or any U.S. federal tax other than the income tax (including, for example, the estate tax or gift tax). This discussion also does not consider any specific facts or circumstances that may apply to a non-U.S. holder and does not address the special tax rules applicable to particular non-U.S. holders, such as:

- insurance companies;
- tax-exempt or governmental organizations;
- banks, financial institutions or investment companies;
- brokers or dealers in securities;
- regulated investment companies;
- tax-qualified retirement plans;
- "controlled foreign corporations," "passive foreign investment companies," and corporations that accumulate earnings to avoid U.S. federal income tax;

- “qualified foreign pension funds” as described in Section 897(l)(2) of the Code or entities wholly owned by a “qualified foreign pension fund”;
- partnerships or other pass-through entities or arrangements treated as partnerships for U.S. federal income tax purposes (and partners and investors therein);
- persons deemed to sell our common stock under the constructive sale provisions of the Code;
- persons that hold our common stock as part of a straddle, hedge, conversion transaction, synthetic security or other risk reduction strategy or integrated investment;
- persons who hold or receive our common stock pursuant to the exercise of an option or otherwise as compensation;
- persons who have elected to mark securities to market;
- persons for whom our stock constitutes “qualified small business stock” within the meaning of Section 1202 of the Code;
- persons subject to the alternative minimum tax;
- persons subject to special tax accounting rules under Section 451(b) of the Code;
- persons that own or have owned, actually or constructively, more than 5% of our commons stock;
- investors in pass-through entities (or entities that are treated as disregarded entities for U.S. federal income tax purposes); and
- U.S. expatriates and certain former citizens or long-term residents of the United States.

This discussion is for general information only and is not tax advice. Accordingly, all prospective investors should consult their own tax advisors with respect to the U.S. federal, state, local and non-U.S. tax consequences of the purchase, ownership and disposition of our common stock, including the consequences of any proposed changes in applicable laws.

Distributions on our common stock

Distributions, if any, on our common stock generally will 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 a distribution exceeds our current and accumulated earnings and profits, the excess will be treated as a tax-free return of the non-U.S. holder’s investment, up to such holder’s tax basis in the common stock. Any remaining excess will be treated as capital gain, subject to the tax treatment described below in “Gain on sale or other taxable disposition of our common stock.” Any such distributions will also be subject to the discussion below under the section titled “Withholding and information reporting requirements—FATCA.”

Subject to the discussion in the following two paragraphs in this section, dividends paid to a non-U.S. holder generally will be subject to withholding of U.S. federal income tax at a 30% rate of the gross amount of the dividends or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder’s country of residence. If we are unable to determine, at a time reasonably close to the date of payment of a distribution on our common stock, what portion, if any, of the distribution will constitute a dividend, then we may withhold U.S. federal income tax on the basis of assuming that the full amount of the distribution will be a dividend. If we or another withholding agent apply over-withholding, a non-U.S. holder may be entitled to a refund or credit of any excess tax withheld by timely filing an appropriate claim with the IRS.

Dividends that are treated as effectively connected with a trade or business conducted by a non-U.S. holder within the United States and, if an applicable income tax treaty so provides, that are attributable to a permanent establishment or a fixed base maintained by the non-U.S. holder within the United States, are generally exempt from the 30% withholding tax if the non-U.S. holder satisfies applicable certification and disclosure requirements. To obtain this exemption, a non-U.S. holder must

generally provide us with a valid, properly executed original IRS Form W-8ECI (or applicable successor form) properly certifying such exemption. However, such U.S. effectively connected income, net of specified deductions and credits, is taxed at the same graduated U.S. federal income tax rates applicable to "United States persons" (as defined in the Code). Any U.S. effectively connected income received by a non-U.S. holder that is a corporation may also, under certain circumstances, be subject to an additional "branch profits tax" at a 30% rate (or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence) of its effectively connected earnings and profits for the taxable year, as adjusted for certain items.

A non-U.S. holder of our common stock who claims the benefit of an applicable income tax treaty between the United States and such holder's country of residence generally will be required to provide a valid, properly executed IRS Form W-8BEN (in the case of individuals) or W-8BEN-E (in the case of entities) (or other applicable or successor form) to the applicable withholding agent and satisfy applicable certification and other requirements. This certification must be provided to us or our withholding agent before the payment of dividends, and any documentation provided to an applicable withholding agent may need to be updated in certain circumstances. The certification requirements described above may require a non-U.S. holder to provide its U.S. taxpayer identification number. Non-U.S. holders are urged to consult their tax advisors regarding their entitlement to benefits under a relevant income tax treaty. A non-U.S. holder that is eligible for a reduced rate of U.S. withholding tax under an income tax treaty may obtain a refund or credit of any excess amounts withheld by timely filing an appropriate claim with the IRS.

Gain on sale or other taxable disposition of our common stock

Subject to the discussion below under "Backup withholding and information reporting" and "Withholding and information reporting requirements—FATCA," a non-U.S. holder generally will not be subject to any U.S. federal income tax on any gain realized upon such holder's sale or other taxable disposition of shares of our common stock unless:

- the gain is effectively connected with the non-U.S. holder's conduct of a U.S. trade or business and, if an applicable income tax treaty so provides, is attributable to a permanent establishment or a fixed-base maintained by such non-U.S. holder in the United States, in which case the non-U.S. holder generally will be taxed on a net income basis at the graduated U.S. federal income tax rates applicable to "United States persons" (as defined in the Code) and, if the non-U.S. holder is a foreign corporation, the branch profits tax described above in "Distributions on our common stock" also may apply;
- the non-U.S. holder is a nonresident alien individual who is present in the United States for a period or periods aggregating 183 days or more in the taxable year of the disposition and certain other conditions are met, in which case the non-U.S. holder will be subject to a 30% tax (or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence) on the net gain derived from the disposition, which may be offset by certain U.S. source capital losses of the non-U.S. holder, if any (even though the individual is not considered a resident of the United States), provided that the non-U.S. holder has timely filed U.S. federal income tax returns with respect to such losses; or
- we are, or have been, at any time during the five-year period preceding such sale of other taxable disposition (or the non-U.S. holder's holding period, if shorter) a "U.S. real property holding corporation," unless our common stock is regularly traded on an established securities market, within the meaning of the relevant provisions of the Code, and the non-U.S. holder holds no more than 5% of our outstanding common stock, directly or indirectly, actually or constructively, during the shorter of the 5-year period ending on the date of the disposition or the period that the non-U.S. holder held our common stock. If we are determined to be a U.S. real property holding corporation and the foregoing exception does not apply, then 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 "United States persons" (as defined in the Code), except that the branch profits tax generally will not apply. If we are a U.S. real property holding corporation and our common stock is not regularly traded on an established securities

market, a non-U.S. holder's proceeds received on the disposition of shares will also generally be subject to withholding at a rate of 15%. Generally, a corporation is a U.S. real property holding corporation only if the fair market value of its "U.S. real property interests" (as defined in the Code) equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests plus its other assets used or held for use in a trade or business. Although there can be no assurance, we do not believe that we are, or have been, a U.S. real property holding corporation for U.S. federal income tax purposes, or that we are likely to become one in the future. 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 with respect to the application of the foregoing rules to their ownership and disposition of our common stock.

Backup withholding and information reporting

We (or the applicable paying agent) must report annually to the IRS and to each non-U.S. holder the gross amount of the distributions on our common stock paid to such holder and the tax withheld, if any, with respect to such distributions. These information reporting requirements apply even if no withholding was required because the distributions were effectively connected with the holder's conduct of a U.S. trade or business, or withholding was reduced or eliminated by an applicable income tax treaty. This information also may be made available under a specific treaty or agreement with the tax authorities in the country in which the non-U.S. holder resides or is established. Non-U.S. holders may have to comply with specific certification procedures to establish that the holder is not a "United States person" (as defined in the Code) in order to avoid backup withholding at the applicable rate with respect to dividends on our common stock. Dividends paid to non-U.S. holders subject to withholding of U.S. federal income tax, as described above in "Distributions on our common stock," generally will be exempt from U.S. backup withholding if the non-U.S. holders establish an exemption by properly certifying their non-U.S. status on a valid IRS Form W-8BEN or W-8BEN-E (or other applicable or successor form), or otherwise establish an exemption, and if the payor does not have actual knowledge, or reason to know, that the holder is a U.S. person who is not an exempt recipient.

Information reporting and backup withholding will generally apply to the proceeds of a disposition of our common stock by a non-U.S. holder effected by or through the U.S. office of any broker, U.S. or foreign, unless the holder certifies its status as a non-U.S. holder and satisfies certain other requirements, or otherwise establishes an exemption. Generally, information reporting and backup withholding will not apply to a payment of disposition proceeds to a non-U.S. holder where the transaction is effected outside the United States through a non-U.S. office of a broker. However, for information reporting purposes, dispositions effected through a non-U.S. office of a broker with substantial U.S. ownership or operations generally will be treated in a manner similar to dispositions effected through a U.S. office of a broker. Non-U.S. holders should consult their own tax advisors regarding the application of the information reporting and backup withholding rules to them. Copies of information returns may be made available to the tax authorities of the country in which the non-U.S. holder resides or is incorporated under the provisions of a specific treaty or agreement. Any documentation provided to an applicable withholding agent may need to be updated in certain circumstances.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules from a payment to a non-U.S. holder can be refunded or credited against the non-U.S. holder's U.S. federal income tax liability, if any, provided that an appropriate claim is filed with the IRS in a timely manner.

Withholding and information reporting requirements—FATCA

The Foreign Account Tax Compliance Act (FATCA) generally imposes a U.S. federal withholding tax at a rate of 30% on payments of dividends on the sale or other disposition of, our common stock paid to a foreign entity unless (i) if the foreign entity is a "foreign financial institution," such foreign entity undertakes certain due diligence, reporting, withholding, and certification obligations, (ii) if the foreign entity is not a "foreign financial institution," such foreign entity identifies certain of its U.S. investors, if any, or (iii) the foreign entity is otherwise exempt under FATCA. FATCA currently applies to dividends paid

on our common stock and would have applied also to payments of gross proceeds from the sale or other disposition of our common stock. The U.S. Treasury Department has released proposed regulations under FATCA providing for the elimination of the federal withholding tax of 30% applicable to gross proceeds of a sale or other disposition of our common stock. Under these proposed Treasury Regulations (which may be relied upon by taxpayers prior to finalization), FATCA will not apply to gross proceeds from sales or other dispositions of our common stock. Under certain circumstances, a non-U.S. holder may be eligible for refunds or credits of this withholding tax. An intergovernmental agreement between the United States and an applicable foreign country may modify the requirements described in this paragraph. Non-U.S. holders should consult their tax advisors regarding the possible implications of this legislation on their investment in our common stock and the entities through which they hold our common stock, including, without limitation, the process and deadlines for meeting the applicable requirements to prevent the imposition of the 30% withholding tax under FATCA.

UNDERWRITING

We and the underwriters named below have entered into an underwriting agreement with respect to the shares being offered. Subject to certain conditions, each underwriter has severally agreed to purchase the number of shares indicated in the following table. Goldman Sachs & Co. LLC, Cowen and Company, LLC and Evercore Group L.L.C. are the representatives of the underwriters.

Underwriters	Number of Shares
Goldman Sachs & Co. LLC	
Cowen and Company, LLC	
Evercore Goup L.L.C.	
Total	

The underwriters are committed to take and pay for all of the shares being offered, if any are taken, other than the shares covered by the option described below unless and until this option is exercised.

The underwriters have an option to buy up to an additional shares from us to cover sales by the underwriters of a greater number of shares than the total number set forth in the table above. The underwriters may exercise that option for 30 days from the date of this prospectus. If any shares are purchased pursuant to this option, the underwriters will severally purchase shares in approximately the same proportion as set forth in the table above.

The following table shows the per share and total underwriting discounts and commissions to be paid to the underwriters by us. Such amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase additional shares.

	No Exercise	Full Exercise
Per Share	$	$
Total	$	$

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 of up to $ per share from the initial public offering price. After the initial offering of the shares, the representatives may change the offering price and the other selling terms. The offering of the shares by the underwriters is subject to receipt and acceptance and subject to the underwriters' right to reject any order in whole or in part.

We and our officers, directors and holders of substantially all of our common stock have agreed with the underwriters, subject to certain exceptions, not to dispose of or hedge any of their common stock or securities convertible into or exchangeable for shares of common stock during the period from the date of this prospectus continuing through the date 180 days after the date of this prospectus (the Lock-Up Period), except with the prior written consent of the representatives.

The restrictions described in the immediately preceding paragraph do not apply to our directors, officers, equity holders with respect:

(a) to transfers of common stock as a bona fide gift or gifts or charitable contributions, or for bona fide estate planning purposes;

(b) to transfers of common stock to any trust for the direct or indirect benefit of the holder or the immediate family of the holder;

(c) to transfers of common stock made by will, other testamentary document or intestate succession to the legal representative, heir, beneficiary or a member of the immediate family of the holder upon the death of the holder;

(d) to transfers of common stock to any immediate family member of the holder;

(e) if the holder is not an officer or director, to the transfer of shares of our common stock or other securities acquired in this offering or in open market transactions on or after the completion of this offering;

(f) to transfers of common stock or other securities convertible into, or exercisable or exchangeable for shares of common stock owned by the holder:

(i) to any corporation, partnership (whether general, limited or otherwise), limited liability company, trust or other entity, all of the beneficial ownership interests of which, in each case, directly or indirectly, are held by the holder;

(ii) 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 to any wholly-owned subsidiary of such corporation; or

(iii) to any corporation, partnership, limited liability company, trust or other entity that is an affiliate, as defined in Rule 405 under the Securities Act of 1933, as amended, of the holder, including investment funds or other entities under common control or management that are affiliates of the holder;

(g) to transfers to us as forfeitures to satisfy tax withholding and remittance obligations of the holder in connection with the vesting or exercise of equity awards granted pursuant to our equity incentive plans or pursuant to a net exercise or cashless exercise by the holder of outstanding equity awards pursuant to our equity incentive plans; or

(h) with the prior written consent of the representatives on behalf of the underwriters;

provided that (A) in the case of any transfer, disposition or distribution pursuant to clauses (a), (b), (c), (d), (f)(i)-(iii) above, each transferee, donee or distributee will execute and deliver a lock-up agreement in the form of the lock-up agreement applicable to the transferor, donor or distributor, (B) any transfer, disposition or distribution pursuant to clauses (b), (c), (d), (f)(i)-(iii) above will not involve a distribution for value, and (C) in the case of any transfer, disposition or distribution pursuant to clauses (a), (b), (c), (d), (e), (f)(i)-(iii) or (g) above, no filing by any party (donor, donee, transferor or transferee) under the Securities Exchange Act of 1934, as amended (Exchange Act) or other public announcement will be required or will be made voluntarily in connection with such transfer, disposition or distribution during the Lock-Up Period (other than a filing on Schedule 13G, Schedule 13G/A or Form 13F that is required to be filed during the Lock-Up Period or on a Form 5 made after the expiration of the Lock-Up Period).

Furthermore, the restrictions described above will be deemed to restrict or prohibit:

(1) the transfer of the holder's common stock or any security convertible into or exercisable or exchangeable for common stock to us in connection with (A) the termination of the holder's employment or (B) any contractual arrangement in effect as of the date hereof and disclosed in the registration statement related to this offering and the final prospectus used to sell the shares under we have 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 under Section 16(a) of the Exchange Act by any party during the Lock-Up Period to report such transfer will clearly indicate in the footnotes thereto that such transfer relates to the circumstances described in this clause (1) and no other filing or public announcement will be made voluntarily during the Lock-Up Period in connection with such transfer;

(2) the exercise by the holder of any option or other equity award to purchase any shares of common stock pursuant to any stock incentive plan or stock purchase plan outstanding as of the date hereof or granted under any stock incentive plan or stock purchase plan in effect as of the date hereof and described in the registration statement related to this offering and final prospectus used to sell the shares; provided that the underlying shares of common stock will continue to be subject to the restrictions on transfer set forth in the lock-up agreement;

(3) 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 our securities, merger, consolidation or other similar transaction made to all holders of our securities involving a change of control, which transaction is approved by our board of directors, provided that it will be a condition of the transfer that if the tender offer, merger, consolidation or other such transaction is not completed, the holder's securities subject to the lock-up agreement will remain subject to the restrictions therein;

(4) the conversion of our outstanding preferred stock into shares of common stock, provided that any such shares received upon such conversion will be subject to the restrictions on transfer set forth in the lock-up agreement and that no public filing or other public announcement will be required or will be made voluntarily by any party under the Exchange Act during the Lock-Up Period (other than a filing on a Form 4 that reports such disposition under the transaction code "F"); and

(5) the transfer of shares of common stock by operation of law pursuant to a court order or a settlement agreement (including related to the distribution of assets in connection with the dissolution of a marriage or civil union) or order of a regulatory agency, or to comply with any regulations related to the holder's ownership of the holder's shares, provided that such transferee agrees to be bound by the restrictions on transfer set forth therein and provided further that any required filing under Section 16 of the Exchange Act will indicate in the footnotes thereto that the filing relates to the circumstances described in this clause (5) and no other public announcement will be required or will be made voluntarily in connection with such transfer during the Lock-Up Period.

Prior to the offering, there has been no public market for our shares. The initial public offering price has been negotiated among us and the representatives. Among the factors to be considered in determining the initial public offering price of the shares, in addition to prevailing market conditions, will be our historical performance, estimates of our business potential and earnings prospects, an assessment of our management and the consideration of the above factors in relation to market valuation of companies in related businesses.

An application has been made to quote the common stock on the Nasdaq Global Market under the symbol "TRDA."

In connection with the offering, the underwriters may purchase and sell shares of common stock in the open market. These transactions may include short sales, stabilizing transactions and purchases to cover positions created by short sales. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in the offering, and a short position represents the amount of such sales that have not been covered by subsequent purchases. A "covered short position" is a short position that is not greater than the amount of additional shares for which the underwriters' option described above may be exercised. The underwriters may cover any covered short position by either exercising their option to purchase additional shares or purchasing shares in the open market. In determining the source of shares to cover 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 additional shares pursuant to the option described above. "Naked" short sales are any short sales that create a short position greater than the amount of additional shares for which the option described above may be exercised. The underwriters must cover any such naked short position by purchasing 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 common stock in the open market after pricing that could adversely affect investors who purchase in the offering. Stabilizing transactions consist of various bids for or purchases of common stock made by the underwriters in the open market prior to the completion of the offering.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the representatives have repurchased shares sold by or for the account of such underwriter in stabilizing or short covering transactions.

Purchases to cover a short position and stabilizing transactions, 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 our common stock, and together with the imposition of the penalty bid, may stabilize, maintain or otherwise affect the market price of the common stock. As a result, the price of the common stock may be higher than the price that otherwise might exist in the open market. The underwriters are not required to engage in these activities and may end any of these activities at any time. These transactions may be effected on the Nasdaq Global Market, in the over-the-counter market or otherwise.

We estimate that the total expenses of this offering payable by us, including registration, filing and listing fees, printing fees and legal and accounting expenses, but excluding the underwriting discounts and commissions, will be approximately $. We have agreed to reimburse the underwriters for expenses relating to the clearance of this offering with the Financial Industry Regulatory Authority, Inc. (FINRA) in an amount up to $.

We have agreed to indemnify the several underwriters against certain liabilities, including liabilities under the Securities Act.

The underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include sales and trading, commercial and investment banking, advisory, investment management, investment research, principal investment, hedging, market making, brokerage and other financial and non-financial activities and services. Certain of the underwriters and their respective affiliates have provided, and may in the future provide, a variety of these services to us and to persons and entities with relationships with us, for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the underwriters and their respective affiliates, officers, directors and employees may purchase, sell or hold a broad array of investments and actively trade securities, derivatives, loans, commodities, currencies, credit default swaps and other financial instruments for their own account and for the accounts of their customers, and such investment and trading activities may involve or relate to assets, securities and/or instruments of us (directly, as collateral securing other obligations or otherwise) and/or persons and entities with relationships with the issuer. The underwriters and their respective affiliates may also communicate independent investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such assets, securities or instruments and may at any time hold, or recommend to clients that they should acquire, long and/or short positions in such assets, securities and instruments.

A prospectus in electronic format may be made available on the web sites maintained by one or more underwriters, or selling group members, if any, participating in the offering. The underwriters may agree to allocate a number of shares to underwriters and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the representatives to underwriters and selling group members that may make Internet distributions on the same basis as other allocations.

Sales of shares made outside of the United States may be made by affiliates of the underwriters. Other than in the United States, no action has been taken by us or the underwriters that would permit a public offering of the securities offered by this prospectus in any jurisdiction where action for that purpose is required. The securities offered by this prospectus may not be offered or sold, directly or indirectly, nor may this prospectus or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus in any jurisdiction in which such an offer or a solicitation is unlawful.

Selling restrictions

European Economic Area

In relation to each EEA Member State (each a Relevant Member State), no shares being offered (Offer Shares) have been offered or will be offered pursuant to the offering to the public in that Relevant

Member State prior to the publication of a prospectus in relation to the Offer Shares which has been approved by the competent authority in that Relevant Member State or, where appropriate, approved in another Relevant Member State and notified to the competent authority in that Relevant Member State, all in accordance with the Prospectus Regulation, except that the Offer Shares may be offered to the public in that Relevant Member State at any time:

(i) to any legal entity which is a qualified investor as defined under Article 2 of the Prospectus Regulation;

(ii) to fewer than 150 natural or legal persons (other than qualified investors as defined under Article 2 of the Prospectus Regulation) subject to obtaining the prior consent of the Joint Global Coordinators for any such offer; or

(iii) in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of the Offer Shares shall require the Company and/or Selling Shareholders or any Bank to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

For the purposes of this provision, the expression an ‘offer to the public’ in relation to the Offer Shares in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any Offer Shares to be offered so as to enable an investor to decide to purchase any Offer Shares, and the expression “Prospectus Regulation” means Regulation (EU) 2017/1129.

Each person in a Relevant Member State who receives any communication in respect of, or who acquires any Offer Shares under, the offering contemplated hereby will be deemed to have represented, warranted and agreed to and with each of the underwriters and their affiliates and the Company that:

(i) it is a qualified investor within the meaning of the Prospectus Regulation; and

(ii) in the case of any Offer Shares acquired by it as a financial intermediary, as that term is used in Article 5 of the Prospectus Regulation, (i) the Offer Shares acquired by it in the Offering have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in any Relevant Member State other than qualified investors, as that term is defined in the Prospectus Regulation, or have been acquired in other circumstances falling within the points (a) to (d) of Article 1(4) of the Prospectus Regulation and the prior consent of the Joint Global Coordinators has been given to the offer or resale; or (ii) where the Offer Shares have been acquired by it on behalf of persons in any Relevant Member State other than qualified investors, the offer of those Offer Shares to it is not treated under the Prospectus Regulation as having been made to such persons.

The company, the underwriters and their affiliates, and others will rely upon the truth and accuracy of the foregoing representation, acknowledgement and agreement. Notwithstanding the above, a person who is not a qualified investor and who has notified the Joint Global Coordinators of such fact in writing may, with the prior consent of the Joint Global Coordinators, be permitted to acquire Offer Shares in the offering.

United Kingdom

This prospectus and any other material in relation to the Offer Shares described herein is only being distributed to, and is only directed at, and any investment or investment activity to which this prospectus relates is available only to, and will be engaged in only with persons who are (i) persons having professional experience in matters relating to investments who fall within the definition of investment professionals in Article 19(5) of the FPO; or (ii) high net worth entities falling within Article 49(2)(a) to (d) of the FPO; (iii) outside the UK; or (iv) persons to whom an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the FSMA) in connection with the issue or sale of any Offer Shares may otherwise lawfully be communicated or caused to be communicated, (all such persons together being referred to as Relevant Persons). The Offer Shares are only available

in the UK to, and any invitation, offer or agreement to purchase or otherwise acquire the Offer Shares will be engaged in only with, the Relevant Persons. 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 person in the UK. Any person in the UK that is not a Relevant Person should not act or rely on this prospectus or any of its contents.

No Offer Shares have been offered or will be offered pursuant to the Offering to the public in the United Kingdom prior to the publication of a prospectus in relation to the Offer Shares which has been approved by the Financial Conduct Authority, except that the Offer Shares may be offered to the public in the United Kingdom at any time:

(i) to any legal entity which is a qualified investor as defined under Article 2 of the UK Prospectus Regulation;

(ii) to fewer than 150 natural or legal persons (other than qualified investors as defined under Article 2 of the UK Prospectus Regulation), subject to obtaining the prior consent of the Global Coordinators for any such offer; or

(iii) in any other circumstances falling within Section 86 of the FSMA.

(iv) provided that no such offer of the Offer Shares shall require the Company and/or any underwriters or any of their affiliates to publish a prospectus pursuant to Section 85 of the FSMA or supplement a prospectus pursuant to Article 23 of the UK Prospectus Regulation. For the purposes of this provision, the expression an “offer to the public” in relation to the Offer Shares in the United Kingdom means the communication in any form and by any means of sufficient information on the terms of the offer and any Offer Shares to be offered so as to enable an investor to decide to purchase or subscribe for any Offer Shares and the expression “UK Prospectus Regulation” means Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018.

(v) Each person in the UK who acquires any Offer Shares in the offering or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with the company, the underwriters and their affiliates that it meets the criteria outlined in this section.

Canada

The securities 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 securities must be made in accordance with an exemption form, 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 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.

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 (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32 of the Laws of Hong Kong) (“Companies

(Winding Up and Miscellaneous Provisions) Ordinance") or which do not constitute an invitation to the public within the meaning of the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong) ("Securities and Futures Ordinance"), or (ii) to "professional investors" as defined in the Securities and Futures Ordinance and any rules made thereunder, or (iii) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance, 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 securities 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" in Hong Kong as defined in the Securities and Futures Ordinance and any rules made thereunder.

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 (as defined under Section 4A of the Securities and Futures Act, Chapter 289 of Singapore (SFA)) under Section 274 of the SFA, (ii) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, 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 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, the securities (as defined in Section 239(1) of the SFA) of that corporation shall not be transferable for 6 months after that corporation has acquired the shares under Section 275 of the SFA except: (1) to an institutional investor under Section 274 of the SFA or to a relevant person (as defined in Section 275(2) of the SFA), (2) where such transfer arises from an offer in that corporation's securities pursuant to Section 275(1A) of the SFA, (3) where no consideration is or will be given for the transfer, (4) where the transfer is by operation of law, (5) as specified in Section 276(7) of the SFA, or (6) as specified in Regulation 32 of the Securities and Futures (Offers of Investments) (Shares and Debentures) Regulations 2005 of Singapore (Regulation 32)

Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is a trust (where the trustee is not an accredited investor (as defined in Section 4A of the SFA)) whose sole purpose is to hold investments and each beneficiary of the trust is an accredited investor, the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferable for 6 months after that trust has acquired the shares under Section 275 of the SFA except: (1) to an institutional investor under Section 274 of the SFA or to a relevant person (as defined in Section 275(2) of the SFA), (2) where such transfer arises from an offer that is made on terms that such rights or interest are acquired at a consideration of not less than S$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), (3) where no consideration is or will be given for the transfer, (4) where the transfer is by operation of law, (5) as specified in Section 276(7) of the SFA, or (6) as specified in Regulation 32.

Japan

The securities have not been and will not be registered under the Financial Instruments and Exchange Act of Japan (Act No. 25 of 1948, as amended) (the FIEA). The securities may not be offered or sold, directly or indirectly, in Japan or to or for the benefit of any resident of Japan (including any person resident in Japan or any corporation or other entity organized under the laws of Japan) or to

others for reoffering or resale, directly or indirectly, in Japan or to or for the benefit of any resident of Japan, except pursuant to an exemption from the registration requirements of the FIEA and otherwise in compliance with any relevant laws and regulations of Japan.

LEGAL MATTERS

The validity of the shares of common stock offered by this prospectus will be passed upon for us by Goodwin Procter LLP, Boston, Massachusetts. Certain legal matters related to this offering will be passed upon for the underwriters by Ropes & Gray LLP.

EXPERTS

The financial statements of Entrada Therapeutics, Inc. at December 31, 2020 and 2019, and for each of the two years in the period ended December 31, 2020, appearing in this Prospectus and Registration Statement have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon appearing elsewhere herein, and are included in reliance upon such report given on the authority of such 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 (File Number 333-) under the Securities Act with respect to the common stock we are offering by this prospectus. This prospectus does not contain all of the information included in the registration statement. For further information pertaining to us and our common stock, you should refer to the registration statement and to its exhibits. Whenever we make reference in this prospectus to any of our contracts, agreements or other documents, the references are not necessarily complete, and you should refer to the exhibits attached to the registration statement for copies of the actual contract, agreement or other document.

Upon the completion of the offering, we will be subject to the informational requirements of the Exchange Act and will file annual, quarterly and current reports, proxy statements and other information with the SEC. You can read our SEC filings, including the registration statement, at the SEC's website at www.sec.gov. We also maintain a website at www.entradatx.com. Upon completion of the offering, you may access via our website, free of charge, our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC.

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of Entrada Therapeutics, Inc.

Opinion on the Financial Statements

We have audited the accompanying balance sheets of Entrada Therapeutics, Inc. (the Company) as of December 31, 2020 and 2019, the related statements of operations, redeemable convertible preferred stock and stockholders' deficit and cash flows for the years then ended, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2020, 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 the Company's 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 and in accordance with auditing standards generally accepted in the United States of America. 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. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

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/ Ernst & Young LLP

We have served as the Company's auditor since 2021.
Boston, Massachusetts
August 6, 2021

ENTRADA THERAPEUTICS, INC.

BALANCE SHEETS

(In thousands, except share and per share amounts)

	December 31,	
	2020	2019
Assets		
Current assets:		
Cash and cash equivalents	$ 39,045	$ 16,844
Prepaid expenses and other current assets	904	593
Total current assets	39,949	17,437
Property and equipment, net	3,037	801
Other non-current assets	541	—
Total assets	$ 43,527	$ 18,238
Liabilities, Redeemable Convertible Preferred Stock and Stockholders' Deficit		
Current liabilities:		
Accounts payable	$ 1,602	$ 710
Accrued expenses and other current liabilities	1,757	1,155
Deferred rent, current portion	—	56
Total current liabilities	3,359	1,921
Other long-term liabilities	—	19
Total liabilities	3,359	1,940
Commitments and contingencies (Note 9)		
Redeemable convertible preferred stock, par value $0.0001 (Note 6)	81,658	31,816
Stockholders' deficit:		
Common stock, par value $0.0001; 113,259,306 and 82,000,000 shares authorized as of December 31, 2020 and 2019, respectively; 9,287,691 and 8,224,214 shares issued as of December 31, 2020 and December 31, 2019, respectively; 9,002,508 and 7,267,122 shares outstanding as of December 31, 2020 and December 31, 2019, respectively	1	1
Additional paid-in capital	1,020	469
Accumulated deficit	(42,511)	(15,988)
Total stockholders' deficit	(41,490)	(15,518)
Total liabilities, redeemable convertible preferred stock and stockholders' deficit	$ 43,527	$ 18,238

The accompanying notes are an integral part of these financial statements.

ENTRADA THERAPEUTICS, INC.

STATEMENTS OF OPERATIONS

(In thousands, except share and per share amounts)

	Years Ended December 31,	
	2020	2019
Operating expenses:		
Research and development	$ 21,102	$ 8,216
General and administrative	5,565	3,608
Total operating expenses	26,667	11,824
Loss from operations	(26,667)	(11,824)
Other income:		
Interest and other income, net	144	451
Change in fair value of preferred stock tranche liability	—	6,273
Total other income, net	144	6,724
Net loss	$ (26,523)	$ (5,100)
Net loss per share attributable to common stockholders, basic and diluted	$ (3.32)	$ (0.76)
Weighted-average common shares outstanding, basic and diluted	7,997,542	6,751,615

The accompanying notes are an integral part of these financial statements.

ENTRADA THERAPEUTICS, INC.

STATEMENTS OF REDEEMABLE CONVERTIBLE

PREFERRED STOCK AND STOCKHOLDERS' DEFICIT

(In thousands, except share amounts)

	Redeemable Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount			
Balances at December 31, 2018	37,269,149	$31,816	6,201,268	$ 1	$ 154	$(10,888)	$(10,733)
Issuance of common stock upon exercise of stock options	—	—	181,375	—	9	—	9
Vesting of restricted common stock	—	—	806,547	—	—	—	—
Vesting of early exercised options	—	—	77,932	—	12	—	12
Stock-based compensation	—	—	—	—	294	—	294
Net loss	—	—	—	—	—	(5,100)	(5,100)
Balances at December 31, 2019	37,269,149	$31,816	7,267,122	$ 1	$ 469	$(15,988)	$(15,518)
Issuance of Series A redeemable convertible preferred stock, net of issuance costs of $158	48,030,736	49,842	—	—	—	—	—
Issuance of common stock upon exercise of stock options	—	—	937,830	—	214	—	214
Vesting of restricted common stock	—	—	692,984	—	1	—	1
Vesting of early exercised options	—	—	104,572	—	11	—	11
Stock-based compensation	—	—	—	—	325	—	325
Net loss	—	—	—	—	—	(26,523)	(26,523)
Balances at December 31, 2020	85,299,885	$81,658	9,002,508	$ 1	$1,020	$(42,511)	$(41,490)

The accompanying notes are an integral part of these financial statements.

ENTRADA THERAPEUTICS, INC.

STATEMENTS OF CASH FLOWS

(In thousands)

	Years Ended December 31,	
	2020	2019
Cash flows from operating activities:		
Net loss	$(26,523)	$ (5,100)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation expense	326	104
Loss on disposal of property and equipment	20	—
Change in fair value of preferred stock tranche liability	—	(6,273)
Stock-based compensation expense	325	294
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	(311)	(547)
Other non-current assets	(541)	—
Accounts payable	631	367
Accrued expenses and other current liabilities	578	279
Deferred rent	(75)	75
Net cash used in operating activities	(25,570)	(10,801)
Cash flows from investing activities:		
Purchases of property and equipment	(2,325)	(630)
Sale of property and equipment	7	—
Net cash used in investing activities	(2,318)	(630)
Cash flows from financing activities:		
Proceeds from issuance of redeemable convertible preferred stock, net of issuance costs	49,842	—
Proceeds from exercise of stock options	213	9
Proceeds from the early exercise of stock options	34	29
Net cash provided by financing activities	50,089	38
Net increase (decrease) in cash and cash equivalents	22,201	(11,393)
Cash and cash equivalents at beginning of year	16,844	28,237
Cash and cash equivalents at end of year	$ 39,045	$ 16,844
Supplemental cash flow disclosures:		
Purchases of property and equipment included in accounts payable and accrued expenses	$ 320	$ 57
Vesting of restricted stock subject to repurchase	$ 1	$ —
Vesting of options early exercised subject to repurchase	$ 11	$ 12

The accompanying notes are an integral part of these financial statements.

ENTRADA THERAPEUTICS, INC.

NOTES TO FINANCIAL STATEMENTS

For the Years Ended December 31, 2020 and 2019

1. Nature of the Business and Basis of Presentation

Organization

Entrada Therapeutics, Inc. (Entrada or the Company) is a biotechnology company that aims to transform the lives of patients by leveraging its proprietary endosomal escape vehicles (EEV) platform to establish a new class of medicines and become the world's foremost intracellular therapeutics company. The Company was incorporated in Delaware on September 22, 2016 and its principal offices are located in Boston, Massachusetts.

Liquidity and Capital Resources

Since its inception, the Company has devoted substantially all of its resources to its research and development efforts relating to its proprietary, highly versatile and modular EEV platform (EEV Platform), advancing development of its portfolio of programs and general and administrative support for these operations, including raising capital. The Company is subject to risks and uncertainties common to early-stage companies in the biotechnology industry, including, but not limited to, technical risks associated with the successful research, development and manufacturing of therapeutic candidates, development by competitors of new technological innovations, dependence on key personnel, protection of proprietary technology, compliance with government regulations, and the ability to secure additional capital to fund operations. Therapeutic candidates currently under development will require significant additional research and development efforts, including extensive preclinical and clinical testing and regulatory approval prior to commercialization. These efforts will require significant amounts of additional capital, adequate personnel and infrastructure. Even if the Company's product development efforts are successful, it is uncertain when, if ever, the Company will realize revenue from product sales.

The Company has incurred losses since its inception, including losses of $26.5 million and $5.1 million for the years ended December 31, 2020 and 2019, respectively. As of December 31, 2020, the Company had an accumulated deficit of $42.5 million. To date, the Company has funded its operations primarily through the sale of equity securities. The Company expects to continue to generate operating losses and negative operating cash flows for the foreseeable future.

The Company expects that its cash and cash equivalents as of December 31, 2020, along with $116.2 million in gross proceeds from its sale of redeemable convertible Series B Preferred Stock (Series B Preferred Stock) in March 2021, will be sufficient to fund its operations for at least the next twelve months from the date of issuance of these financial statements. The Company will need additional financing to support its continuing operations and pursue its business strategy and may pursue additional cash resources through a combination of equity offerings, debt financings, collaborations, strategic alliances, licensing, or other arrangements. The Company may be unable to raise additional funds or enter into such other agreements when needed or on favorable terms or at all. The inability to raise capital as and when needed would have a negative impact on the Company's financial condition and its ability to pursue its business strategy. The Company will need to generate significant revenue to achieve profitability, and it may never do so.

The Company is seeking to complete an initial public offering (IPO) of its common stock. Upon the completion of a qualified public offering on specified terms, the Company's outstanding redeemable convertible preferred stock will automatically convert into shares of common stock (see Note 6, Redeemable Convertible Preferred Stock and Common Stock).

Basis of Presentation

The accompanying financial statements reflect the operations of the Company and have been prepared in conformity with generally accepted accounting principles in the United States of America

(GAAP). Any reference in these notes to applicable guidance is meant to refer to the authoritative GAAP as found in the Accounting Standards Codification (ASC) and Accounting Standards Update (ASU) of the Financial Accounting Standards Board (FASB).

2. Summary of Significant Accounting Policies

Use of Estimates

The preparation of the Company's financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities and expenses, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of expenses during the reporting periods. Significant estimates and assumptions reflected in these financial statements include, but are not limited to fair values of common stock, redeemable convertible preferred stock, preferred stock tranche liability (as defined herein), and stock-based compensation. The Company bases its estimates on historical experience, known trends, and other market-specific or other relevant factors that it believes to be reasonable under the circumstances. On an ongoing basis, management evaluates its estimates, as there are changes in circumstances, facts, and experience. Changes in estimates are recorded in the period in which they become known. Actual results may differ from those estimates or assumptions.

Segment Information

The Company manages its operations as a single segment for the purposes of assessing performance and making operating decisions. All of the Company's long-lived assets are located in the United States.

Cash and Cash Equivalents

Cash and cash equivalents consist of standard checking accounts and money market account funds that invest primarily in U.S. government-backed securities and treasuries. The Company considers all highly liquid investments with an original maturity of three months or less at the date of purchase to be cash equivalents. Cash equivalents are stated at cost, which is substantially equivalent to fair value.

Concentrations of Credit Risk and Off-Balance Sheet Risk

Financial instruments that potentially subject the Company to significant concentration of credit risk consist primarily of cash and cash equivalents. Periodically, the Company may maintain deposits in financial institutions in excess of government insured limits. Management believes that the Company is not exposed to significant credit risk as the Company's deposits are held at financial institutions that management believes to be of high credit quality, and the Company has not experienced any losses on these deposits.

Fair Value Measurements

ASC Topic 820, *Fair Value Measurement* (ASC 820), establishes a fair value hierarchy for instruments measured at fair value that distinguishes between assumptions based on market data (observable inputs) and the Company's own assumptions (unobservable inputs). Observable inputs are inputs that market participants would use in pricing the asset or liability based on market data obtained from sources independent of the Company. Unobservable inputs are inputs that reflect the Company's assumptions about the inputs that market participants would use in pricing the assets or liability and are developed based on the best information available under the circumstances. ASC 820 identifies fair value as the price that would be received to sell an asset or paid to transfer a liability, in an orderly transaction between market participants at the measurement date.

As a basis for considering market participant assumptions in fair value measurements, ASC 820 establishes a three-tiered value hierarchy that distinguishes between the following:

- Level 1—Quoted prices in active markets for identical assets or liabilities.

- Level 2—Observable inputs (other than Level 1 quoted prices), such as quoted prices in active markets for similar assets or liabilities, quoted prices in markets that are not active for identical or similar assets or liabilities, or other inputs that are observable or can be corroborated by observable market data.
- Level 3—Unobservable inputs that are supported by little or no market activity and that are significant to determining the fair value of the assets or liabilities, including pricing models, discounted cash flow methodologies, and similar techniques.

To the extent the valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair values requires more judgment. Accordingly, the degree of judgment exercised by the Company in determining fair value is greatest for instruments categorized as Level 3. A financial instrument's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement.

There have been no changes to the valuation methods utilized by the Company during the years ended December 31, 2020 and 2019. The Company evaluates transfers between levels at the end of each reporting period. There were no transfers of financial instruments between levels during the years ended December 31, 2020 and 2019. The carrying amounts of accounts payable and accrued expenses approximate their fair values due to their short-term nature.

Property and Equipment

Property and equipment are stated at cost less accumulated depreciation. Depreciation expense is recognized using the straight-line method over the estimated useful life of each asset as follows:

	Estimated Useful Life
Laboratory equipment	5 years
Computer equipment	3 years
Furniture and fixtures	5 years
Leasehold improvements	Lesser of estimated useful life of improvement or remaining life of related lease

Costs for capital assets not yet placed into service are capitalized as construction-in-progress and depreciated once placed into service. Upon retirement or sale, the cost of assets disposed of and the related accumulated depreciation are removed from the accounts and any resulting gain or loss is included in loss from operations. Expenditures for repairs and maintenance that do not improve or extend the life of the respective assets are expensed as incurred.

Impairment of Long-Lived Assets

The Company evaluates its long-lived assets, which consist primarily of property and equipment, for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to the future undiscounted net cash flows expected to be generated by the asset. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the asset exceeds the fair value of the asset. There were no impairment losses recognized during the years ended December 31, 2020 and 2019.

Redeemable Convertible Preferred Stock

As of December 31, 2020 and 2019, the Company's outstanding Series Seed preferred stock (Series Seed Preferred Stock) and Series A preferred stock (Series A Preferred Stock and together with the Series Seed Preferred Stock, the Preferred Stock) is classified within mezzanine equity on the balance sheets as the Preferred Stock contains a redemption feature associated with a deemed

liquidation event, the occurrence of which is not solely within the control of the Company. As the occurrence of a deemed liquidation event was not currently probable, the carrying values of the Preferred Stock are not being accreted to their redemption values. Subsequent adjustments to the carrying values of the Preferred Stock will be made only upon the closing of a deemed liquidation event.

Deferred Offering Costs

The Company capitalizes incremental legal, professional accounting and other third-party fees that are directly associated with the planned IPO as other non-current assets until the IPO is consummated. After consummation of the IPO, these costs will be recorded in stockholders' deficit as a reduction of additional paid-in-capital generated as a result of the offering. If the Company terminates its plan for an IPO, any costs deferred will be expensed immediately. As of December 31, 2020, there were no deferred offering costs.

Indemnification Agreements

In the ordinary course of business, the Company may provide indemnification of varying scope and terms to vendors, lessors, contract research organizations (CROs), business partners and other parties with respect to certain matters including, but not limited to, losses arising out of breach of such agreements or from intellectual property infringement claims made by third parties. In addition, the Company has entered into indemnification agreements with members of its board of directors and its executive officers that will require the Company, among other things, to indemnify them against certain liabilities that may arise by reason of their status or service as directors or officers. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is, in many cases, unlimited. The Company has not incurred any material costs as a result of such indemnifications and is not currently aware of any indemnification claims.

Rent Expense

The Company's real estate operating lease provides for scheduled annual rent increases throughout the lease term. The Company recognizes the effects of the scheduled rent increases on a straight-line basis over the full term of the lease. Tenant improvement allowances, if any, provided by the landlord are recorded as deferred rent and amortized as reduction to rent expense over the lease term.

Research and Development Costs

Research and development costs are charged to expense as incurred. Research and development costs consist of costs incurred in performing research and development activities, including salaries and bonuses, stock-based compensation, employee benefits, facilities costs, third-party license fees related to technology with no alternative future use, laboratory supplies, depreciation, manufacturing expenses, preclinical expenses, consulting and other contracted services. Costs for certain research and development activities are recognized based on the terms of the individual arrangements, which may differ from the pattern of costs incurred, and are reflected in the financial statements as prepaid or accrued research and development.

Patent Costs

All patent-related costs incurred in connection with filing and prosecuting patent applications are expensed as incurred due to the uncertainty about the recovery of the expenditure. Amounts incurred are classified as general and administrative expenses.

Stock-Based Compensation

The Company's stock-based compensation program allows for grants of stock options and restricted stock awards. Grants are awarded to employees and non-employees, including the Company's board of directors.

The Company accounts for its stock-based compensation in accordance with ASC Topic 718, *Compensation-Stock Compensation* (ASC 718). ASC 718 requires all stock-based payments to

employees, non-employees and directors, to be recognized as expense in the statements of operations based on their grant date fair values. The Company estimates the fair value of options granted using the Black-Scholes option pricing model (Black-Scholes) for stock option grants to both employees and non-employees. The fair value of the Company's common stock is used to determine the fair value of restricted stock awards.

The Company's stock-based compensation awards are subject to service-based vesting conditions. Compensation expense related to awards to employees, directors and non-employees with service-based vesting conditions is recognized on a straight-line basis based on the grant date fair value over the associated service period of the award, which is generally the vesting term.

Black-Scholes requires inputs based on certain subjective assumptions, including (i) the expected stock price volatility, (ii) the expected term of the award, (iii) the risk-free interest rate and (iv) expected dividends. Due to the lack of a public market for the Company's common stock and lack of company-specific historical and implied volatility data, the Company has based its computation of expected volatility on the historical volatility of a representative group of public companies with similar characteristics to the Company, including stage of product development and life science industry focus. The historical volatility is calculated based on a period of time commensurate with expected term assumption. The Company uses the simplified method as prescribed by the SEC Staff Accounting Bulletin No. 107, Share-Based Payment, to calculate the expected term for options granted to employees and non-employees whereby, the expected term equals the arithmetic average of the vesting term and the original contractual term of the options due to its lack of sufficient historical data. The risk-free interest rate is based on U.S. Treasury securities with a maturity date commensurate with the expected term of the associated award. The expected dividend yield is assumed to be zero as the Company has never paid dividends and has no current plans to pay any dividends on its common stock. The Company recognizes forfeitures as they occur.

Due to the absence of an active market for the Company's common stock, the Company utilized methodologies in accordance with the framework of the American Institute of Certified Public Accountants Accounting and Valuation Guide, Valuation of Privately-Held Company Equity Securities Issued as Compensation (AICPA Valuation Guide), to estimate the fair value of its common stock. The estimated fair value of the common stock has been determined at each grant date based upon a variety of factors, including the illiquid nature of the common stock, arm's-length sales of the Company's capital stock (including redeemable convertible preferred stock), the effect of the rights and preferences of the preferred stockholders, and the prospects of a liquidity event. Among other factors are the Company's financial position and historical financial performance, the status of technological developments within the Company's research, the composition and ability of the current research and management team, an evaluation or benchmark of the Company's competition, and the current business climate in the marketplace. Significant changes to the key assumptions underlying the factors used could result in different fair values of common stock at each valuation date.

Restricted common stock awards are subject to service based vesting and repurchase rights. Accordingly, the Company has recorded the proceeds from the issuance of restricted stock as a liability in the balance sheets. This restricted stock liability is reclassified into stockholders' deficit as the restricted stock vests.

The Company classifies stock-based compensation expense in its statements of operations in the same manner in which the award recipient's payroll costs are classified or in which the award recipient's service payments are classified.

Income Taxes

Income taxes are recorded in accordance with FASB ASC Topic 740, *Income Taxes* (ASC 740), which provides for deferred taxes using an asset and liability approach. The Company accounts for income taxes using the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in the financial statements or in the Company's tax returns. Deferred tax assets and liabilities are determined on the basis of the differences between the financial statements and tax basis of assets and liabilities

using enacted tax rates in effect for the year in which the differences are expected to reverse. Changes in deferred tax assets and liabilities are recorded in the provision for income taxes. The Company assesses the likelihood that its deferred tax assets will be recovered from future taxable income and, to the extent it believes, based upon the weight of available evidence, that it is more likely than not that all or a portion of the deferred tax assets will not be realized, a valuation allowance is established through a charge to income tax expense. Potential for recovery of deferred tax assets is evaluated by estimating the future taxable profits expected and considering prudent and feasible tax planning strategies.

The Company accounts for uncertainty in income taxes recognized in the financial statements by first evaluating the tax position to determine the likelihood that it will be sustained upon external examination by the taxing authorities. If the tax position is deemed more-likely-than-not to be sustained, the tax position is then assessed to determine the amount of benefit to recognize in the financial statements. The provision for income taxes includes the effects of any resulting tax reserves, or unrecognized tax benefits, that are considered appropriate as well as the related net interest and penalties. The Company accounts for interest and penalties related to uncertain tax positions as part of its provision for income taxes.

Net Loss per Share Attributable to Common Stockholders

The Company follows the two-class method when computing net loss per share, as the Company has issued shares that meet the definition of participating securities. The two-class method determines net loss per share for each class of common and participating securities according to dividends declared or accumulated and participation rights in undistributed earnings. The two-class method requires income available to common stockholders for the period to be allocated between common and participating securities based upon their respective rights to receive dividends as if all income for the period had been distributed.

Basic net loss per share attributable to common stockholders is computed by dividing the net loss attributable to common stockholders by the weighted average number of common shares outstanding for the period. Diluted net loss attributable to common stockholders is computed by adjusting net loss attributable to common stockholders to reallocate undistributed earnings based on the potential impact of dilutive securities. Diluted net loss per share attributable to common stockholders is computed by dividing the diluted net loss attributable to common stockholders by the weighted average number of common shares outstanding for the period, including potential dilutive common shares assuming the dilutive effect of common stock equivalents. Given that the Company recorded a net loss for each of the periods presented, there is no difference between basic and diluted net loss per share since the effect of common stock equivalents would be antidilutive and are, therefore, excluded from the diluted net loss per share calculation.

Recently Adopted Accounting Pronouncements

In June 2018, the FASB issued ASU No. 2018-07, *Compensation—Stock Compensation (Topic 718), Improvements to Nonemployee Share-Based Payment Accounting*, which expands the scope of Topic 718 to include share-based payment transactions for acquiring goods and services from nonemployees. This amendment applies to all share-based payment transactions in which a grantor acquires goods or services to be used or consumed in a grantor's own operations by issuing share-based payment awards. The Company adopted ASU 2018-07 on January 1, 2020. The adoption of ASU 2018-07 did not have a material impact on the Company's financial statements.

In August 2018, the FASB issued ASU No. 2018-13, *Fair Value Measurement (Topic 820), Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement.* This ASU removed the following disclosure requirements: (i) the amount of and reasons for transfers between Level 1 and Level 2 of the fair value hierarchy; (ii) the policy for timing of transfers between levels; and (iii) the valuation processes for Level 3 fair value measurements. Additionally, this update added the following disclosure requirements: (i) the changes in unrealized gains and losses for the period included in other comprehensive income and loss for recurring Level 3 fair value measurements held at the end of the reporting period; (ii) the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements. For certain unobservable inputs, an entity may disclose

other quantitative information (such as the median or arithmetic average) in lieu of the weighted average if the entity determines that other quantitative information would be a more reasonable and rational method to reflect the distribution of unobservable inputs used to develop Level 3 fair value measurements. ASU No. 2018-13 was effective beginning January 1, 2020. The adoption of this guidance did not have a material effect on the Company's financial statements.

Recently Issued Accounting Pronouncements

From time to time, new accounting pronouncements are issued by the FASB or other standard-setting bodies that the Company adopts as of the specified effective date. The Company qualifies as an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012 and has elected not to "opt out" of the extended transition related to complying with new or revised accounting standards, which means that when a standard is issued or revised and it has different application dates for public and non-public companies, the Company can adopt the new or revised standard at the time non-public companies adopt the new or revised standard and can do so until such time that the Company either (i) irrevocably elects to "opt out" of such extended transition period or (ii) no longer qualifies as an emerging growth company. The Company may choose to early adopt any new or revised accounting standards whenever such early adoption is permitted for non-public companies. Unless otherwise discussed, the Company believes that the impact of recently issued standards that are not yet effective will not have a material impact on its financial statements and disclosures.

In February 2016, the FASB issued ASU No. 2016-02, *Leases* (Topic 842), which supersedes all existing lease guidance. This guidance offers specific accounting guidance for a lessee, a lessor and sale and leaseback transactions. The new standard requires lessees to recognize an operating lease with a term greater than one year on their balance sheets as a right-of-use asset and corresponding lease liability, measured at the present value of the lease payments. Lessees are required to classify leases as either finance or operating leases. If the lease is effectively a financed-purchase by the lessee, the lease is classified as a financing lease; otherwise the lease is classified as an operating lease. This classification will determine whether lease expense is recognized based on an effective interest method or on a straight-line basis over the term of the lease. Topic 842 provides accounting guidance for transactions that meet specific criteria for a leaseback transaction. If the criteria are not met, the transaction is considered a "failed sale" and the transaction must be accounted for as a financing arrangement. For EGCs, such as the Company, ASU 2016-02, as amended, will be effective for annual reporting periods beginning after December 15, 2021 and interim periods within those fiscal years, with early adoption permitted. For public entities, ASU No. 2016-02 was effective for annual periods beginning after December 15, 2018, including interim periods within these annual periods. The Company is currently evaluating the full impact that the adoption of ASU 2016-02 is expected to have on its financial statements; however, the adoption of ASU 2016-02 will require the recognition at the adoption date of both a lease liability, based on the present value of future lease payments, and a corresponding right-to-use asset, which amounts the Company expects to be material. The future lease payment obligation as of December 31, 2020 is disclosed in Note 9, Commitments and Contingencies.

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. This ASU requires that credit losses for financial instruments measured at amortized cost be reported using an expected losses model rather than the incurred losses model that is currently used, and establishes additional disclosures related to credit risks. For available-for-sale debt securities with unrealized losses, this standard requires allowances to be recorded instead of reducing the amortized cost of the investment. 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 requires the reversal of previously recognized credit losses if fair value increases. For EGCs, such as the Company, the new standard will be effective beginning January 1, 2023. For public entities, the standard was effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. The Company is currently evaluating the potential impact this ASU may have on its financial position and results of operations upon adoption.

3. Fair Value Measurements

The following tables present the Company's fair value hierarchy for its assets and liabilities that are measured at fair value on a recurring basis and indicate the level within the fair value hierarchy of the valuation techniques the Company utilized to determine such fair value (in thousands):

	Fair Value Measurements at December 31, 2020			
	Level 1	Level 2	Level 3	Total
Assets:				
Cash equivalents	$38,795	$ —	$ —	$38,795
Total	$38,795	$ —	$ —	$38,795

	Fair Value Measurements at December 31, 2019			
	Level 1	Level 2	Level 3	Total
Assets:				
Cash equivalents	$16,651	$ —	$ —	$16,651
Total	$16,651	$ —	$ —	$16,651

Cash and Cash Equivalents—Cash equivalents of $39.0 million and $16.8 million as of December 31, 2020 and December 31, 2019, respectively, consisted of money market funds and are classified within Level 1 of the fair value hierarchy because they are valued using quoted market prices in active markets.

Preferred Stock Tranche Liability—The preferred stock tranche liability relates to the Company's obligation to issue, and investors' obligation to purchase, additional shares of the Company's Series A Preferred Stock following the initial closing of the Company's Series A financing. The Company has determined that the obligation to issue additional shares of preferred stock is a freestanding instrument recorded at fair value. As the milestones were not achieved, the preferred stock tranche liability fair value was reduced from $6.3 million to zero as of December 31, 2019. This is the most recent reporting date upon which the tranche was fair valued and the change in fair value was recorded in Other Income for the year ended December 31, 2019. Subsequently, in January 2020, the Company issued $25.0 million of Series A Preferred Stock as the holders of the Series A Preferred Stock granted a waiver of tranche related milestones that had otherwise not yet been satisfied.

4. Property and Equipment, Net

Property and equipment, net consisted of the following at December 31 (in thousands):

	2020	2019
Laboratory equipment	$2,121	$ 846
Computer equipment	22	—
Furniture and fixtures	18	—
Leasehold improvements	1,253	67
	3,414	913
Less: Accumulated depreciation	(377)	(112)
	$3,037	$ 801

Depreciation expense for the years ended December 31, 2020 and 2019 was $0.3 million and $0.1 million, respectively.

5. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consisted of the following at December 31 (in thousands):

	2020	2019
Accrued employee compensation and benefits	$1,482	$ 718
Accrued external research and development expenses	125	274
Other	150	163
	$1,757	$1,155

6. Redeemable Convertible Preferred Stock and Common Stock

Redeemable Convertible Preferred Stock

On October 27, 2016, the Company entered into a Series Seed Preferred Stock Purchase Agreement, whereby the Company issued an aggregate of 691,641 shares of Series Seed Preferred Stock at a purchase price of $0.8675 per share for aggregate proceeds of $0.6 million. On March 3, 2017, the Company entered into a second closing of Series Seed Preferred Stock, whereby the Company issued 576,368 shares at a purchase price of $0.8675 per share for aggregate proceeds of $0.5 million. On May 16, 2017, the Company completed the milestone closing of Series Seed Preferred Stock upon the satisfaction of stated milestones pursuant to the Series Seed Preferred Stock Purchase Agreement. In connection with this milestone closing, a total of 1,152,737 shares of Series Seed Preferred Stock were issued at a purchase price of $0.8675, for aggregate gross proceeds of $1.0 million. The Company incurred issuance costs of less than $0.1 million in connection with each of these closings.

On December 14, 2018, the Company entered into a Series A Preferred Stock Purchase Agreement, whereby the Company issued an aggregate of 34,848,403 shares of Series A Preferred Stock, 24,015,368 of which were issued at a purchase price of $1.041 per share for gross cash proceeds of $25.0 million, and 10,833,035 of which were issued in satisfaction of principal and interest on convertible notes outstanding held by the Company of $9.0 million. Pursuant to the Series A Preferred Stock Purchase Agreement, the Company also agreed to issue up to an additional 24,015,368 shares at a price of $1.041 per share upon the achievement of certain specified milestones.

The conditional issuance of 24,015,368 additional shares of Series A Preferred Stock based on the achievement of defined milestones pursuant to which the investors are required to purchase, and the Company to sell, is referred to herein as the preferred stock tranche liability. The Company concluded that the preferred stock tranche liability met the definition of a freestanding financial instrument, as the obligation was legally detachable and separately exercisable from the initial issuance of the Series A Preferred Stock. Therefore, the Company allocated the net proceeds between the preferred stock tranche liability and the Series A Preferred Stock. Since the Series A Preferred Stock underlying the preferred stock tranche liability was contingently redeemable upon the occurrence of a deemed liquidation event, the preferred stock tranche liability was classified as a liability under ASC Topic 480, *Distinguishing Liabilities from Equity,* and was initially recorded at fair value. The preferred stock tranche liability was then remeasured at fair value at each reporting period and settlement date. The Company incurred issuance costs of $0.3 million which, together with the preferred stock tranche liability, were recorded as a discount to the Series A Preferred Stock.

As further described in Note 3, the Company released the corresponding preferred stock tranche liability as of December 31, 2019 and recorded $6.3 million to Other Income for the year ended 2019 given the Company did not meet the milestones. Subsequently, on January 22, 2020, upon waiver of stated milestones in the Series A Preferred Stock Purchase Agreement, the Company issued 24,015,368 shares of Series A Preferred Stock at a purchase price of $1.041 per share for aggregate proceeds of $25.0 million. The Company incurred issuance costs of less than $0.1 million. Pursuant to the Amended and Restated Series A Preferred Stock Purchase Agreement, on August 12, 2020, the Company

agreed to issue an additional 24,015,368 shares of Series A Preferred Stock at a purchase price of $1.041 per share for aggregate proceeds of $25.0 million. The Company incurred issuance costs of $0.1 million.

Upon issuance of each class of redeemable convertible preferred stock, the Company assessed the embedded conversion and liquidation features of the shares and determined that such features did not require the Company to separately account for these features. The Company also concluded that no beneficial conversion feature existed on the issuance date of each class of redeemable convertible preferred stock.

Preferred Stock consisted of the following at December 31, 2019 and 2020 (in thousands, except share amounts):

	December 31, 2019				
	Preferred Stock Authorized	Preferred Stock Issued and Outstanding	Carrying Value	Liquidation Preference	Common Stock Issuable Upon Conversion
Series Seed preferred stock	2,420,746	2,420,746	$ 2,061	$ 2,100	2,420,746
Series A preferred stock	58,863,771	34,848,403	29,755	36,277	34,848,403
	61,284,517	37,269,149	$31,816	$38,377	37,269,149

	December 31, 2020				
	Preferred Stock Authorized	Preferred Stock Issued and Outstanding	Carrying Value	Liquidation Preference	Common Stock Issuable Upon Conversion
Series Seed preferred stock	2,420,746	2,420,746	$ 2,061	$ 2,100	2,420,746
Series A preferred stock	82,879,139	82,879,139	79,597	86,277	82,879,139
	85,299,885	85,299,885	$81,658	$88,377	85,299,885

As of December 31, 2020, unless noted otherwise, the Preferred Stock have the following rights and preferences:

Conversion Rights

Each share of Series Seed and Series A Preferred Stock is convertible at the option of the holder at any time after the date of issuance. The number of shares of common stock to be issued in the event of a conversion is determined by dividing the original issue price of $0.8675 for the Series Seed Preferred Stock and $1.041 for the Series A Preferred Stock by the conversion price then in effect for Series Seed Preferred Stock and Series A Preferred Stock. The conversion price for Series Seed Preferred Stock was initially $0.8675 per share and Series A Preferred Stock was initially $1.041 per share, subject to adjustment under certain circumstances, including but not limited to certain additional issuances of common shares.

The Series Seed Preferred Stock and Series A Preferred Stock automatically convert at either (i) the closing of a firm-commitment underwritten public offering resulting in at least $50 million of net proceeds to the Company, upon which all outstanding Series Seed Preferred Stock and Series A Preferred Stock shall automatically be converted into Common Shares, at the then effective Series Seed conversion price and Series A conversion price, respectively or (ii) at the election of the required majority of Series Seed and Series A Preferred Stock holders, upon which all or any portion of the outstanding Series Seed Preferred Stock and Series A Preferred Stock shall automatically be converted into common shares, at the then effective Series Seed conversion price and Series A conversion price, respectively.

Dividends

The holders of Preferred Stock shall be entitled to receive non-cumulative cash dividends, out of any assets legally available therefor, prior and in preference to any declaration or payment of any

dividend on shares of common stock (payable other than in common stock or other securities and rights convertible into or entitling the holder thereof to receive, directly or indirectly, additional shares of common stock of the Company) at a rate of eight percent of the applicable original issue price per share of Preferred Stock per annum, payable only when, as and if declared by the Company's board of directors.

The Company shall not declare, pay or set aside any dividends on shares of any other class or series of capital stock of the Company (other than dividends on shares of common stock payable in shares of common stock) unless (in addition to the obtaining of any consents required otherwise by the Company's restated certificate of incorporation) the holders of Preferred Stock then outstanding shall first receive, or simultaneously receive, in addition to the eight percent non-cumulative dividend described above, a dividend on each outstanding share of Preferred Stock in an amount at least equal to the dividend payable on each share of such class or series determined as if all shares of such class or series had been converted into common stock. No dividends were declared or paid during the years ended December 31, 2020 or 2019.

Liquidation Preference

Upon liquidation, dissolution, or winding up of business or a deemed liquidation event, the holders of the Preferred Stock are entitled to receive a liquidation preference in priority over the holders of common stock. The holders of the Series A Preferred Stock are entitled to receive a liquidation preference at an amount per share equal to the original Series A Preferred issue price plus any declared but unpaid dividends thereon. The holders of the Series Seed Preferred Stock are entitled to receive a liquidation preference at an amount per share equal to the greater of (i) the original Series Seed Preferred issue price plus any declared but unpaid dividends, or (ii) the amount per share payable had all shares of Series Seed Preferred been converted to common stock immediately prior to such liquidation event. If, upon any such event, the assets available for distribution are insufficient to satisfy the liquidation payment to holders of Preferred Stock in full, the holders of Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

After the payment of the aforementioned preferential amounts, the remaining assets shall be distributed among the holders of common stock and Series A Preferred Stock, pro rata based on the number of shares held by each such holder, treating for this purpose all shares of Series A Preferred Stock been converted to common stock immediately prior to such event. If the aggregate amount which the holders of Series A Preferred Stock shall receive exceeds three times the original issue price of the Series A Preferred Stock per share (as adjusted for certain events) (Series A Maximum Participation Amount), the amount to be paid to each holder of the Series A Preferred Stock is equal to the greater of (i) the Series A Maximum Participation Amount or (ii) such amount per share as would have been payable had all shares of Series A Preferred Stock been converted into Common Stock immediately prior to such liquidation event. Upon a deemed liquidation event, holders have the option to redeem their outstanding shares at a price equal to the liquidation payment amounts summarized above..

Voting Rights

Except as provided by law or by other provisions of the instruments pursuant to which each series of Preferred Stock was issued, holders of the Preferred Stock and common stockholders' vote together as one class on an "as-converted basis". On any matter presented to the stockholders of the Company for their action or consideration at any meeting of stockholders of the Company, each holder of Series Seed Preferred Stock and Series A Preferred Stock is entitled to cast the number of votes equal to the number of whole shares of common stock into which the shares of Series Seed Preferred Stock and Series A Preferred Stock held by such holder are convertible as of the record date for determining shares entitled to vote on such matter. The holders of the shares of Series A Preferred Stock, exclusively and as a separate class, are entitled to elect four directors of the Company. The holders of the shares of common stock and Preferred Stock, exclusively and voting together as a single class, are entitled to elect three directors of the Company.

Common Stock

As of December 31, 2020 and 2019, the Company's certificate of incorporation, as amended and restated, authorized the Company to issue 113,259,306 and 82,000,000 shares, respectively, of common stock, par value $0.0001 per share.

The holders of common stock are entitled to one vote for each share of common stock. Subject to the payment in full of all preferential dividends to which the holders of the Preferred Stock are entitled, the holders of common stock shall be entitled to receive dividends out of funds legally available. In the event of any voluntary or involuntary liquidation, dissolution, or winding up of the Company, after the payment or provision for payment of all debts and liabilities of the Company and all preferential amounts to which the holders of Preferred Stock are entitled with respect to the distribution of assets in liquidation, the holders of common stock shall be entitled to share ratably in the remaining assets of the Company available for distribution.

As of December 31, 2020, the Company has reserved 85,299,885 shares of common stock for the potential conversion of Preferred Stock and 14,450,786 shares of common stock for the potential exercise of outstanding stock options under the 2016 Stock Incentive Plan (2016 Plan).

7. Stock-Based Compensation

2016 Stock Plan

The 2016 Plan provides for the Company to grant incentive stock options or non-qualified stock options, restricted stock, restricted stock units, and other equity awards to employees, directors, and consultants of the Company. The 2016 Plan is administered by the board of directors of the Company or, at the discretion of the board of directors, by a committee of the board of directors. The exercise prices, vesting, and other restrictions are determined at the discretion of the board of directors, or its committee if so delegated. Recipients of stock options shall be eligible to purchase shares of the Company's common stock at an exercise price equal to the estimated fair market value of such stock on the date of grant. The exercise price may be less than fair market value if the stock award is granted pursuant to an assumption or substitution for another stock award in the event of a merger or sale of the Company. The maximum term of options granted under the 2016 Plan is ten years, and stock options typically vest over a four-year period. The board of directors may assign vesting terms to the stock options granted as deemed appropriate. The 2016 Plan allows for early exercise of all stock option grants if authorized by the board of directors at the time of grant. The shares of common stock issued from the early exercise of stock options are restricted and continue to vest over the original service based vesting condition of the original stock option award. The Company has the option to repurchase any unvested shares at the original purchase price upon any voluntary or involuntary termination. The board of directors may, at its discretion, accelerate unvested awards held by employees in the event of a change of control of the Company unless assumed or substituted by the acquirer or surviving entity.

As of December 31, 2019, the total number of shares of common stock that were issuable under the 2016 Plan was 10,701,350 shares, of which 1,808,209 shares remained available for future issuance. During the year ended December 31, 2020, the Company increased the number of shares of common stock authorized for issuance under the 2016 Plan from 10,701,350 to 14,450,786 shares. As of December 31, 2020, 686,056 shares remained available for future issuance under the 2016 Plan.

For each of the years ended December 31, 2020 and December 31, 2019, the Company recorded stock-based compensation expense of $0.3 million. Stock compensation expense for 2020 and 2019 included less than $0.1 million related to restricted stock and $0.3 million related to stock options in both years.

Stock-based compensation expense recorded as research and development and general and administrative expenses in the statements of operations is as follows (in thousands):

	December 31,	
	2020	2019
Research and development expenses	$107	$135
General and administrative expenses	218	159
	$325	$294

Stock Option Valuation

The following table presents, on a weighted-average basis, the assumptions used in the Black-Scholes option-pricing model to determine the fair value of stock options granted:

	Year Ended December 31,	
	2020	2019
Risk-free interest rate	0.53%	2.25%
Expected volatility	75%	74%
Expected dividend yield	—	—
Expected term (in years)	5.99	5.93

Early Exercise of Unvested Stock Options

Shares purchased by employees pursuant to the early exercise of stock options are not deemed, for accounting purposes, to be outstanding shares until those shares vest according to their respective vesting schedules. Cash received from employee exercises of unvested options is included in current liabilities on the balance sheet. Amounts recorded are reclassified to common stock and additional paid-in capital as the shares vest. Vesting can occur in the year of exercise and thereafter. There were 201,701 and 180,626 unvested shares related to early exercises of stock options as of December 31, 2020 and 2019, respectively. In each of the years ended December 31, 2020 and 2019, the liability associated with the unvested early exercise of stock options was less than $0.1 million.

Stock Options

The following table summarizes the Company's stock option activity since December 31, 2019:

	Number of Shares	Weighted-Average Exercise Price	Weighted-Average Contractual Term	Aggregate Intrinsic Value[2]
			(in years)	(in thousands)
Outstanding as of December 31, 2019	7,952,318	$0.24		
Granted	5,784,430	0.29		
Exercised	(1,063,477)	0.23		
Forfeited	(912,841)	0.24		
Outstanding as of December 31, 2020	11,760,430	$0.26	9.09	$327
Vested and exercisable as of December 31, 2020	2,661,778	$0.23	8.23	$155
Unvested and exercisable as of December 31, 2020[1]	9,098,652	$0.27	9.34	$172

(1) This represents the number of unvested options outstanding as of December 31, 2020 that are expected to vest in the future.

(2) The aggregate intrinsic value is calculated as the difference between the exercise price of the underlying options and the estimated fair value of the common stock for the options that were in the money as of December 31, 2020.

The aggregate intrinsic value of stock options exercised during each of the years ended December 31, 2020 and 2019 was $0.1 million while the company received $0.2 million and less than $0.1 million in proceeds for the exercise of these options, respectively.

The weighted-average grant-date fair value of stock options granted during the years ended December 31, 2020 and 2019 was $0.22 per share and $0.16 per share, respectively. As of December 31, 2020, there was $1.8 million of unrecognized compensation cost related to unvested stock options, which is expected to be recognized over a weighted-average period of 2.9 years.

Restricted Stock Awards

The Company issued restricted stock to its founders and certain officers of the Company. In general, the shares of restricted stock vest over a four-year period, with 25% of the shares vesting after one year, followed by monthly vesting over the remaining three years.

If the holders of the above restricted stock cease to have a business relationship with the Company, the Company may reacquire any unvested shares of restricted stock held by these individuals for the original purchase price or fair value, whichever is lower at the time of repurchase. The amounts received to date for the purchase price of restricted stock are immaterial. The unvested shares of restricted stock are not considered outstanding shares for accounting purposes until the shares vest.

A summary of unvested restricted stock during the year ended December 31, 2020 is as follows:

	Shares	Weighted-Average Grant-Date Fair Value
Unvested as of December 31, 2019	776,466	$0.001
Vested	(692,984)	0.001
Unvested as of December 31, 2020	83,482	$0.001

The total fair value of restricted stock vested during each of the years ended December 31, 2020 and 2019 was less than $0.1 million. At December 31, 2020, there was less than $0.1 million of unrecognized stock-based compensation expense related to restricted stock that is expected to vest. These costs are expected to be recognized over a weighted-average remaining vesting period of less than 1.0 year.

8. Income Taxes

For the years ended December 31, 2020 and 2019, the Company recorded no income tax benefits for the net operating losses incurred or for the research and development tax credits generated in each period, due to its uncertainty of realizing a benefit from those items. All of the Company's operating losses since inception have been generated in the United States.

A reconciliation of the U.S. federal statutory income tax rate to the Company's effective income tax rate is as follows:

	Year Ended December 31,	
	2020	2019
Federal statutory income tax rate	21.0%	21.0%
State income taxes, net of federal benefit	6.2	12.6
Federal and state research and development tax credits	4.0	3.3
Non-deductible items	(0.2)	(2.1)
Non-deductible preferred stock tranche liability adjustment	—	25.8
Change in deferred tax asset valuation allowance	(31.0)	(60.6)
Effective income tax rate	—%	—%

Net deferred tax assets as of December 31, 2020 and 2019 consisted of the following (in thousands):

	December 31,	
	2020	2019
Deferred tax assets:		
Net operating loss carryforwards	$ 11,214	$ 4,319
Research and development tax credit carryforwards	1,236	171
Intangible assets	432	292
Salaries and wages	313	187
Stock compensation	80	43
Other	76	34
Total deferred tax assets	13,351	5,046
Deferred tax liabilities:		
Property and equipment	(111)	(35)
Total deferred tax liabilities	(111)	(35)
Valuation allowance	(13,240)	(5,011)
Net deferred tax assets	$ —	$ —

As of December 31, 2020, the Company had federal net operating loss carryforwards of $42.1 million, which may be available to offset future taxable income, of which $3.2 million of the total net operating loss carryforwards expire at various dates beginning in 2036, while the remaining $38.9 million do not expire but are limited in their usage to an annual deduction equal to 80% of annual taxable income. In addition, as of December 31, 2020, the Company had state net operating loss carryforwards of $37.7 million, which may be available to offset future taxable income and expire at various dates beginning in 2036. As of December 31, 2020, the Company also had federal and state research and development tax credit carryforwards of $0.9 million and $0.4 million, respectively, which may be available to reduce future tax liabilities and expire at various dates beginning in 2039 and 2034, respectively.

Utilization of the U.S. federal and state net operating loss carryforwards and research and development tax credit carryforwards may be subject to a substantial annual limitation under Section 382 and Section 383 of the Internal Revenue Code of 1986 (Code), and corresponding provisions of state law, due to ownership changes that have occurred previously or that could occur in the future. These ownership changes may limit the amount of carryforwards that can be utilized annually to offset future taxable income and tax liabilities. In general, an ownership change, as defined by Section 382 of the Code, results from transactions increasing the ownership of certain stockholders or public groups in the

stock of a corporation by more than 5% over a three-year period. The Company has not conducted a study to assess whether a change of control has occurred or whether there have been multiple changes of control since inception due to the significant complexity and cost associated with such a study. If the Company has experienced a change of control, as defined by Section 382 of the Code, at any time since inception, utilization of the net operating loss carryforwards or research and development tax credit carryforwards may be subject to an annual limitation, 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. Any limitation may result in expiration of a portion of the net operating loss carryforwards or research and development tax credit carryforwards before their utilization. Further, until a study is completed by the Company and any limitation is known, no amounts are being presented as an uncertain tax position.

The Company has evaluated the positive and negative evidence bearing upon its ability to realize the deferred tax assets, which consist primarily of net operating loss carryforwards and research and development tax credit carryforwards. Management has considered the Company's history of cumulative net losses incurred since inception, estimated future taxable income, and prudent and feasible tax planning strategies and has concluded that it is more likely than not that the Company will not realize the benefits of federal and state net deferred tax assets. Accordingly, a full valuation allowance has been established against the net deferred tax assets as of December 31, 2020 and 2019. The Company reevaluates the positive and negative evidence at each reporting period.

The valuation allowance increased by $8.2 million and $3.1 million for the year ending December 31, 2020 and 2019, respectively. The increase in the valuation allowance for deferred tax assets during the years ended December 31, 2020 and 2019 related primarily to the increases in net operating loss carryforwards and research and development tax credit carryforwards.

The Company assesses the uncertainty in its income tax positions to determine whether a tax position of the Company is more likely than not to be sustained upon examination, including resolution of any related appeals of litigation processes, based on the technical merits of the position. For tax positions meeting the more-likely-than-not threshold, the tax amount recognized in the financial statements is reduced by the largest benefit that has a greater than 50% likelihood of being realized upon the ultimate settlement with the relevant taxing authority. The Company's policy is to recognize interest and penalties accrued on any uncertain tax positions as a component of income tax expense, if any, in its statements of operations. As of December 31, 2020 and 2019, the Company had not recorded any reserves for uncertain tax positions or related interest and penalties.

The Company files income tax returns as prescribed by the tax laws of the jurisdictions in which it operates. In the normal course of business, the Company is subject to examination by federal and state jurisdictions, where applicable. Due to net operating losses incurred, the Company's tax returns from inception to date are subject to examination by the taxing authorities.

9. Commitments and Contingencies

Lease Obligations

In March 2019, the Company entered into an operating lease for 7,981 square feet of office and laboratory space with an end date of April 30, 2021 in Boston, Massachusetts. The Company subsequently terminated the operating lease in December 2020 without penalty.

In February 2020, the Company entered into an operating lease for 26,235 square feet of office and laboratory space in Boston, Massachusetts. Lease payments commenced in April 2020. The lease is subject to fixed rate escalation increases. The Company recognizes rent expense on a straight-line basis over the expected lease term, which is 5.7 years. The Company began to record rent expense in April 2020 upon gaining access to and control of the space. Deferred rent is amortized as a reduction in rent expense over the term of the lease. In addition, upon execution of the lease, the Company paid a security deposit of approximately $0.5 million, which is recorded as a component of other assets in the accompanying balance sheet as of December 31, 2020. The Company has the option to terminate the lease after November 30, 2023 without penalty.

The Company recorded $1.9 million and $0.5 million of rent expense for the years ended December 31, 2020 and 2019, respectively.

The minimum aggregate future lease commitments at December 31, 2020, are as follows (in thousands):

Years Ending December 31,	
2021	$ 4,476
2022	5,393
2023	5,082
Total future lease payments	$14,951

License Agreement

In 2017, the Company entered into an option agreement with a third party, in which the Company obtained an option to license all patents and patent applications specified in the agreement, involving work related to specified invention disclosures, and arising out of that sponsored research agreement entered into between the Company and such third party pursuant to which the Company sponsored certain discovery programs conducted by the third party. In 2018, the Company entered into a definitive license agreement with the third party in which the third party granted the Company an exclusive worldwide, sublicensable license to certain intellectual property under certain patent rights to research, develop, and otherwise commercialize a product generated from the licensed intellectual property. The Company concluded the assets acquired did not meet the accounting definition of a business as inputs, but no processes or outputs were acquired with the licenses. As the inputs that were acquired along with the licenses do not constitute a “business,” the transaction has been accounted for as an asset acquisition under ASC 730. As of the date of the license agreement, the assets acquired had no alternative future use and the assets had not reached a stage of technological feasibility. The Company paid an upfront research fee of $0.4 million, paid in two installments of $0.2 million on June 30, 2019 and June 30, 2020, respectively, which were accrued and recognized as research and development expense in 2018. The Company agreed to pay an annual license maintenance fee for the license of less than $0.1 million for each contract year, beginning the third year of the contract until the first commercial contract year. The Company also issued a total of 626,330 shares of common stock pursuant to the 2018 agreement, which were recorded at fair value at the date of issuance of $0.2 million.

Should the Company pursue specified research, development, and commercial activities related to the above technology, the Company would be obligated to make milestone payments up to $2.6 million for each of the first three licensed products to achieve each milestone. The triggering of these milestone payments was not considered probable as of the transaction date, and no expense has been recorded for these milestones as of December 31, 2020. In addition, the third party will receive tiered royalty payments on the applicable licensed program and platform products at a percentage ranging in single-digit royalties of net sales subject to reductions and offsets in certain circumstances, as well as a royalty on sublicensed consideration ranging from low to mid double-digit percentages of non-royalty sublicensing consideration. The Company concluded the receipt of any milestone or royalty payments under the agreement was not probable as of December 31, 2020. For the years ended December 31, 2020 and 2019, the Company reimbursed the third-party for patent costs of $0.1 million.

10. Employee Benefit Plan

The Company has a defined-contribution plan under Section 401(k) of the Code (401(k) Plan). The 401(k) Plan covers all employees who meet defined minimum age and service requirements and allows participants to defer a portion of their annual compensation on a pre-tax basis. As currently established, the Company is not required to make, and to date has not made, any contributions to the 401(k) Plan.

11. Net Loss per Share

Basic and diluted net loss per share attributable to common stockholders was calculated as follows (in thousands, except share and per share amounts):

	Year Ended December 31,	
	2020	2019
Numerator:		
Net loss attributable to common stockholders	$ (26,523)	$ (5,100)
Denominator:		
Weighted-average common shares outstanding, basic and diluted	7,997,542	6,751,615
Net loss per share attributable to common stockholders, basic and diluted	$ (3.32)	$ (0.76)

The Company excluded the following potential common shares, presented based on amounts outstanding at each period end, from the computation of diluted net loss per share attributable to common stockholders for the periods indicated because including them would have had an anti-dilutive effect:

	Year Ended December 31,	
	2020	2019
Redeemable convertible preferred stock	85,299,885	37,269,149
Unvested restricted common stock	83,482	776,466
Unvested shares from early exercises	201,701	180,626
Stock options to purchase common stock	11,760,430	7,952,318
	97,345,498	46,178,559

12. Subsequent Events

For the year ended December 31, 2020, subsequent events were evaluated through August 6, 2021, the date on which the audited financial statements were issued.

Redeemable Convertible Preferred Stock

On March 29, 2021, the Company sold 53,522,099 shares of Series B Preferred Stock at a price of $2.172 per share for gross proceeds of $116.2 million. As part of the issuance of Series B Preferred Stock, the liquidation preferences of the Preferred Stock were modified such that, in the event of any voluntary or involuntary liquidation, dissolution or winding up of the Company or a deemed liquidation event, the holders of Preferred Stock, together with the Series B Preferred Stock, then outstanding shall be entitled to be paid out equal to the greater of (i) the applicable original issue price, plus any dividends declared but unpaid thereon, or (ii) such amount per share as would have been payable had all shares of Preferred Stock, together with the Series B Preferred Stock, been converted into common stock. In connection with the issuance of Series B Preferred Stock, the Company's board of directors authorized the increase of shares of common stock to 172,000,000 shares.

2016 Plan

In March 2021, the Company increased the number of shares of common stock authorized for issuance under the 2016 Plan from 14,450,786 to 22,507,876.

Lease Amendment

In June 2021, the Company amended its current lease for office and laboratory space in Boston, Massachusetts by expanding the lease for an additional 15,431 square feet, which included minimum aggregate lease payments of $7.2 million.

Shares

Common Stock

Goldman Sachs & Co. LLC

Cowen

Evercore ISI

Through and including , 2021 (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 Prospectus

Item 13. Other Expenses of Issuance and Distribution.

The following table sets forth the fees and expenses, other than underwriting discounts and commissions, payable in connection with the registration of the common stock hereunder. All amounts are estimates except the SEC registration fee.

	Amount to be Paid
SEC registration fee	$ *
FINRA filing fee	*
Nasdaq Global Market listing fee	*
Printing and mailing	*
Legal fees and expenses	*
Accounting fees and expenses	*
Transfer agent and registrar fees and expenses	*
Miscellaneous	*
Total	$ *

* To be provided by amendment.

Item 14. Indemnification of Directors and Officers.

Section 145 of the Delaware General Corporation Law (the DGCL), authorizes a corporation to indemnify its directors and officers against liabilities arising out of actions, suits and proceedings to which they are made or threatened to be made a party by reason of the fact that they have served or are currently serving as a director or officer to a corporation. The indemnity may cover expenses (including attorneys' fees) judgments, fines and amounts paid in settlement actually and reasonably incurred by the director or officer in connection with any such action, suit or proceeding. Section 145 permits corporations to pay expenses (including attorneys' fees) incurred by directors and officers in advance of the final disposition of such action, suit or proceeding. In addition, Section 145 provides that a corporation has the power to purchase and maintain insurance on behalf of its directors and officers against any liability asserted against them and incurred by them in their capacity as a director or officer, or arising out of their status as such, whether or not the corporation would have the power to indemnify the director or officer against such liability under Section 145.

We have adopted provisions in our certificate of incorporation to be in effect upon the closing of this offering and bylaws to be in effect upon the effectiveness of this registration statement that limit or eliminate the personal liability of our directors to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended. Consequently, a director will not be personally liable to us or our stockholders for monetary damages or breach of fiduciary duty as a director, except for liability for:

- any breach of the director's duty of loyalty to us or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- any unlawful payments related to dividends or unlawful stock purchases, redemptions or other distributions; or
- any transaction from which the director derived an improper personal benefit.

These limitations of liability do not alter director liability under the federal securities laws and do not affect the availability of equitable remedies such as an injunction or rescission.

In addition, our bylaws provide that:

- we will indemnify our directors, officers and, in the discretion of our board of directors, certain employees to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended; and
- we will advance reasonable expenses, including attorneys' fees, to our directors and, in the discretion of our board of directors, to our officers and certain employees, in connection with legal proceedings relating to their service for or on behalf of us, subject to limited exceptions.

We have entered into indemnification agreements with each of our directors and intend to enter into such agreements with our executive officers. These agreements provide that we will indemnify each of our directors, our executive officers and, at times, their affiliates to the fullest extent permitted by Delaware law. We will advance expenses, including attorneys' fees (but excluding judgments, fines and settlement amounts), to each indemnified director, executive officer or affiliate in connection with any proceeding in which indemnification is available and we will indemnify our directors and officers for any action or proceeding arising out of that person's services as a director or officer brought on behalf of us or in furtherance of our rights. Additionally, certain of our directors or officers may have certain rights to indemnification, advancement of expenses or insurance provided by their affiliates or other third parties, which indemnification relates to and might apply to the same proceedings arising out of such director's or officer's services as a director referenced herein. Nonetheless, we have agreed in the indemnification agreements that our obligations to those same directors or officers are primary and any obligation of such affiliates or other third parties to advance expenses or to provide indemnification for the expenses or liabilities incurred by those directors are secondary.

We also maintain general liability insurance which covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers, including liabilities under the Securities Act of 1933, as amended (Securities Act).

The underwriting agreement filed as Exhibit 1.1 to this registration statement provides for indemnification of us and our directors and officers by the underwriters against certain liabilities under the Securities Act and the Securities Exchange Act of 1934.

Item 15. Recent Sales of Unregistered Securities.

In the three years preceding the filing of this registration statement, we have issued the following securities that were not registered under the Securities Act:

(a) Issuances of Capital Stock

Set forth below is information regarding securities we have issued within the past three years that were not registered under the Securities Act.

In December 2018, with subsequent closings in January 2020 and August 2020, we issued an aggregate of 82,879,139 shares of our Series A preferred stock, 72,046,104 of which were issued at a purchase price of $1.0410 per share for gross cash proceeds of approximately $75.0 million, and 10,833,035 of which were issued in satisfaction of principal and accrued interest of approximately $9.0 million on outstanding convertible promissory notes issued in 2017 and 2018 at a discounted purchase price of $0.8328 per share, resulting in an aggregate gross cash proceeds of approximately $83.5 million.

In March 2021, we issued and sold an aggregate of 53,522,099 shares of our Series B preferred stock at a purchase price of $2.1720 per share for an aggregate purchase price of approximately $116.2 million.

No underwriters were involved in the foregoing sales of securities without registration under the Securities Act or an applicable exemption from registration. Unless otherwise stated, the sales of securities described above were deemed to be exempt from registration pursuant to Section 4(a)(2) of the Securities Act, including Regulation D and Rule 506 promulgated thereunder, as transactions by an issuer not involving a public offering. All of the purchasers in these transactions represented to us in

connection with their purchase that they were acquiring the securities for investment and not distribution, that they could bear the risks of the investment and could hold the securities for an indefinite period of time. Such purchasers received written disclosures that the securities had not been registered under the Securities Act and that any resale must be made pursuant to a registration or an available exemption from such registration. All of the foregoing securities are deemed restricted securities for the purposes of the Securities Act.

(b) Grants and Exercises of Stock Options

Through June 30, 2021, we have granted stock options to purchase an aggregate of 20,137,018 shares of our common stock, with exercise prices ranging from $0.24 to $1.17 per share, to employees, directors and consultants pursuant to the 2016 Plan. Since August 6, 2018, 3,954,179 shares of common stock have been issued upon the exercise of stock options pursuant to the 2016 Plan.

(c) Restricted Stock Issuance

In April 2019, we issued and sold an aggregate of 36,000 shares of our restricted common stock at a purchase price of $0.24 per share for an aggregate gross consideration of $8,640.

The issuances of the securities described above were deemed to be exempt from registration pursuant to Section 4(a)(2) of the Securities Act or Rule 701 promulgated under the Securities Act as transactions pursuant to compensatory benefit plans. The shares of common stock issued upon the exercise of options are deemed to be restricted securities for purposes of the Securities Act.

Item 16. Exhibits and Financial Statement Schedules.

(a) Exhibits

Exhibit Number	Description
1.1*	Form of Underwriting Agreement.
3.1	Third Amended and Restated Certificate of Incorporation of Registrant, as currently in effect.
3.2*	Form of Fourth Amended and Restated Certificate of Incorporation of Registrant, to be in effect upon completion of this offering.
3.3	Bylaws of Registrant, as currently in effect.
3.4*	Form of Amended and Restated Bylaws of Registrant, to be in effect upon the effectiveness of this registration statement.
4.1*	Specimen Common Stock Certificate.
4.2	Amended and Restated Investors' Rights Agreement among the Registrant and certain of its stockholders, effective as of March 29, 2021.
5.1*	Opinion of Goodwin Procter LLP.
10.1#	2016 Stock Incentive Plan, as amended, and form of award agreements thereunder.
10.2*#	2021 Stock Option and Incentive Plan and form of award agreements thereunder.
10.3*#	2021 Employee Stock Purchase Plan.
10.4*#	Form of Indemnification Agreement between the Registrant and each of its directors.
10.5*#	Form of Indemnification Agreement between the Registrant and each of its executive officers.
10.6*#	Senior Executive Cash Incentive Bonus Plan.
10.7*#	Form of Executive Employment Agreement.
10.8*#	Non-Employee Director Compensation Policy.
10.9*#	Amended and Restated Employment Agreement, by and between the Registrant and

Exhibit Number	Description
	Dipal Doshi, dated as of May 14, 2019.
10.10*#	Amended and Restated Employment Agreement, by and between the Registrant and Natarajan Sethuraman, dated as of March 4, 2019.
10.11*#	Employment Agreement, by and between the Registrant and Nathan Dowden, dated as of November 4, 2019.
10.12*†	Exclusive License Agreement, by and between the Registrant and OSIF, dated as of December 14, 2018, as amended on October 8, 2019 and further amended on March 9, 2019.
10.13	License Agreement, dated as of February 28, 2020, by and between the Registrant and MIL 6T, LLC, as amended on March 27, 2020.
21.1*	Subsidiaries of the Registrant.
23.1*	Consent of Ernst & Young LLC, independent registered public accounting firm.
23.2*	Consent of Goodwin Procter LLP (included in Exhibit 5.1).
24*	Power of Attorney (included on signature page to this registration statement).

* To be filed by amendment.

† Portions of this exhibit (indicated by asterisks) have been omitted in accordance with Item 601(b)(10) of Regulation S-K.

# Indicates a management contract or any compensatory plan, contract or arrangement.

(b) Financial Statements Schedules

Schedules have been omitted because the information required to be set forth therein is not applicable or is shown in the financial statements or notes thereto.

Item 17. Undertakings.

Insofar as indemnification for liabilities arising under the Securities Act of 1933, as amended (the 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 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 Act and will be governed by the final adjudication of such issue.

The Registrant hereby undertakes that:

(a) The Registrant will provide to the underwriter at the closing as specified in the underwriting agreement, certificates in such denominations and registered in such names as required by the underwriter to permit prompt delivery to each purchaser.

(b) For purposes of determining any liability under the Securities Act of 1933, as amended, the information omitted from a form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in the form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act of 1933, as amended, shall be deemed to be part of this registration statement as of the time it was declared effective.

(c) For the purpose of determining any liability under the Securities Act of 1933, as amended, 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, the registrant has duly caused this Registration Statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Boston, Massachusetts, on the day of , 2021.

ENTRADA THERAPEUTICS, INC.

By: _____

Name: Dipal Doshi
Title: President and Chief Executive Officer

POWER OF ATTORNEY AND SIGNATURES

Each individual whose signature appears below hereby constitutes and appoints Dipal Doshi and Kory Wentworth as such person's true and lawful attorney-in-fact and agent with full power of substitution and resubstitution, for such person in such person's name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement (or any Registration Statement for the same offering that is to be effective upon filing pursuant to Rule 462(b) under the Securities Act of 1933), and to file the same, with all exhibits thereto, and all documents in connection therewith, with the Securities and Exchange Commission granting unto each said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as such person might or could do in person, hereby ratifying and confirming all that any said attorney-in-fact and agent, or any substitute or substitutes of any of them, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement and Power of Attorney has been signed by the following person in the capacities and on the date indicated.

Name	Title	Date
Dipal Doshi	President and Chief Executive Officer *(Principal Executive Officer)*	, 2021
Kory Wentworth	Chief Financial Officer (*Principal Financial and Accounting Officer)*	, 2021
Kush M. Parmar, M.D., Ph.D.	Chairman and Director	, 2021
John F. Crowley	Director	, 2021
Todd Foley	Director	, 2021
Peter S. Kim, Ph.D.	Director	, 2021
Carole Nuechterlein	Director	, 2021
Mary Thistle	Director	, 2021

Exhibit 3.1

THIRD AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION
OF
ENTRADA THERAPEUTICS, INC.

(Pursuant to Sections 242 and 245 of the
General Corporation Law of the State of Delaware)

Entrada Therapeutics, Inc., a corporation organized and existing under and by virtue of the provisions of the General Corporation Law of the State of Delaware,

DOES HEREBY CERTIFY:

1. That the name of this corporation is Entrada Therapeutics, Inc., and that this corporation was originally incorporated pursuant to the General Corporation Law of the State of Delaware on September 22, 2016 under the name "CycloPorters, Inc."

2. That the Board of Directors duly adopted resolutions proposing to amend and restate the Second Amended and Restated Certificate of Incorporation of this corporation, as amended to date, 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 Second Amended and Restated Certificate of Incorporation, as amended, of this corporation be amended and restated in its entirety to read as follows:

FIRST: The name of this corporation is Entrada Therapeutics, Inc. (the "**Corporation**").

SECOND: The address of the registered office of the Corporation in the State of Delaware is 1209 Orange Street, in the City of Wilmington, County of New Castle, Delaware 19801. The name of its registered agent at such address is The Corporation Trust Company.

THIRD: 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 of the State of Delaware (the "**DGCL**").

FOURTH: The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) 172,000,000 shares of Common Stock, $0.0001 par value per share ("**Common Stock**"), and (ii) 138,821,984 shares of Preferred Stock, $0.0001 par value per share ("**Preferred Stock**").

The following is a statement of the designations and the powers, privileges and rights, 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 preferences 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); 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 Third Amended and Restated Certificate of Incorporation (the "**Restated Certificate**") 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 the Restated Certificate or pursuant to the DGCL. There shall 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 the Restated 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 DGCL.

B. PREFERRED STOCK

2,420,746 of the authorized shares of Preferred Stock are hereby designated "**Series Seed Preferred Stock,**" 82,879,139 of the authorized shares of Preferred Stock are hereby designated "**Series A Preferred Stock**," and 53,522,099 of the authorized shares of Preferred Stock are hereby designated "**Series B Preferred Stock**," with the following rights, preferences, powers, privileges and restrictions, qualifications and limitations. Unless otherwise indicated, references to "sections" or "subsections" in this Part B of this Article Fourth refer to sections and subsections of Part B of this Article Fourth.

1. Dividends.

The holders of Preferred Stock shall be entitled to receive non-cumulative cash dividends, out of any assets legally available therefor, prior and in preference to any declaration or payment of any dividend on shares of Common Stock (payable other than in Common Stock or other securities and rights convertible into or entitling the holder thereof to receive, directly or indirectly, additional shares of Common Stock of the Corporation) at the rate of eight percent (8%) of the applicable Original Issue Price (as defined below) per share of Preferred Stock per annum, payable only when, as and if declared by the Board of Directors of the Corporation (the "**Board of Directors**"). The Corporation shall not declare, 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) unless (in addition to the obtaining of any consents required elsewhere in the Restated Certificate) the holders of the Preferred Stock then outstanding shall first receive, or simultaneously receive, in addition to the dividend described in the first sentence of this Section 1, a dividend on each outstanding share of Preferred Stock in an amount at least equal to (i) in the case of a dividend on Common Stock or any class or series that is convertible into Common Stock, that dividend per share of Preferred Stock as would equal the product of (A) the dividend payable on each share of such class or series determined, if applicable, as if all shares of such class or series had been converted into Common Stock and (B) the number of shares of Common Stock issuable upon conversion of a share of Preferred Stock, in each case calculated on the record date for determination of holders entitled to receive such dividend or (ii) in the case of a dividend on any class or series that is not convertible into Common Stock, at a rate per share of Preferred Stock determined by (A) dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to such class or series) and (B) multiplying such fraction by an amount equal to the applicable Original Issue Price (as defined below); provided that, if the Corporation declares, pays or sets aside, on the same date, a dividend on shares of more than one class or series of capital stock of the Corporation, the dividend payable to the holders of Preferred Stock pursuant to this Section 1 shall be calculated based upon the dividend on the class or series of capital stock that would result in the highest Preferred Stock dividend. The "**Original Issue Price**" shall mean, (i) with respect to the Series Seed Preferred Stock, $0.8675 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series Seed Preferred Stock, (ii) with respect to the Series A Preferred Stock, $1.041 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series A Preferred Stock and (iii) with respect to the Series B Preferred Stock, $2.172 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series B Preferred Stock.

2. Liquidation, Dissolution or Winding Up; Certain Mergers. Consolidations and Asset Sales.

2.1 Preferential Payments to Holders of Preferred Stock. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation , the holders of shares of Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders, and in the event of a Deemed Liquidation Event (as defined below), the holders of shares of Preferred Stock then outstanding shall be entitled to be paid out of the consideration payable to stockholders in such Deemed Liquidation Event or out of the Available Proceeds (as defined below), as applicable, on a *pari passu* basis with each series of Preferred Stock and before any payment shall be made to the holders of Common Stock by reason of their ownership thereof, an amount per share equal to the greater of (i) the applicable Original Issue Price, plus any dividends declared but unpaid thereon, or (ii) such amount per share as would have been payable had all shares of Preferred Stock been converted into Common Stock pursuant to Section 4 immediately prior to such liquidation, dissolution, winding up or Deemed Liquidation Event (the amount payable pursuant to this sentence is hereinafter referred to as the "**Liquidation Amount**"). If upon any such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Preferred Stock the full amount to which they shall be entitled under this Subsection 2.1, the holders of shares of Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

2.2 Payments to Holders of Common Stock. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation, after the payment in full of all Liquidation Amounts required to be paid to the holders of shares of Preferred Stock, the remaining assets of the Corporation available for distribution to its stockholders or, in the case of a Deemed Liquidation Event, the consideration not payable to the holders of shares of Preferred Stock pursuant to Section 2.1 or the remaining Available Proceeds, as the case may be, shall be distributed among the holders of shares of Common Stock, pro rata based on the number of shares held by each such holder.

2.3 Deemed Liquidation Events.

2.3.1. Definition. Each of the following events shall be considered a "**Deemed Liquidation Event**" unless (i) the holders of a majority of the then outstanding shares of Series A Preferred Stock, voting as a separate class, and (ii) the holders of a majority of the then outstanding shares of Series B Preferred Stock, voting as a separate class (together, the "**Requisite Majority**"), elect otherwise by written notice sent to the Corporation at least five (5) days prior to the effective date of any such event:

(a) a merger or consolidation 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 merger or consolidation,

except any such merger or consolidation involving the Corporation or a subsidiary in which the shares of capital stock of the Corporation outstanding immediately prior to such merger or consolidation continue to represent, or are converted into or exchanged for shares of capital stock that represent, immediately following such merger or consolidation, a majority, by voting power, of the capital stock of (1) the surviving or resulting corporation or (2) if the surviving or resulting corporation is a wholly owned subsidiary of another corporation immediately following such merger or consolidation, the parent corporation of such surviving or resulting corporation; 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 of the Corporation of all or substantially all the assets of the Corporation and its subsidiaries taken as a whole, or the sale or disposition (whether by merger, consolidation or otherwise and whether in a single transaction or series of related transactions) of one or more subsidiaries of the Corporation if substantially all of the assets of the Corporation and its subsidiaries taken as a whole are held by such subsidiary or subsidiaries, except where such sale, lease, transfer, exclusive license or other disposition is to a wholly owned subsidiary of the Corporation.

2.3.2. Effecting a Deemed Liquidation Event.

(a) The Corporation shall not have the power to effect a Deemed Liquidation Event referred to in Subsection 2.3.1(a)(i) unless the agreement or plan of merger or consolidation for such transaction (the "**Merger Agreement**") provides that the consideration payable to the stockholders of the Corporation shall be allocated among 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 Subsections 2.3.1(a)(ii) or 2.3.1(b), if the Corporation does not effect a dissolution of the Corporation under the DGCL within 90 days after such Deemed Liquidation Event, then (i) the Corporation shall send a written notice (the "**Redemption 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 holders of the Requisite Majority so request in a written instrument delivered to the Corporation not later than 120 days after such Deemed Liquidation Event, the Corporation shall use the consideration received by the Corporation in respect of 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 of Directors), 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 (the "**Redemption Date**"), to redeem all outstanding shares of each series of Preferred Stock at a price per share equal to the applicable Liquidation Amount, as applicable (the "**Redemption Price**"). The Redemption Notice shall state (i) the Redemption Date and the Redemption Price, (ii) the date upon which the holder's right to convert the shares of Preferred Stock held by such holder terminates (as determined in accordance with Subsection 4.1), and (iii) 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. Notwithstanding the foregoing, in the event of a redemption pursuant to this Subsection 2.3.2(b), if the Available Proceeds are not sufficient to redeem all outstanding shares Preferred Stock, the Corporation shall redeem a pro rata portion of each holder's shares of Preferred Stock to the fullest extent of such Available Proceeds, based on the respective amounts that would otherwise be payable in respect of the shares to be redeemed had the Available Proceeds been sufficient to redeem all such shares, and shall redeem the remaining shares as soon as it may lawfully do so under Delaware law governing distributions to stockholders. In the event of a redemption pursuant to this Subsection 2.3.2(b), 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, shall 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 shall be payable to the order of the individual or entity whose name appears on such certificate or certificates as the owner thereof. If on the Redemption Date the Redemption Price 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 of the certificates for any of the shares of Preferred Stock shall not have been surrendered, dividends with respect to such shares of Preferred Stock shall cease to accrue after such Redemption Date and all rights, preferences and privileges with respect to such shares shall forthwith after the Redemption Date terminate, except only the right of the holders to receive the Redemption Price without interest upon surrender of such certificate or certificates. Prior to the distribution or redemption provided for in this Subsection 2.3.2(b), the Corporation shall not expend or dissipate the consideration received for such Deemed Liquidation Event, except to discharge expenses incurred in connection with such Deemed Liquidation Event or in the ordinary course of business.

2.3.3. Amount Deemed Paid or Distributed. The amount deemed paid or distributed to the holders of capital stock of the Corporation upon any such merger, consolidation, sale, transfer, exclusive license, other disposition or redemption shall 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. The value of such property, rights or securities shall be determined in good faith by the Board of Directors, including a majority of the Preferred Directors (the "**Requisite Directors**").

2.3.4. Allocation of Escrow and Contingent Consideration. In the event of a Deemed Liquidation Event pursuant to Subsection 2.3.1(a)(i). if any portion of the consideration payable to the stockholders of the Corporation is payable only upon satisfaction of contingencies (the "**Additional Consideration**"), the Merger Agreement shall provide that (a) the portion of such consideration that is not Additional Consideration (such portion, the "**Initial Consideration**") shall be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2.1 and 2.2 as if the Initial 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 shall 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. For the purposes of this Subsection 2.3.4, consideration placed into escrow or retained as holdback to be available for satisfaction of indemnification or similar obligations in connection with such Deemed Liquidation Event shall be deemed to be Additional Consideration.

3. Voting.

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 shall 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. Except as provided by law or by the other provisions of the Restated Certificate, holders of Preferred Stock shall vote together with the holders of Common Stock as a single class and on an as-converted to Common Stock basis.

3.2 Election of Directors. The holders of record of the shares of Series B Preferred Stock, exclusively and as a separate class, shall be entitled to elect one (1) director of the Corporation (the "**Series B Director**"); the holders of record of the shares of Series A Preferred Stock, exclusively and as a separate class, shall be entitled to elect three (3) directors of the Corporation (the "**Series A Directors**", and together with the Series B Director, the "**Preferred Directors**"). Any director elected as provided in the preceding sentence may be removed without cause by, and only by, the affirmative vote of the holders of the shares of the series of capital stock entitled to elect such director or directors, given either at a special meeting of such stockholders duly called for that purpose or pursuant to a written consent of stockholders. If the holders of shares of Series A Preferred Stock or Series B Preferred Stock, as the case may be, fail to elect a sufficient number of directors to fill all directorships for which they are entitled to elect directors, voting exclusively and as a separate series, pursuant to the first sentence of this Subsection 3.2, then any directorship not so filled shall remain vacant until such time as the holders of the Series A Preferred Stock or Series B Preferred Stock, as the case may be, elect a person to fill such directorship by vote or written consent in lieu of a meeting; and no such directorship may be filled by stockholders of the Corporation other than by the stockholders of the Corporation that are entitled to elect a person to fill such directorship, voting exclusively and as a separate class. The holders of record of the shares of Common Stock and of any other class or series of voting stock (including the Preferred Stock), exclusively and voting together as a single class on an as-converted to Common Stock basis, shall be entitled to elect the balance of the total number of directors of the Corporation. 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 class or series entitled to elect such director shall constitute a quorum for the purpose of electing such director. Except as otherwise provided in this Subsection 3.2, a vacancy in any directorship filled by the holders of any class or series shall be filled only by vote or written consent in lieu of a meeting of the holders of such class or series or by any remaining director or directors elected by the holders of such class or series pursuant to this Subsection 3.2.

3.3 Preferred Stock Protective Provisions. At any time when any shares of Preferred Stock are outstanding, the Corporation shall not, either directly or indirectly by amendment, merger, consolidation, recapitalization, reclassification or otherwise, do any of the following without (in addition to any other vote required by law or the Restated Certificate) the written consent or affirmative vote of the Requisite Majority, given in writing or by vote at a meeting, consenting or voting (as the case may be) separately as a class, and any such act or transaction entered into without such consent or vote shall be null and void *ab initio*, and of no force or effect.

3.3.1. 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 to any of the foregoing;

3.3.2. amend, alter or repeal any provision of the Restated Certificate or Bylaws of the Corporation;

3.3.3. create, or authorize the creation of, or issue or obligate itself to issue shares of, any additional class or series of capital stock, unless the same ranks junior to the Preferred Stock with respect to the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends and rights of redemption, or increase the authorized number of shares of any series of Preferred Stock or Common Stock;

3.3.4. (i) reclassify, alter or amend any existing security of the Corporation that is *pari passu* with the 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 the 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 any series of Preferred Stock in respect of any such right, preference or privilege;

3.3.5. purchase or redeem (or permit any subsidiary to purchase or redeem) or pay or declare any dividend or make any distribution on, any shares of capital stock of the Corporation other than (i) redemptions of or dividends or distributions on the Preferred Stock as expressly authorized herein, (ii) dividends or other distributions payable on the Common Stock solely in the form of additional shares of Common Stock, and (iii) repurchases of stock from former employees, officers, directors, consultants or other persons who performed services for the Corporation or any subsidiary in connection with the cessation of such employment or service at no greater than the original purchase price thereof;

3.3.6. 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, or assume, guaranty or incur any debt, or permit any subsidiary to take such action, which indebtedness and guaranty of debt exceeds $250,000 in aggregate principal amount;

3.3.7. create, or hold capital stock in, any subsidiary that is not wholly owned (either directly or through one or more other subsidiaries) by the Corporation, or permit any subsidiary to create, or authorize the creation of, or issue or obligate itself to issue, any shares of any class or series of capital stock, or sell, transfer or otherwise dispose of any capital stock of any direct or indirect subsidiary of the Corporation, or permit any direct or indirect subsidiary to sell, lease, transfer, exclusively license or otherwise dispose (in a single transaction or series of related transactions) of all or substantially all of the assets of such subsidiary;

3.3.8. increase or decrease the authorized number of directors constituting the Board of Directors;

3.3.9. establish or amend any stock option or equity incentive plan (or any similar plan) or increase the total number of shares of Common Stock reserved for issuance under any such plan;

3.3.10. 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 Corporation;

3.3.11. make, or permit any subsidiary to make, any loan or advance to any Person, including, without limitation, any employee or director of the Corporation 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 Requisite Majority;

3.3.12. guarantee, directly or indirectly, or permit any subsidiary to guarantee, directly or indirectly, any indebtedness except for trade accounts of the Corporation or any subsidiary arising in the ordinary course of business;

3.3.13. change the principal business of the Corporation, enter new lines of business, or exit the current line of business; or

3.3.14. enter into any agreement to do any of the foregoing.

3.4 Series Seed Preferred Stock Protective Provisions. At any time when any shares of Series Seed Preferred Stock are outstanding, the Corporation shall 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 the Restated Certificate) the written consent or affirmative vote of the holders of a majority of the outstanding Series Seed Preferred Stock given in writing or by vote at a meeting, consenting or voting (as the case may be) separately as a class, and any such act or transaction entered into without such consent or vote shall be null and void *ab initio*, and of no force or effect.

3.4.1. increase the number of authorized shares of Series Seed Preferred Stock;

3.4.2. amend, alter or repeal any provision of the Restated Certificate or Bylaws of the Corporation in a manner that adversely affects the powers, preferences or rights of the Series Seed Preferred Stock, provided, that the creation or issuance of a new series of preferred stock and correlative amendments to this Restated Certificate otherwise in compliance herewith shall not in and of itself be considered adverse to the powers, preferences or rights of the Series Seed Preferred Stock;

3.4.3. (i) reclassify, alter or amend any existing security of the Corporation that is *pari passu* with the Series Seed 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 on parity with the Series Seed 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 the Series Seed 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 the Series Seed Preferred Stock in respect of any such right, preference or privilege;

3.4.4. create or hold capital stock in any subsidiary that is not a wholly-owned subsidiary; or

3.4.5. enter into any agreement to do any of the foregoing.

3.5 Series A Preferred Stock Protective Provisions. At any time when any shares of Series A Preferred Stock are outstanding, the Corporation shall 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 the Restated Certificate) the written consent or affirmative vote of the holders of a majority of the outstanding Series A Preferred Stock given in writing or by vote at a meeting, consenting or voting (as the case may be) separately as a class, and any such act or transaction entered into without such consent or vote shall be null and void *ab initio*, and of no force or effect.

3.5.1. increase the number of authorized shares of Series A Preferred Stock;

3.5.2. amend, alter or repeal any provision of the Restated Certificate or Bylaws of the Corporation in a manner that adversely affects the powers, preferences or rights of the Series A Preferred Stock, provided, that the creation or issuance of a new series of preferred stock and correlative amendments to this Restated Certificate otherwise in compliance herewith shall not in and of itself be considered adverse to the powers, preferences or rights of the Series A Preferred Stock;

3.5.3. (i) reclassify, alter or amend any existing security of the Corporation that is *pari passu* with the Series A 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 on parity with the Series A 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 the Series A 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 the Series A Preferred Stock in respect of any such right, preference or privilege;

3.5.4. create or hold capital stock in any subsidiary that is not a wholly-owned subsidiary; or

3.5.5. enter into any agreement to do any of the foregoing.

3.6 Series B Preferred Stock Protective Provisions. At any time when any shares of Series B Preferred Stock are outstanding, the Corporation shall 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 the Restated Certificate) the written consent or affirmative vote of the holders of a majority of the outstanding Series B Preferred Stock (the "**Requisite Series B Majority**") given in writing or by vote at a meeting, consenting or voting (as the case may be) separately as a class, and any such act or transaction entered into without such consent or vote shall be null and void *ab initio*, and of no force or effect.

3.6.1. 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 to any of the foregoing if it is effected within 18 months of the Series B Original Issue Date (as defined in Subsection 4.4.1 below) and the proceeds payable in respect of each share of Series B Preferred is less than the applicable Original Issue Price;

3.6.2. increase the number of authorized shares of B Preferred Stock; or

3.6.3. amend, alter or repeal any provision of the Restated Certificate or Bylaws of the Corporation in a manner that adversely affects the powers, preferences or rights of the Series B Preferred Stock, provided, that the creation or issuance of a new series of preferred stock and correlative amendments to this Restated Certificate otherwise in compliance herewith shall not in and of itself be considered adverse to the powers, preferences or rights of the Series B Preferred Stock;

3.6.4. (i) reclassify, alter or amend any existing security of the Corporation that is *pari passu* with the Series B 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 on parity with the Series B 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 the Series B 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 the Series B Preferred Stock in respect of any such right, preference or privilege;

3.6.5. create or hold capital stock in any subsidiary that is not a wholly-owned subsidiary; or

3.6.6. enter into any agreement to do any of the foregoing.

4. Optional Conversion.

The holders of the Preferred Stock shall have conversion rights as follows (the "**Conversion Rights**"):

4.1 Right to Convert.

4.1.1. Conversion Ratio. Each share of Preferred Stock shall be convertible, at the option of the holder thereof, at any time and from time to 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 applicable Original Issue Price by the applicable Conversion Price (as defined below) in effect at the time of conversion. The "**Conversion Price**" of a series of Preferred Stock shall initially be equal to the Original Issue Price of such series. Such initial Conversion Price, and the rate at which shares of a series of Preferred Stock may be converted into shares of Common Stock, shall be subject to adjustment as provided below.

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 shall 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 to the holders of Preferred Stock; provided that the foregoing termination of Conversion Rights shall not affect the amount(s) otherwise paid or payable in accordance with Section 2.1 to holders of Preferred Stock pursuant to such liquidation, dissolution or winding up of the Corporation or a Deemed Liquidation Event.

4.2 Fractional Shares. No fractional shares of Common Stock shall be issued upon conversion of the Preferred Stock. In lieu of any fractional shares to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the fair market value of a share of Common Stock as determined in good faith by the Board of Directors. Whether or not fractional shares would be issuable upon such conversion shall 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.

4.3 Mechanics of Conversion.

4.3.1. 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 shall surrender the certificate or certificates for such shares of Preferred Stock (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), 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. Such notice shall 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 shall be endorsed or accompanied by a written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or his, her or its 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 shall be the time of conversion (the "**Conversion Time**"), and the shares of Common Stock issuable upon conversion of the shares represented by such certificate shall be deemed to be outstanding of record as of such date. The Corporation shall, as soon as practicable after the Conversion Time, (i) issue and deliver to such holder of Preferred Stock, or to his, her or its nominees, 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(s) that were not converted into Common Stock, (ii) pay in cash such amount as provided in Subsection 4.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and (iii) pay all declared but unpaid dividends on the shares of Preferred Stock converted.

4.3.2. Reservation of Shares. The Corporation shall at all times when the Preferred Stock shall 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 shall 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 shall not be sufficient to effect the conversion of all then outstanding shares of the Preferred Stock, the Corporation shall take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in best efforts to obtain the requisite stockholder approval of any necessary amendment to the Restated Certificate. Before taking any action which would cause an adjustment reducing the applicable 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.

4.3.3. Effect of Conversion. All shares of Preferred Stock which shall have been surrendered for conversion as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares shall 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 Subsection 4.2 and to receive payment of any dividends declared but unpaid thereon. Any shares of Preferred Stock so converted shall 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 accordingly.

4.3.4. No Further Adjustment. Upon any such conversion, no adjustment to the Conversion Price shall be made for any declared but unpaid dividends on the Preferred Stock surrendered for conversion or on the Common Stock delivered upon conversion.

4.3.5. Taxes. The Corporation shall pay any and all issue and other similar taxes that may be payable in respect of any issuance or delivery of shares of Common Stock upon conversion of shares of Preferred Stock pursuant to this Section 4. The Corporation shall not, however, be required to pay any tax which may be payable in respect of any transfer involved in the issuance and delivery of shares of Common Stock in a name other than that in which the shares of Preferred Stock so converted were registered, and no such issuance or delivery shall be made unless and until the person or entity requesting such issuance has paid to the Corporation the amount of any such tax or has established, to the satisfaction of the Corporation, that such tax has been paid.

4.4 Adjustments to Conversion Price for Diluting Issues.

4.4.1. Special Definitions. For purposes of this Article Fourth, the following definitions shall apply:

(a) "**Option**" shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock or Convertible Securities.

(b) "**Series B Original Issue Date**" shall mean the date on which the first share of Series B Preferred Stock was issued.

(c) "**Convertible Securities**" shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options.

(d) "**Additional Shares of Common Stock**" shall mean all shares of Common Stock issued (or, pursuant to Subsection 4.4.3 below, deemed to be issued) by the Corporation after the Series B Original Issue Date, other than (1) the following shares of Common Stock and (2) shares of Common Stock deemed issued pursuant to the following Options and Convertible Securities (clauses (1) and (2), collectively, "**Exempted Securities**"):

(i) shares of Common Stock, Options or Convertible Securities issued upon conversion of the Preferred Stock, or as a dividend or distribution on the 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 shares of Common Stock that is covered by Subsections 4.5, 4.6, 4.7 or 4.8;

(iii) shares of Common Stock or Options issued to employees or directors of, or consultants or advisors to, the Corporation or any of its subsidiaries pursuant to a plan, agreement or arrangement approved by the Board of Directors of the Corporation and the required stockholders of the Corporation;

(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 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, or to real property lessors, pursuant to a debt financing, equipment leasing or real property leasing transaction approved by the Board of Directors of the Corporation and the Requisite Majority; or

(vi) 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 of Directors of the Corporation and the Requisite Majority.

4.4.2. No Adjustment of Conversion Price. No adjustment in the applicable Conversion Price 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 holders of the Requisite Majority agreeing that no such adjustment shall be made as the result of the issuance or deemed issuance of such Additional Shares of Common Stock.

4.4.3. Deemed Issue of Additional Shares of Common Stock.

(a) If the Corporation at any time or from time to time after the Series B Original Issue Date shall issue any Options or Convertible Securities (excluding Options or Convertible Securities which are themselves Exempted Securities) or shall 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 but without regard to any provision contained therein for a subsequent adjustment of such number) 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, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall 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 applicable Conversion Price pursuant to the terms of Subsection 4.4.4, 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 (1) 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 (2) 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 applicable Conversion Price computed upon the original issue of such Option or Convertible Security (or upon the occurrence of a record date with respect thereto) shall be readjusted to such applicable Conversion Price 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 clause (b) shall have the effect of increasing the applicable Conversion Price to an amount which exceeds the lower of (i) the applicable Conversion Price in effect immediately prior to the original adjustment made as a result of the issuance of such Option or Convertible Security, or (ii) the applicable Conversion Price 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 which are themselves Exempted Securities), the issuance of which did not result in an adjustment to the applicable Conversion Price pursuant to the terms of Subsection 4.4.4 (either because the consideration per share (determined pursuant to Subsection 4.4.5) of the Additional Shares of Common Stock subject thereto was equal to or greater than the applicable Conversion Price then in effect, or because such Option or Convertible Security was issued before the Series B Original Issue Date), are revised after the Series B 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 (1) 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 (2) 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 Subsection 4.4.3(a)) shall 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) which resulted (either upon its original issuance or upon a revision of its terms) in an adjustment to the applicable Conversion Price pursuant to the terms of Subsection 4.4.4, the applicable Conversion Price shall be readjusted to such applicable Conversion Price 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 upon subsequent events, any adjustment to the applicable Conversion Price provided for in this Subsection 4.4.3 shall 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 shall be treated as provided in clauses (b) and (c) of this Subsection 4.4.3). 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 the applicable Conversion Price that would result under the terms of this Subsection 4.4.3 at the time of such issuance or amendment shall 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 the applicable Conversion Price that such issuance or amendment took place at the time such calculation can first be made.

4.4.4. Adjustment of Conversion Price Upon Issuance of Additional Shares of Common Stock. In the event the Corporation shall at any time after the Series B Original Issue Date issue Additional Shares of Common Stock (including Additional Shares of Common Stock deemed to be issued pursuant to Subsection 4.4.3), without consideration or for a consideration per share less than the applicable Conversion Price in effect immediately prior to such issuance or deemed issuance, then the applicable Conversion Price shall be reduced, concurrently with such issue, to a price (calculated to the nearest one-hundredth of a cent) determined in accordance with the following formula:

$$CP_2 = CP_1 * (A + B) \div (A + C).$$

For purposes of the foregoing formula, the following definitions shall apply:

(a) "CP_2" shall mean the applicable Conversion Price in effect immediately after such issuance or deemed issuance of Additional Shares of Common Stock

(b) "CP_1" shall mean the applicable Conversion Price in effect immediately prior to such issuance or deemed issuance of Additional Shares of Common Stock;

(c) "A" shall mean the number of shares of Common Stock outstanding immediately prior to such issuance or deemed issuance of Additional Shares of Common Stock (treating for this purpose as outstanding all shares of Common Stock issuable upon exercise of Options outstanding immediately prior to such issuance or deemed issuance or upon conversion or exchange of Convertible Securities (including the Preferred Stock) outstanding (assuming exercise of any outstanding Options therefor) immediately prior to such issue);

(d) "B" shall mean the number of shares of Common Stock that would have been issued if such Additional Shares of Common Stock had been issued or deemed issued at a price per share equal to CP_1 (determined by dividing the aggregate consideration received by the Corporation in respect of such issue by CP_1); and

(e) "C" shall mean the number of such Additional Shares of Common Stock issued in such transaction.

4.4.5. Determination of Consideration. For purposes of this Subsection 4.4, the consideration received by the Corporation for the issuance or deemed issuance of any Additional Shares of Common Stock shall be computed as follows:

(a) Cash and Property: Such consideration shall:

(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 of Directors of the Corporation; 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 of Directors of the Corporation.

(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 Subsection 4.4.3, relating to Options and Convertible Securities, shall 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.

4.4.6. Multiple Closing Dates. In the event the Corporation shall issue on more than one date Additional Shares of Common Stock that are a part of one transaction or a series of related transactions and that would result in an adjustment to the applicable Conversion Price pursuant to the terms of Subsection 4.4.4, then, upon the final such issuance, the applicable Conversion Price shall 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).

4.5 Adjustment for Stock Splits and Combinations. If the Corporation shall at any time or from time to time after Series B Original Issue Date effect a subdivision of the outstanding Common Stock, the Conversion Prices of each series of Preferred Stock that are in effect immediately before that subdivision shall be proportionately decreased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be increased in proportion to such increase in the aggregate number of shares of Common Stock outstanding. If the Corporation shall at any time or from time to time after the Series B Original Issue Date combine the outstanding shares of Common Stock, the Conversion Prices of each series of Preferred Stock that are in effect immediately before the combination shall be proportionately increased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be decreased in proportion to such decrease in the aggregate number of shares of Common Stock outstanding. Any adjustment under this subsection shall become effective at the close of business on the date the subdivision or combination becomes effective.

4.6 Adjustment for Certain Dividends and Distributions. In the event the Corporation at any time or from time to time after the Series B Original Issue Date shall 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 Prices of each series of Preferred Stock that are in effect immediately before such event shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the applicable Conversion Price then in effect by a fraction:

(1) the numerator of which shall be 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, and

(2) the denominator of which shall be 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, (a) if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Conversion Prices of each series of Preferred Stock shall be recomputed accordingly as of the close of business on such record date and thereafter the Conversion Prices of each series of Preferred Stock shall be adjusted pursuant to this subsection as of the time of actual payment of such dividends or distributions; and (b) that no such adjustment shall be made if the holders of Preferred Stock of such affected series 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 Preferred Stock had been converted into Common Stock on the date of such event.

4.7 Adjustments for Other Dividends and Distributions. In the event the Corporation at any time or from time to time after the Series B Original Issue Date shall 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) or in other property and the provisions of Section 1 do not apply to such dividend or distribution, then and in each such event the holders of Preferred Stock shall receive, simultaneously with the distribution to the holders of Common Stock, a dividend or other distribution of such securities or other property in an amount equal to the amount of such securities or other property as they would have received if all outstanding shares of Preferred Stock had been converted into Common Stock on the date of such event.

4.8 Adjustment for Merger or Reorganization, etc. Subject to the provisions of Subsection 2.3, if there shall occur any reorganization, recapitalization, reclassification, consolidation or merger involving the Corporation in which the Common Stock (but not the Preferred Stock) is converted into or exchanged for securities, cash or other property (other than a transaction covered by Subsections 4.4, 4.6 or 4.7), then, following any such reorganization, recapitalization, reclassification, consolidation or merger, each share of Preferred Stock shall 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 Preferred Stock immediately prior to such reorganization, recapitalization, reclassification, 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 of Directors) shall be made in the application of the provisions in this Section 4 with respect to the rights and interests thereafter of the holders of the Preferred Stock, to the end that the provisions set forth in this Section 4 (including provisions with respect to changes in and other adjustments of the Conversion Prices) shall thereafter be applicable, as nearly as reasonably may be, in relation to any securities or other property thereafter deliverable upon the conversion of the Preferred Stock. For the avoidance of doubt, nothing in this Subsection 4.8 shall be construed as preventing the holders of Preferred Stock from seeking any appraisal rights to which they are otherwise entitled under the DGCL in connection with a merger triggering an adjustment hereunder, nor shall this Subsection 4.8 be deemed conclusive evidence of the fair value of the shares of Preferred Stock in any such appraisal proceeding.

4.9 Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of a Conversion Price pursuant to this Section 4, the Corporation at its expense shall, as promptly as reasonably practicable but in any event not later than 10 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 the such series of Preferred Stock is convertible) and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, as promptly as reasonably practicable after the written request at any time of any holder 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 (i) the applicable Conversion Price(s) then in effect, and (ii) 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 the series of Preferred Stock held by such holder.

4.10 Notice of Record Date. In the event:

(a) the Corporation shall take 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 right, and the amount and character of such dividend, distribution or 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) shall 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 shall be sent at least 10 days prior to the record date or effective date for the event specified in such notice.

5. Mandatory Conversion.

5.1 Trigger Events. Upon either (a) the closing of the sale of shares of Common Stock to the public at a price of at least $2.8236 per share (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Common Stock), in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, resulting in at least $75 million of net proceeds to the Corporation, and in connection with such offering the Common Stock is listed for trading on the Nasdaq Stock Market's National Market or the New York Stock Exchange (a "**Qualified IPO**"), or (b) the date and time, or the occurrence of an event, specified by vote or written consent of the Requisite Majority (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**"): (x) all outstanding shares of Preferred Stock shall automatically be converted into shares of Common Stock, at the then effective conversion rate as calculated pursuant to Subsection 4.1.1 and (y) such shares may not be reissued by the Corporation.

5.2 Procedural Requirements. All holders of record of shares of Preferred Stock shall 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 this Section 5 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 shall surrender his, her or its 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. If so required by the Corporation, certificates surrendered for conversion shall be endorsed or accompanied by written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or by his, her or its attorney duly authorized in writing. All rights with respect to the Preferred Stock converted pursuant to Subsection 5.1, 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 Subsection 5.2. 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 shall issue and deliver to such holder, or to his, her or its nominees, 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 Subsection 4.2 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 shall 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 accordingly.

6. Acquired Shares. Any shares of Preferred Stock that are acquired by the Corporation or any of its subsidiaries shall be automatically and immediately cancelled and retired and shall not be reissued, sold or transferred. Neither the Corporation nor any of its subsidiaries may exercise any voting or other rights granted to the holders of Preferred Stock following any redemption, conversion or acquisition thereof.

7. Waiver. Except as set forth herein, any of the rights, powers, preferences and other terms of the Preferred Stock, voting together as a single class, set forth herein may be waived on behalf of all holders of Preferred Stock by the affirmative written consent or vote of the Requisite Majority; provided, however, that (a) any rights, powers, preferences or other terms of the Series Seed Preferred Stock, voting as a separate series, set forth herein may be waived on behalf of all holders of Series Seed Preferred Stock only by the affirmative written consent or vote of the holders of at least a majority of the shares of Series Seed Preferred Stock then outstanding, (b) any rights, powers, preferences or other terms of the Series A Preferred Stock, voting as a separate series, set forth herein may be waived on behalf of all holders of Series A Preferred Stock only by the affirmative written consent or vote of the holders of at least a majority of the shares of Series A Preferred Stock then outstanding, and (c) any rights, powers, preferences or other terms of the Series B Preferred Stock, voting as a separate series, set forth herein may be waived on behalf of all holders of Series B Preferred Stock only by the affirmative written consent or vote of the Requisite Series B Majority.

8. Notices. Any notice required or permitted by the provisions of this Article Fourth to be given to a holder of shares of Preferred Stock shall be mailed, postage prepaid, to the post office address last shown on the records of the Corporation, or given by electronic communication in compliance with the provisions of the DGCL, and shall be deemed sent upon such mailing or electronic transmission.

FIFTH: Subject to any additional vote required by the Restated Certificate or Bylaws, in furtherance and not in limitation of the powers conferred by statute, the Board of Directors is expressly authorized to make, repeal, alter, amend and rescind any or all of the Bylaws of the Corporation.

SIXTH: Subject to any additional vote required by the Restated Certificate, the number of directors of the Corporation shall 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 a Preferred Director, the affirmative vote of a majority of the Preferred Directors then in office shall be required for the authorization by the Board of Directors of any of the matters set forth in Subsections 5.3 and 5.4 of the Amended and Restated Investors' Rights Agreement, by and among the Corporation and the other parties thereto, as such agreement may be amended from time to time.

SEVENTH: Elections of directors need not be by written ballot unless the Bylaws of the Corporation shall so provide.

EIGHTH: 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 of Directors or in the Bylaws of the Corporation.

NINTH: To the fullest extent permitted by law, a director of the Corporation shall not be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director. If the DGCL or any other law of the State of Delaware is amended after approval by the stockholders of this Article Ninth to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the DGCL as so amended.

Any repeal or modification of the foregoing provisions of this Article Ninth by the stockholders of the Corporation shall 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.

TENTH: 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 DGCL.

Any amendment, repeal or modification of the foregoing provisions of this Article Tenth shall not (a) 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, or (b) increase the liability of any director of the Corporation with respect to any acts or omissions of such director, officer or agent occurring prior to, such amendment, repeal or modification.

ELEVENTH: The Corporation renounces, to the fullest extent permitted by law, any interest or expectancy of the Corporation in, or in being offered an opportunity to participate in, any Excluded Opportunity. An "**Excluded Opportunity**" is any matter, transaction or interest that is presented to, or acquired, created or developed by, or which otherwise comes into the possession of, (i) any director of the Corporation who is not an employee of the Corporation or any of its subsidiaries, or (ii) any holder of Preferred Stock or any partner, member, director, stockholder, employee, affiliate or agent of any such holder, other than someone who is an employee of the Corporation or any of its subsidiaries (collectively, "**Covered Persons**"), unless such matter, transaction or interest is presented to, or acquired, created or developed by, or otherwise comes into the possession of, a Covered Person expressly and solely in such Covered Person's capacity as a director of the Corporation. Any repeal or modification of this Article Eleventh will only be prospective and will not affect the right under this Article in effect at the time of the occurrence of any actions or omissions to act giving rise to liability. The affirmative vote of the Requisite Majority shall be required to amend or repeal, or to adopt any provisions inconsistent with this Article.

TWELFTH: Unless the Corporation consents in writing to the selection of an alternative forum, the Court of Chancery in the State of Delaware shall be the sole and exclusive forum for any stockholder (including a beneficial owner) to bring (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of fiduciary duty owed by any director, officer or other employee of the Corporation to the Corporation or the Corporation's stockholders, (iii) any action asserting a claim against the Corporation, its directors, officers or employees arising pursuant to any provision of the DGCL or the Corporation's certificate of incorporation or bylaws or (iv) any action asserting a claim against the Corporation, its directors, officers or employees governed by the internal affairs doctrine, except for, as to each of (i) through (iv) above, any claim as to which the Court of Chancery determines that there is an indispensable party not subject to the jurisdiction of the Court of Chancery (and the indispensable party does not consent to the personal jurisdiction of the Court of Chancery within ten days following such determination), which is vested in the exclusive jurisdiction of a court or forum other than the Court of Chancery, or for which the Court of Chancery does not have subject matter jurisdiction. If any provision or provisions of this Article Twelfth 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 provisions in any other circumstance and of the remaining provisions of this Article Twelfth (including, without limitation, each portion of any sentence of this Article Twelfth 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 and circumstances shall not in any way be affected or impaired thereby.

* * *

3. That the foregoing amendment and restatement was approved by the holders of the requisite number of shares of this corporation in accordance with Section 228 of the DGCL.

4. That this Restated Certificate, which restates and integrates and amends the provisions of this Corporation's Second Amended and Restated Certificate of Incorporation, has been duly adopted in accordance with Sections 242 and 245 of the DGCL.

IN WITNESS WHEREOF, this Restated Certificate has been executed by a duly authorized officer of this corporation on this 29th day of March, 2021.

By: /s/ Dipal Doshi
Dipal Doshi, President

Exhibit 3.3

BY-LAWS
OF
CYCLOPORTERS, INC.

(the "Corporation")

Section 1. CERTIFICATE OF INCORPORATION AND BY-LAWS

1.1 These by-laws are subject to the certificate of incorporation of the corporation. In these by-laws, references to the certificate of incorporation and by-laws mean the provisions of the certificate of incorporation and the by-laws as are from time to time in effect.

Section 2. OFFICES

2.1 Registered Office. The registered office shall be in the City of Wilmington, County of New Castle, State of Delaware.

2.2 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.

Section 3. STOCKHOLDERS

3.1 Location of Meetings. All meetings of the stockholders shall be held at such place either within or without the State of Delaware as shall be designated from time to time by the board of directors, or if not so designated, at the registered office of the corporation. Notwithstanding the foregoing, 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 211(a)(2) of the Delaware General Corporation Law. If so authorized, 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, participate in 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. Any adjourned session of any meeting shall be held at the place designated in the vote of adjournment.

3.2 Annual Meeting. The annual meeting of stockholders shall be held at 10:00 a.m. on the second Wednesday in May in each year, unless that day be a legal holiday at the place where the meeting is to be held, in which case the meeting shall be held at the same hour on the next succeeding day not a legal holiday, or at such other date and time as shall be designated from time to time by the board of directors, at which they shall elect a board of directors and transact such other business as may be required by law or these by-laws or as may properly come before the meeting.

3.3 Special Meeting in Place of Annual Meeting. If the election for directors shall not be held on the day designated by these by-laws, the directors shall cause the election to be held as soon thereafter as convenient, and to that end, if the annual meeting is omitted on the day herein provided therefor or if the election of directors shall not be held thereat, a special meeting of the stockholders may be held in place of such omitted meeting or election, and any business transacted or election held at such special meeting shall have the same effect as if transacted or held at the annual meeting, and in such case all references in these by-laws to the annual meeting of the stockholders, or to the annual election of directors, shall be deemed to refer to or include such special meeting. Any such special meeting shall be called and the purposes thereof shall be specified in the call, as provided in Section 3.5.

3.4 Notice of Annual Meeting. Written notice of the annual meeting stating the place, date and hour of the meeting shall be given to each stockholder entitled to vote at such meeting not less than ten nor more than sixty days before the date of the meeting. Such notice may specify the business to be transacted and actions to be taken at such meeting. No action shall be taken at such meeting unless such notice is given or unless waiver of such notice is given in accordance with Section 5,2 by each stockholder entitled to such notice to whom such notice was not given.

3.5 Other Special Meetings. Special meetings of the stockholders, for any purpose or purposes, unless otherwise prescribed by law or by the certificate of incorporation, may be called by the president and shall be called by the president or secretary at the request in writing of a majority of the board of directors, or at the request in writing of the holders of at least ten percent of all capital stock of the corporation issued and outstanding and entitled to vote at such meeting. Such request shall state the purpose or purposes of the proposed meeting and business to be transacted at any special meeting of the stockholders.

3.6 Notice of Special Meeting. Written notice of a special meeting stating the place, date and hour of the meeting and the purpose or purposes for which the meeting is called, shall be given not less than ten nor more than sixty days before the date of the meeting, to each stockholder entitled to vote at such meeting. No action shall be taken at such meeting unless such notice is given or unless waiver of such notice is given in accordance with Section 5.2 by each stockholder entitled to such notice to whom such notice was not given.

3.7 Stockholder List. The officer who has charge of the stock ledger of the corporation shall prepare and make, at least ten 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. 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 days prior to the meeting, either (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 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 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 examination of any stockholder during the entire meeting on a reasonably accessible electronic network, and the information required to access such list shall be provided with the notice of the meeting.

3.8 Quorum of Stockholders. 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 required by law, by the certificate of incorporation or by these by-laws. Except as otherwise provided by law, no stockholder present at a meeting may withhold his shares from the quorum count by declaring his shares absent from the meeting.

3.9 Adjournment. Any meeting of stockholders may be adjourned from time to time to any other time and to any other place at which a meeting of stockholders may be held under these by-laws, which time and place shall be announced at the meeting, by a majority of votes cast upon the question, whether or not a quorum is present, or, if no stockholder is present or represented by proxy, by any officer entitled to preside at or to act as secretary of such meeting. 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 original meeting. If the adjournment is for more than thirty 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.

3.10 Proxy Representation. Every stockholder may authorize another person or persons to act for him by proxy in all matters in which a stockholder is entitled to participate, whether by waiving notice of any meeting, objecting to or voting or participating at a meeting, or expressing consent or dissent without a meeting. Every proxy must be signed by the stockholder or by his attorney-in-fact. No proxy shall be voted or acted upon after three years from its date unless such proxy provides for a longer period. Except as provided by law, a revocable proxy shall be deemed revoked if the stockholder is present at the meeting for which the proxy was given. A duly executed 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. The authorization of a proxy may, but need not be limited to specified action, provided, however, that if a proxy limits its authorization to a meeting or meetings of stockholders, unless otherwise specifically provided such proxy shall entitle the holder thereof to vote at any adjourned session but shall not be valid after the final adjournment thereof.

3.11 Inspectors. The directors or the person presiding at the meeting may, but need not unless required by law, appoint one or more inspectors of election and any substitute inspectors to act at the meeting or any adjournment thereof. Each inspector, before entering upon the discharge of his duties, shall take and sign an oath faithfully to execute the duties of inspector at such meeting with strict impartiality and according to the best of his ability. The inspectors, if any, shall determine the number of shares of stock outstanding and the voting power of each, the shares of stock represented at the meeting, the existence of a quorum and the validity and effect of proxies, and shall receive votes, ballots or consents, hear and determine all challenges and questions arising in connection with the right to vote, count and tabulate all votes, ballots or consents, determine the result, and do such acts as are proper to conduct the election or vote with fairness to all stockholders. On request of the person presiding at the meeting, the inspectors shall make a report in writing of any challenge, question or matter determined by them and execute a certificate of any fact found by them.

3.12 Action by Vote. When a quorum is present at any meeting, whether the same be an original or an adjourned session, a plurality of the votes properly cast for election to any office shall elect to such office and a majority of the votes properly cast upon any question other than an election to an office shall decide the question, except when a larger vote is required by law, by the certificate of incorporation or by these by-laws. No ballot shall be required for any election unless requested by a stockholder present or represented at the meeting and entitled to vote in the election.

3.13 Action Without Meetings. Unless otherwise provided in the certificate of incorporation, any action required 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 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. Prompt notice of the taking of the corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not consented in writing. Consent may be given by electronic transmission to the extent permitted by the Delaware General Corporation Law.

3.14 Organization. Meetings of stockholders shall be presided over by the chairperson of the board of directors, if any, or in his absence by the president, or in his absence by a vice president, or in the absence of the foregoing persons by a chairperson chosen at the meeting by the board. The secretary shall act as secretary of the meeting, but in his absence the chairperson of the meeting may appoint any person to act as secretary of the meeting. The chairperson of the meeting shall announce at the meeting of stockholders the date and time of the opening and the closing of the polls for each matter upon which the stockholders will vote.

3.15 Conduct of Meetings. The board of directors of the corporation may adopt by resolution such rules and regulations for the conduct of the 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 chairperson of any meeting of stockholders shall have the right and authority to prescribe such rules, regulations and procedures and to do all such acts as, in the judgment of such chairperson, are appropriate for the proper conduct of the meeting. Such rules, regulations or procedures, whether adopted by the board of directors or prescribed by the chairperson of the meeting, may include, without limitation, the following: (i) the establishment of 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 of record of the corporation, their duly authorized and constituted proxies or such other persons as the chairperson of the meeting shall determine; (iv) restrictions on entry to the meeting after the time fixed for the commencement thereof; and (v) limitations on the time allotted to questions or comments by participants. Unless and to the extent determined by the board of directors or the chairperson of the meeting, meetings of stockholders shall not be required to be held in accordance with the rules of parliamentary procedure.

Section 4. DIRECTORS

4.1 Number. The number of directors which shall constitute the whole board shall not be less than one. The first board shall consist of one director. Thereafter, the stockholders at the annual meeting shall determine the number of directors, and the number of directors may be increased or decreased at any time or from time to time by the stockholders or by the directors by vote of a majority of directors then in office, except that any such decrease by vote of the directors shall only be made to eliminate vacancies existing by reason of the death, resignation or removal of one or more directors. The directors shall be elected at the annual meeting of the stockholders, except as provided in these by-laws. Directors need not be stockholders.

4.2 Tenure. Except as otherwise provided by law, by the certificate of incorporation or by these by-laws, each director shall hold office until the next annual meeting and until his successor is elected and qualified, or until he sooner dies, resigns, is removed or becomes disqualified.

4.3 Powers. The business of the corporation shall be managed by or under the direction of the board of directors which shall have and may exercise all the powers of the corporation and do all such lawful acts and things as are not by law, the certificate of incorporation or these by-laws directed or required to be exercised or done by the stockholders.

4.4 Vacancies. Vacancies and any newly created directorships resulting from any increase in the number of directors may be filled by vote of the stockholders at a meeting called for the purpose, or by a majority of the directors then in office, although less than a quorum, or by a sole remaining director. When one or more directors shall resign from the board, effective at a future date, a majority of the directors then in office, including those who have resigned, shall have power to fill such vacancy or vacancies, the vote or action in writing thereon to take effect when such resignation or resignations shall become effective. The directors shall have and may exercise all their powers notwithstanding the existence of one or more vacancies in their number, subject to any requirements of law or of the certificate of incorporation or of these by-laws as to the number of directors required for a quorum or for any vote or other actions.

4.5 Committees. The board of directors may, by vote of a majority of the whole board, (a) designate, change the membership of or terminate the existence of any committee or committees, each committee to consist of one or more of the directors; (b) designate one or more directors as alternate members of any such committee who may replace any absent or disqualified member at any meeting of the committee; and (c) determine the extent to which each such committee shall have and may exercise the powers and authority of the board of directors in the management of the business and affairs of the corporation, including the power to authorize the seal of the corporation to be affixed to all papers which require it and the power and authority to declare dividends or to authorize the issuance of stock; excepting, however, such powers which by law, by the certificate of incorporation or by these by-laws they are prohibited from so delegating. In the absence or disqualification of any member of such committee and his alternate, if any, the member or members thereof present at any meeting and not disqualified from voting, whether or not constituting 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. Except as the board of directors may otherwise determine, any committee may make, alter and repeal rules for the conduct of its business, but unless otherwise provided by the board or such rules, its business shall be conducted as nearly as may be in the same manner as is provided by these by-laws for the conduct of business by the board of directors. Each committee shall keep regular minutes of its meetings and report the same to the board of directors upon request.

4.6 Regular Meeting. Regular meetings of the board of directors may be held without call or notice at such place within or without the State of Delaware and at such times as the board may from time to time determine, provided that notice of the first regular meeting following any such determination shall be given to absent directors. A regular meeting of the directors may be held without call or notice immediately after and at the same place as the annual meeting of the stockholders.

4.7 Special Meetings. Special meetings of the board of directors may be held at any time and at any place within or without the State of Delaware designated in the notice of the meeting, when called by the president, or by any director, reasonable notice thereof being given to each director by the secretary or by the president or by any one of the directors calling the meeting.

4.8 Notice. It shall be reasonable and sufficient notice to a director to send notice by mail at least forty-eight hours or by telegram or telecopy or other form of electronic transmission at least twenty- four hours before the meeting, addressed to him at his usual or last known business or residence address or to give notice to him in person or by telephone at least twenty-four hours before the meeting. Notice of a meeting need not be given to any director if a written waiver of notice, executed by him before or after the meeting, is filed with the records of the meeting, or to any director who attends the meeting without protesting prior thereto or at its commencement the lack of notice to him. Neither notice of a meeting nor a waiver of a notice need specify the purposes of the meeting.

4.9 Quorum. Except as may be otherwise provided by law, by the certificate of incorporation or by these by-laws, at any meeting of the directors a majority of the directors then in office shall constitute a quorum. A quorum shall not in any case be less than a majority of the total number of directors constituting the whole board. Any meeting may be adjourned from time to time by a majority of the votes cast upon the question, whether or not a quorum is present, and the meeting may be held as adjourned without further notice.

4.10 Action by Vote. Except as may be otherwise provided by law, by the certificate of incorporation or by these by-laws, when a quorum is present at any meeting the vote of a majority of the directors present shall be the act of the board of directors.

4.11 Action Without a Meeting. Unless otherwise restricted by the certificate of incorporation or these by-laws, 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 the members of the board or of such 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, 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. Such consent shall be treated for all purposes as the act of the board or of such committee, as the case may be.

4.12 Participation in Meetings by Conference Telephone. Unless otherwise restricted by the certificate of incorporation or these by-laws, members of the board of directors or of any committee thereof may participate in a meeting of such board or committee by means of conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other. Such participation shall constitute presence in person at such meeting.

4.13 Compensation. Unless otherwise restricted by the certificate of incorporation or these by-laws, the board of directors shall have the authority to fix from time to time the compensation of directors. The directors may be paid their expenses, if any, of attendance at each meeting of the board of directors and the performance of their responsibilities as directors and may be paid a fixed sum for attendance at each meeting of the board of directors and/or a stated salary as director. No such payment shall preclude any director from serving the corporation or its parent or subsidiary corporations in any other capacity and receiving compensation therefor. The board of directors may also allow compensation for members of special or standing committees for service on such committees.

4.14 Interested Directors and Officers.

(a) No contract or transaction between the corporation and one or more of its directors or officers, or between the corporation and any other corporation, partnership, association, or other organization in which one or more of the corporation's directors or officers are directors or officers, or have a financial interest, shall be void or voidable solely for this reason, or solely because the director or officer is present at or participates in the meeting of the board or committee thereof which authorizes the contract or transaction, or solely because his or their votes are counted for such purpose, if:

(1) The material facts as to his relationship or interest and as to the contract or transaction are disclosed or are known to the board of directors or the committee, and the board or committee in good faith authorizes the contract or transaction by the affirmative votes of a majority of the disinterested directors, even though the disinterested directors be less than a quorum; or

(2) The material facts as to his relationship or interest and as to the contract or transaction are disclosed or are known to the stockholders entitled to vote thereon, and the contract or transaction is specifically approved in good faith by vote of the stockholders; or

(3) The contract or transaction is fair as to the corporation as of the time it is authorized, approved or ratified by the board of directors, a committee thereof, or the stockholders.

(b) Common or interested directors may be counted in determining the presence of a quorum at a meeting of the board of directors or of a committee which authorizes the contract or transaction.

4.15 Resignation or Removal of Directors. Unless otherwise restricted by the certificate of incorporation or by law, any director or the entire board of directors may be removed, with or without cause, by the holders of a majority of the stock issued and outstanding and entitled to vote at an election of directors. Any director may resign at any time by delivering his resignation in writing to the president or the secretary or to a meeting of the board of directors. Such resignation shall be effective upon receipt unless specified to be effective at some other time and without in either case the necessity of its being accepted unless the resignation shall so state. No director resigning and no director removed shall have any right to receive compensation as such director for any period following his resignation or removal, except where a right to receive compensation shall be expressly provided in a duly authorized written agreement with the corporation, or any right to damages on account of such removal, whether his compensation be by the month or by the year or otherwise; unless in the case of a resignation, the directors, or in the case of removal, the body acting on the removal, shall in their or its discretion provide for compensation.

Section 5. NOTICES

5.1 Form of Notice. Whenever, under the provisions of law, of the certificate of incorporation or of these by-laws, notice is required to be given to any director or stockholder, such notice may be given by mail, addressed to such director or stockholder, at his address as it appears on the records of the corporation, with postage thereon prepaid, and such notice shall be deemed to be given at the time when the same shall be deposited in the United States mail. Unless written notice by mail is required by law, written notice may also be given by telegram, cable, telecopy, commercial delivery service, telex or similar means, addressed to such director or stockholder at his address as it appears on the records of the corporation, in which case such notice shall be deemed to be given when delivered into the control of the persons charged with effecting such transmission, the transmission charge to be paid by the corporation or the person sending such notice and not by the addressee. Notice may also be given to any stockholder and to any director by any form of electronic transmission, to the same extent that Section 232 of the Delaware General Corporation Law permits notice in such form to be given to stockholders, and will be deemed given at the time provided therein. Oral notice or other in-hand delivery (in person or by telephone) shall be deemed given at the time it is actually given.

5.2 Waiver of Notice. Whenever notice is required to be given under the provisions of law, the certificate of incorporation or these by-laws, a written waiver thereof, 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 meeting of the stockholders, directors or members of a committee of the directors need be specified in any written waiver of notice.

Section 6. OFFICERS AND AGENTS

6.1 Enumeration; Qualification. The officers of the corporation shall be a president, a treasurer, a secretary and such other officers, if any, as the board of directors from time to time may in its discretion elect or appoint including without limitation a chairperson of the board of directors and one or more vice presidents. Any officer may be, but none need be, a director or stockholder. Any two or more offices may be held by the same person. Any officer may be required by the board of directors to secure the faithful performance of his duties to the corporation by giving bond in such amount and with sureties or otherwise as the board of directors may determine.

6.2 Powers. Subject to law, to the certificate of incorporation and to the other provisions of these by-laws, each officer shall have, in addition to the duties and powers herein set forth, such duties and powers as are commonly incident to his office and such additional duties and powers as the board of directors may from time to time designate.

6.3 Election. The board of directors at its first meeting after each annual meeting of stockholders shall choose a president, a secretary and a treasurer. Other officers may be appointed by the board of directors at such meeting, at any other meeting or by written consent. At any time or from time to time, the directors may delegate to any officer their power to elect or appoint any other officer or any agents.

6.4 Tenure. Each officer shall hold office until the first meeting of the board of directors following the next annual meeting of the stockholders and until his successor is elected and qualified unless a shorter period shall have been specified in terms of his election or appointment, or in each case until he sooner dies, resigns, is removed or becomes disqualified. Each agent of the corporation shall retain his authority at the pleasure of the directors, or the officer by whom he was appointed or by the officer who then holds agent appointive power.

6.5 Chairperson of the Board of Directors. The chairperson of the board of directors, if any, shall have such duties and powers as shall be designated from time to time by the board of directors. Unless the board of directors otherwise specifies, the chairperson of the board, or if there is none the president, shall preside, or designate the person who shall preside, at all meetings of the stockholders and of the board of directors. References in these by-laws to a chairperson shall include references to persons designated by the board of directors with the title chairman, chairwoman or chair or any similar title.

6.6 President and Vice Presidents. Unless a chief executive officer has been elected by the board of directors, the president shall be the chief executive officer and shall have direct and active charge of all business operations of the corporation and shall have general supervision of the entire business of the corporation, subject to the control of the board of directors. As provided in Section 6.5, in the absence of the chairperson of the board of directors, the president shall preside at all meetings of the stockholders and of the board of directors at which the president is present, except as otherwise voted by the board of directors.

The president or treasurer shall execute bonds, mortgages and other contracts requiring a seal, under the seal 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.

Any vice presidents shall have such duties and powers as shall be designated from time to time by the board of directors or by the president.

6.7 Treasurer and Assistant Treasurers. The treasurer shall be the chief financial officer of the corporation and shall be in charge of its funds and valuable papers, and shall have such other duties and powers as may be assigned to him from time to time by the board of directors or by the president.

Any assistant treasurers shall have such duties and powers as shall be designated from time to time by the board of directors, the president or the treasurer.

6.8 Secretary and Assistant Secretaries. The secretary shall record all proceedings of the stockholders, of the board of directors and of committees of the board of directors in a book or series of books to be kept therefor and shall file therein all writings of, or related to, action by stockholder or director consent. In the absence of the secretary from any meeting, an assistant secretary, or if there is none or he is absent, a temporary secretary chosen at the meeting, shall record the proceedings thereof. Unless a transfer agent has been appointed, the secretary shall keep or cause to be kept the stock and transfer records of the corporation, which shall contain the names and record addresses of all stockholders and the number of shares registered in the name of each stockholder. The secretary shall have such other duties and powers as may from time to time be designated by the board of directors or the president.

Any assistant secretaries shall have such duties and powers as shall be designated from time to time by the board of directors, the president or the secretary.

6.9 Resignation and Removal. Any officer may resign at any time by delivering his resignation in writing to the president or the secretary or to a meeting of the board of directors. Such resignation shall be effective upon receipt unless specified to be effective at some other time, and without in any case the necessity of its being accepted unless the resignation shall so state. The board of directors may at any time remove any officer either with or without cause. The board of directors may at any time terminate or modify the authority of any agent. No officer resigning and no officer removed shall have any right to any compensation as such officer for any period following his resignation or removal, except where a right to receive compensation shall be expressly provided in a duly authorized written agreement with the corporation, or any right to damages on account of such removal, whether his compensation be by the month or by the year or otherwise; unless in the case of a resignation, the directors, or in the case of removal, the body acting on the removal, shall in their or its discretion provide for compensation.

6.10 Vacancies. If the office of the president or the treasurer or the secretary becomes vacant, the directors may elect a successor by vote of a majority of the directors then in office. If the office of any other officer becomes vacant, any person or body empowered to elect or appoint that office may choose a successor. Each such successor shall hold office for the unexpired term of his predecessor, and in the case of the president, the treasurer and the secretary until his successor is chosen and qualified, or in each case until he sooner dies, resigns, is removed or becomes disqualified.

Section 7. CAPITAL STOCK

7.1 Stock Certificates. Each stockholder shall be entitled to a certificate stating the number and the class and the designation of the series, if any, of the shares held by him, in such form as shall, in conformity to law, the certificate of incorporation and the by-laws, be prescribed from time to time by the board of directors. Such certificate shall be signed by (i) the chairperson of the board of directors or the president or a vice-president and (ii) the treasurer or an assistant treasurer or the secretary or an assistant secretary. Any or all of the signatures on the certificate may be a facsimile. In case an officer, transfer agent or registrar who has signed or whose facsimile signature has been placed on such certificate shall have 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 he were such officer, transfer agent, or registrar at the time of its issue.

7.2 Lost Certificates. The board of directors may direct a new certificate or certificates to be issued in place of any certificate or certificates theretofore issued by the corporation alleged to have been lost, stolen or destroyed, upon the making of an affidavit of that fact by the person claiming the certificate of stock to be lost, stolen or destroyed. When authorizing such issue of a new certificate or certificates, the board of directors may, in its discretion and as a condition precedent to the issuance thereof, require the owner of such lost, stolen or destroyed certificate or certificates, or his legal representative, to advertise the same in such manner as it shall require and/or to give the corporation a bond in such sum as it may direct as indemnity against any claim that may be made against the corporation with respect to the certificate alleged to have been lost, stolen or destroyed.

Section 8. TRANSFER OF SHARES OF STOCK

8.1 Transfer on Books. Subject to any restrictions with respect to the transfer of shares of stock, shares of stock may be transferred on the books of the corporation by the surrender to the corporation or its transfer agent of the certificate therefor properly endorsed or accompanied by a written assignment and power of attorney properly executed, with necessary transfer stamps affixed, and with such proof of the authenticity of signature as the board of directors or the transfer agent of the corporation may reasonably require. Except as may be otherwise required by law, by the certificate of incorporation or by these by-laws, the corporation shall be entitled to treat the record holder of stock as shown on its books as the owner of such stock for all purposes, including the payment of dividends and the right to receive notice and to vote or to give any consent with respect thereto and to be held liable for such calls and assessments, if any, as may lawfully be made thereon, regardless of any transfer, pledge or other disposition of such stock until the shares have been properly transferred on the books of the corporation.

It shall be the duty of each stockholder to notify the corporation of his post office address.

Section 9. GENERAL PROVISIONS

9.1 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 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 of directors may fix, in advance, a record date, which shall not be more than sixty days nor less than ten days before the date of such meeting, nor more than sixty days prior to any other action to which such record date relates. 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. If no record date is fixed,

(a) 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;

(b) 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 of directors is necessary, shall be the day on which the first written consent is expressed; and

(c) The record date for determining stockholders for any other purpose shall be at the close of business on the day on which the board of directors adopts the resolution relating to such purpose.

9.2 Dividends. Dividends upon the capital stock of the corporation may be declared by the board of directors at any regular or special meeting or by written consent, pursuant to law. Dividends may be paid in cash, in property, or in shares of the capital stock, subject to the provisions of the certificate of incorporation.

9.3 Payment of Dividends. 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 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 purpose as the directors shall think conducive to the interest of the corporation, and the directors may modify or abolish any such reserve in the manner in which it was created.

9.4 Checks. All checks or demands for money and notes of the corporation shall be signed by such officer or officers or such other person or persons as the board of directors may from time to time designate.

9.5 Fiscal Year. The fiscal year of the corporation shall begin on the first of January in each year and shall end on the last day of December next following, unless otherwise determined by the board of directors.

9.6 Seal. The board of directors may, by resolution, adopt a corporate seal. The corporate seal shall have inscribed thereon the name of the corporation, the year of its organization and the word "Delaware." The seal may be used by causing it or a facsimile thereof to be impressed or affixed or reproduced or otherwise. The seal may be altered from time to time by the board of directors.

Section 10. INDEMNIFICATION

10.1 It being the intent of the corporation to provide maximum protection available under the law to its officers and directors, the corporation shall indemnify its officers and directors to the full extent the corporation is permitted or required to do so by the Delaware General Corporation Law. In furtherance of and not in limitation of the foregoing, the corporation shall advance expenses, including attorneys' fees, incurred by an officer or director of the corporation in defending any civil, criminal, administrative or investigative action, suit or proceeding 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 advances if it shall ultimately be determined that he is not entitled to be indemnified by the corporation. The corporation shall have the power to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or who 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 has the power to indemnify such person under the Delaware General Corporation Law. Notwithstanding the foregoing, the Corporation shall not be required to indemnify or advance expenses to any person in connection with any action, suit, proceeding, claim or counterclaim initiated by or on behalf of such person.

Section 11. AMENDMENTS

11.1 These by-laws may be altered, amended or repealed or new by-laws may be adopted by the stockholders 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 the power to adopt, amend or repeal by-laws 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 by-laws.

Adopted September 22, 2016

Exhibit 4.2

AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT

THIS AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT (this "**Agreement**"), is made and entered into as of this 29th day of March, 2021, by and among Entrada Therapeutics, Inc. (f/k/a CycloPorters, Inc.), a Delaware corporation (the "**Company**"), each of the investors listed on Schedule A hereto, each of which is referred to in this Agreement as an "**Investor**" and each of the entities listed on Schedule B hereto, each of which is referred to in this Agreement as a "**Licensor Stockholder**."

RECITALS

WHEREAS, certain of the Investors (the "**Existing Investors**") and the Licensor Stockholder are parties to that certain Investors' Rights Agreement, dated as of December 14, 2018, by and among the Company and such Existing Investors (the "**Prior Agreement**");

WHEREAS, pursuant to Section 6.6 of the Prior Agreement, the Prior Agreement may be amended by the written consent of the Company and the holders of at least 54% of the then-outstanding shares of Preferred Stock (as defined below);

WHEREAS, the undersigned Existing Investors collectively hold at least 54% of the shares of Preferred Stock currently outstanding, and the Company and the Existing Investors desire to amend and restate the Prior Agreement in its entirety and to accept the rights and obligations provided by this Agreement in lieu of the rights and obligations provided by the Prior Agreement; and

WHEREAS, concurrently with the execution of this Agreement, the Company and certain of the Investors are entering into a Series B Preferred Stock Purchase Agreement (as amended or restated from time to time, the "**Purchase Agreement**"), and such Investors' obligations to purchase shares of Series B Preferred Stock (as defined below) are conditioned upon the execution and delivery of this Agreement.

NOW, THEREFORE, the Company, the Existing Investors hereby agree that the Prior Agreement shall be amended and restated and shall be of no further force or effect and shall be superseded and replaced in its entirety by this Agreement, and the parties to this Agreement further agree as follows:

1. Definitions. For purposes of this Agreement:

1.1 "**Affiliate**" means, with respect to any specified Person, any other Person who, directly or indirectly, controls, is controlled by, or is under common control with such Person, including without limitation any general partner, managing member, officer, director or trustee of such Person, or any venture capital or 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. Anything to the contrary in this paragraph notwithstanding, (i) neither Chugai Pharmaceutical Co., Ltd, a Japanese corporation ("**Chugai**") and/or its subsidiaries (if any) nor Foundation Medicine, Inc., a Delaware corporation ("**FMI**") and/or its subsidiaries, if any, shall be deemed as Affiliates of Roche Finance Ltd unless Roche Finance Ltd provides written notice of its desire to include Chugai, FMI and/or their respective subsidiaries (as applicable) as Affiliate(s) of Roche Finance Ltd.

1.2 "**Board**" or "**Board of Directors**" means the board of directors of the Company.

1.3 "**Certificate of Incorporation**" means the Company's Third Amended and Restated Certificate of Incorporation, as amended and/or restated from time to time.

1.4 "**Common Stock**" means shares of the Company's common stock, par value $0.0001 per share.

1.5 "**Damages**" means any loss, damage, claim 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, claim or liability (or any action in respect thereof) arises out of or is based upon: (i) 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; (ii) 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 (iii) 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.

1.6 "**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.

1.7 "**Exchange Act**" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

1.8 "**Excluded Registration**" means (i) a registration relating to the sale or grant of securities to employees of the Company or a subsidiary pursuant to a stock option, stock purchase, equity incentive or similar plan; (ii) a registration relating to an SEC Rule 145 transaction; (iii) 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 (iv) a registration in which the only Common Stock being registered is Common Stock issuable upon conversion of debt securities that are also being registered.

1.9 "**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.

1.10 "**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 forward incorporation of substantial information by reference to other documents filed by the Company with the SEC.

1.11 "**GAAP**" means generally accepted accounting principles in the United States as in effect from time to time.

1.12 "**Holder**" means any holder of Registrable Securities who is a party to this Agreement.

1.13 "**Immediate Family Member**" means a child, stepchild, grandchild, parent, stepparent, grandparent, spouse, life partner or similar statutorily-recognized domestic partner, 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.

1.14 "**Initiating Holders**" means, collectively, Holders who properly initiate a registration request under this Agreement.

1.15 "**IPO**" means the Company's first underwritten public offering of its Common Stock under the Securities Act.

1.16 "**New Securities**" means, collectively, equity securities of the Company, whether or not currently authorized, as well as 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 such equity securities.

1.17 "**Person**" means any individual, corporation, partnership, trust, limited liability company, association or other entity.

1.18 "**Preferred Stock**" means, collectively, shares of the Company's Series Seed Preferred Stock, the Series A Preferred Stock and the Series B Preferred Stock.

1.19 "**Preferred Director**" means any director of the Company that the holders of record of the Series A Preferred Stock or Series B Preferred Stock are entitled to elect pursuant to the Certificate of Incorporation.

1.20 "**Registrable Securities**" means (i) the Common Stock issuable or issued upon conversion of the Preferred Stock; (ii) any Common Stock, or any Common Stock issued or issuable (directly or indirectly) upon conversion and/or exercise of any other securities of the Company, acquired by the Investors on or after the date hereof; (iii) any Common Stock held by the Licensor Stockholders; and (iv) 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 (i), (ii) and (iii) 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 6.1, and excluding for purposes of Section 2 any shares for which registration rights have terminated pursuant to Section 2.13 of this Agreement.

1.21 "**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.

1.22 "**Restricted Securities**" means the securities of the Company required to be notated with the legend set forth in Section 2.12(b) hereof.

1.23 "**Requisite Majority**" means the holders of a majority of the then-outstanding shares of (i) Series A Preferred Stock and (ii) Series B Preferred Stock, each voting as a separate series.

1.24 "**Rights Stockholder**" means (i) any Investor that holds any shares of Common Stock issued or issuable upon conversion of the Preferred Stock and (ii) any Licensor Stockholder that holds any shares of Common Stock.

1.25 "**SEC**" means the Securities and Exchange Commission.

1.26 "**SEC Rule 144**" means Rule 144 promulgated by the SEC under the Securities Act.

1.27 "**SEC Rule 145**" means Rule 145 promulgated by the SEC under the Securities Act.

1.28 "**Securities Act**" means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

1.29 "**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 2.6.

1.30 "**Series A Preferred Stock**" means shares of the Company's Series A Preferred Stock, par value $0.0001 per share.

1.31 "**Series B Preferred Stock**" means shares of the Company's Series B Preferred Stock, par value $0.0001 per share.

1.32 "**Series Seed Preferred Stock**" means shares of the Company's Series Seed Preferred Stock, par value $0.0001 per share.

1.33 "**Wellington Investor**" means Wellington Biomedical Innovation Master Investors (Cayman) I L.P.

2. Registration Rights. The Company covenants and agrees as follows:

2.1 Demand Registration

(a) Form S-1 Demand. If, at any time after the earlier of (i) three (3) years after the date of this Agreement or (ii) one hundred eighty (180) days after the effective date of the registration statement for the IPO, the Company receives a request from Holders of a majority of the Registrable Securities then outstanding that the Company file a Form S-1 registration statement with respect to the Registrable Securities having an anticipated aggregate offering price, net of Selling Expenses, that would exceed $15 million, then the Company shall: (x) within ten (10) days after the date such request is given, give notice thereof (the "**Demand Notice**") to all Holders other than the Initiating Holders; and (y) as soon as practicable, and in any event within sixty (60) 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, 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 Sections 2.1(c) and 2.3.

(b) 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 from Holders of at least fifteen percent (15%) of the Registrable Securities then outstanding 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 million, then the Company shall (i) within ten (10) days after the date such request is given, give a Demand Notice to all Holders other than the Initiating Holders; and (ii) 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, 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 Sections 2.1(c) and 2.3.

(c) Notwithstanding the foregoing obligations, if the Company furnishes to Holders requesting a registration pursuant to this Section 2.1 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 (i) materially interfere with a significant acquisition, corporate reorganization, or other similar transaction involving the Company; (ii) require premature disclosure of material information that the Company has a bona fide business purpose for preserving as confidential; or (iii) render the Company unable to comply with requirements under the Securities Act or the Exchange Act, then the Company shall have the right to defer taking action with respect to such filing, and any time periods with respect to filing or effectiveness thereof shall be tolled correspondingly, for a period of not more than one hundred twenty (120) days after the request of the Initiating Holders is given; provided, however, that the Company may not invoke this right more than twice in any twelve (12) month period; and provided further that the Company shall not register any securities for its own account or that of any other stockholder during such one hundred twenty (120) day period other than an Excluded Registration.

(d) The Company shall not be obligated to effect, or to take any action to effect, any registration pursuant to Section 2.1(a) (i) 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; (ii) after the Company has effected two registrations pursuant to Section 2.1(a); or (iii) 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 2.1(b). The Company shall not be obligated to effect, or to take any action to effect, any registration pursuant to Section 2.1(b) (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 registrations pursuant to Section 2.1(b) within the twelve (12) month period immediately preceding the date of such request. A registration shall not be counted as "effected" for purposes of this Section 2.1(d) 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 demand registration statement pursuant to Section 2.6, in which case such withdrawn registration statement shall be counted as "effected" for purposes of this Section 2.1(d); provided, that if such withdrawal is during a period the Company has deferred taking action pursuant to Section 2.1(c), then the Initiating Holders may withdraw their request for registration and such registration will not be counted as "effected" for purposes of this Section 2.1(d).

2.2 Company Registration. If the Company proposes to register (including, for this purpose, a registration effected by the Company for stockholders other than the Holders) 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 shall, at such time, promptly give each Holder notice of such registration. Upon the request of each Holder given within twenty (20) days after such notice is given by the Company, the Company shall, subject to the provisions of Section 2.3, cause to be registered all of the Registrable Securities that each such Holder has requested to be included in such registration. The Company shall have the right to terminate or withdraw any registration initiated by it under this Section 2.2 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 shall be borne by the Company in accordance with Section 2.6.

2.3 Underwriting Requirements.

(a) If, pursuant to Section 2.1, the Initiating Holders intend to distribute the Registrable Securities covered by their request by means of an underwriting, they shall so advise the Company as a part of their request made pursuant to Section 2.1, and the Company shall include such information in the Demand Notice. The underwriter(s) will be selected by the Company and shall be reasonably acceptable to a majority in interest of the Initiating Holders. In such event, the right of any Holder to include such Holder's Registrable Securities in such registration shall be conditioned upon such Holder's participation in such underwriting and the inclusion of such Holder's Registrable Securities in the underwriting to the extent provided herein. All Holders proposing to distribute their securities through such underwriting shall (together with the Company as provided in Section 2.4(e)) enter into an underwriting agreement in customary form with the underwriter(s) selected for such underwriting. Notwithstanding any other provision of this Section 2.3, if the 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 shall 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 shall 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 by each Holder or in such other proportion as shall mutually be agreed to by all such selling Holders; provided, however, that the number of Registrable Securities held by the Holders to be included in such underwriting shall not be reduced unless all other securities are first entirely excluded from the underwriting. 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.

(b) In connection with any offering involving an underwriting of shares of the Company's capital stock pursuant to Section 2.2, the Company shall not be required to include any of the Holders' Registrable Securities in such underwriting unless the Holders seeking to sell Registrable Securities in such offering accept the terms of the underwriting as agreed upon between the Company and its underwriters, and then only in such quantity as the underwriters in their sole discretion determine will not jeopardize the success of the offering by the Company. 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 shall 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 shall be allocated among the selling Holders in proportion (as nearly as practicable to) the number of Registrable Securities owned by each selling Holder or in such other proportions as shall 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 shall (i) 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, or (ii) 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. For purposes of the provision in this Section 2.3(b) 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, shall be deemed to be a single "selling Holder," and any pro rata reduction with respect to such "selling Holder" shall be based upon the aggregate number of Registrable Securities owned by all Persons included in such "selling Holder," as defined in this sentence.

(c) For purposes of Section 2.1, a registration shall not be counted as "effected" if, as a result of an exercise of the underwriter's cutback provisions in Section 2.3(a), fewer than the total number of Registrable Securities that Holders have requested to be included in such registration statement are actually included.

2.4 Obligations of the Company. Whenever required under this Section 2 to effect the registration of any Registrable Securities, the Company shall, 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 and, upon the request of the Holders of 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 shall 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 shall be extended for up to one hundred eighty (180) 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, and the 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, 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 shall be reasonably requested by the selling Holders; provided that the Company shall 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 commercially 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 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 forming a part of such registration statement has been filed; and

(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.

In addition, the Company shall ensure that, at all times after any registration statement covering a public offering of securities of the Company under the Securities Act shall have become effective, its insider trading policy shall provide that the Company's directors may implement a trading program under Rule 10b5-1 of the Exchange Act.

2.5 Furnish Information. It shall be a condition precedent to the obligations of the Company to take any action pursuant to this Section 2 with respect to the Registrable Securities of any selling Holder that such Holder shall 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.

2.6 Expenses of Registration. All expenses (other than Selling Expenses) incurred in connection with registrations, filings, or qualifications pursuant to Section 2, 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, not to exceed $75,000, of one counsel for the selling Holders ("**Selling Holder Counsel**"), shall be borne and paid by the Company; provided, however, that the Company shall not be required to pay for any expenses of any registration proceeding begun pursuant to Section 2.1 if the registration request is subsequently withdrawn at the request of the Holders of a majority of the Registrable Securities to be registered (in which case all selling Holders shall bear such expenses pro rata based upon the number of Registrable Securities that were to be included in the withdrawn registration), unless the Holders of a majority of the Registrable Securities to be registered agree to forfeit their right to one registration pursuant to Sections 2.1(a) or 2.1(b), as the case may be; provided further that if, at the time of such withdrawal, the Holders shall have learned of a material adverse change in the condition, business, or prospects of the Company from that 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 shall not be required to pay any of such expenses and shall not forfeit their right to one registration pursuant to Sections 2.1(a) or 2.1(b). All Selling Expenses relating to Registrable Securities registered pursuant to this Section 2 shall be borne and paid by the Holders pro rata on the basis of the number of Registrable Securities registered on their behalf.

2.7 Delay of Registration. No Holder shall 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 2.

2.8 Indemnification. If any Registrable Securities are included in a registration statement under this Section 2:

(a) 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 and accountants 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 2.8(a) shall 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 shall not be unreasonably withheld, nor shall 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.

(b) 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 the indemnity agreement contained in this Section 2.8(b) shall 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 shall not be unreasonably withheld; and provided further that in no event shall the aggregate amounts payable by any Holder by way of indemnity or contribution under Sections 2.8(b) and 2.8(d) 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.

(c) Promptly after receipt by an indemnified party under this Section 2.8 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 2.8, give the indemnifying party notice of the commencement thereof. The indemnifying party shall 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) shall 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 shall relieve such indemnifying party of any liability to the indemnified party under this Section 2.8, to the extent that such failure materially prejudices the indemnifying party's ability to defend such action. The failure to give notice to the indemnifying party will not relieve it of any liability that it may have to any indemnified party otherwise than under this Section 2.8.

(d) To provide for just and equitable contribution to joint liability under the Securities Act in any case in which either: (i) any party otherwise entitled to indemnification hereunder makes a claim for indemnification pursuant to this Section 2.8 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 2.8 provides for indemnification in such case, or (ii) contribution under the Securities Act may be required on the part of any party hereto for which indemnification is provided under this Section 2.8, 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 shall 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, in any such case (x) 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 (y) 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 provided further that in no event shall a Holder's liability pursuant to this Section 2.8(d), when combined with the amounts paid or payable by such Holder pursuant to Section 2.8(b), exceed the proceeds from the offering received by such Holder (net of any Selling Expenses paid by such Holder), except in the case of willful misconduct or fraud by such Holder.

(e) 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 2.8 shall survive the completion of any offering of Registrable Securities in a registration under this Section 2, and otherwise shall survive the termination of this Agreement.

2.9 Reports Under 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 shall:

(a) 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).

2.10 Limitations on Subsequent Registration Rights. From and after the date of this Agreement, the Company shall not, without the prior written consent of the Holders of the Requisite Majority, enter into any agreement with any holder or prospective holder of any securities of the Company that would (i) allow such holder or prospective holder to include such securities in any registration unless, under the terms of such agreement, such holder or prospective holder may include such securities in any such registration only to the extent that the inclusion of such securities will not reduce the number of the Registrable Securities of the Holders that are included, or (ii) allow such holder or prospective holder to initiate a demand for registration of any securities held by such holder or prospective holder; provided that this limitation shall not apply to Registrable Securities acquired by any additional Investor that becomes a party to this Agreement in accordance with Section 6.9.

2.11 "Market Stand-off" Agreement. Each Holder hereby agrees that it will not, without the prior written consent of the managing underwriter, during the period commencing on the date of the final prospectus relating to the IPO and ending on the date specified by the Company and the managing underwriter (such period not to exceed one hundred eighty (180) days, or such other period as may be requested by the Company or an underwriter and required to accommodate regulatory restrictions on (1) the publication or other distribution of research reports, and (2) analyst recommendations and opinions, including, but not limited to, the restrictions contained in applicable FINRA rules, or any successor provisions or amendments thereto), (i) 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 (ii) 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 (i) or (ii) above is to be settled by delivery of Common Stock or other securities, in cash, or otherwise. The foregoing provisions of this Section 2.11 shall apply only to the IPO, shall not apply to transactions (including, without limitation, any swap, hedge or similar agreement or arrangement), in each case, relating to securities acquired in the IPO or securities acquired in open market or other transactions from and after the IPO or that otherwise that do not involve or relate to shares of Common Stock owned by a Holder prior to the IPO, shall not apply to the sale of any shares to an underwriter pursuant to an underwriting agreement, or the transfer of any shares to any trust for the direct or indirect benefit of the Holder or the immediate family of the Holder, provided that the trustee of the trust agrees to be bound in writing by the restrictions set forth herein, and provided further that any such transfer shall not involve a disposition for value, and shall be applicable to the Holders only if all officers and directors are subject to the same restrictions and the Company obtains a similar agreement from all stockholders individually owning more than one percent (1%) of the Company's outstanding Common Stock (after giving effect to conversion into Common Stock of all outstanding Preferred Stock). The underwriters in connection with such registration are intended third-party beneficiaries of this Section 2.11 and shall 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 2.11 that are necessary to give further effect thereto. Any discretionary waiver or termination of the restrictions of any or all of such agreements by the Company or the underwriters shall apply pro rata to all Company stockholders that are subject to such agreements, based on the number of shares subject to such agreements.

2.12 Restrictions on Transfer.

(a) The Preferred Stock and the Registrable Securities shall not be sold, pledged, or otherwise transferred, and the Company shall not recognize and shall 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, in each case, to be bound by the terms of this Agreement.

(b) Each certificate, instrument, or book entry representing (i) the Preferred Stock, (ii) the Registrable Securities, and (iii) any other securities issued in respect of the securities referenced in clauses (i) and (ii), upon any stock split, stock dividend, recapitalization, merger, consolidation, or similar event, shall (unless otherwise permitted by the provisions of Section 2.12(c)) be notated with a legend substantially in the following form:

> THE SECURITIES REPRESENTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED. SUCH SHARES MAY NOT BE SOLD, PLEDGED, OR TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR A VALID EXEMPTION FROM THE REGISTRATION AND PROSPECTUS DELIVERY REQUIREMENTS OF SAID ACT.
>
> THE SECURITIES REPRESENTED HEREBY 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 2.12.

(c) The holder of such Restricted Securities, by acceptance of ownership thereof, agrees to comply in all respects with the provisions of this Section 2. 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, the Holder thereof shall give notice to the Company of such Holder's intention to effect such sale, pledge, or transfer. Each such notice shall describe the manner and circumstances of the proposed sale, pledge, or transfer in sufficient detail and, if reasonably requested by the Company, shall be accompanied at such Holder's expense by either (i) a written opinion of legal counsel who shall, and whose legal opinion shall, 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; (ii) 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 (iii) 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 shall 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 (x) in any transaction in compliance with SEC Rule 144; or (y) in any transaction in which such Holder distributes Restricted Securities to an Affiliate of such Holder for no consideration; provided that each transferee agrees in writing to be subject to the terms of this Section 2.12. Each certificate, instrument, or book entry representing the Restricted Securities transferred as above provided shall be notated with, except if such transfer is made pursuant to SEC Rule 144, the appropriate restrictive legend set forth in Section 2.12(b), except that such certificate instrument, or book entry shall not be notated with 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.

2.13 Termination of Registration Rights. The right of any Holder to request registration or inclusion of Registrable Securities in any registration pursuant to Sections 2.1 or 2.2 shall terminate upon the earliest to occur of:

(a) the closing of a Deemed Liquidation Event, as such term is defined in the Certificate of Incorporation;

(b) such time after consummation of the IPO as SEC Rule 144 or another similar exemption under the Securities Act is available for the sale of all of such Holder's shares without limitation during a three (3)-month period without registration; and

(c) the fifth (5^{th}) anniversary of the IPO.

3. Information and Observer Rights.

3.1 Delivery of Financial Statements. The Company shall deliver to each Rights Stockholder, upon request of such Rights Stockholder (provided that the Board has not determined that such Rights Stockholder is a competitor, and provided further, that a Rights Stockholder shall not be deemed a competitor of the Company solely due to its or its Affiliates' ownership of any equity or membership interest of any entity or due to the service of any partner or employee of such Rights Stockholder or its Affiliates on the board of directors or other governing body of any company of which such Rights Stockholder or its Affiliates holds any equity or membership interest):

(a) as soon as practicable, but in any event within 120 days after the end of each fiscal year of 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 a comparison between (x) the actual amounts as of and for such fiscal year and (y) the comparable amounts for the prior year and as included in the Budget (as defined in Section 3.1(e)) for such year, with an explanation of any material differences between such amounts and a schedule as to the sources and applications of funds 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 Board beginning with fiscal year 2021;

(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 cash flows for such fiscal quarter, 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 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 forty-five (45) days after the end of each quarter of each fiscal year of the Company, a statement showing the number of shares of each class and series of capital stock and securities convertible into or exercisable for shares of capital stock outstanding at the end of the period, the Common Stock issuable upon conversion or exercise of any outstanding securities convertible or exercisable for Common Stock and the exchange ratio or exercise price applicable thereto, and the number of shares of issued stock options and stock options not yet issued but reserved for issuance, if any, all in sufficient detail as to permit the Rights Stockholders to calculate their respective percentage equity ownership in the Company, and certified by the chief financial officer or chief executive officer of the Company as being true, complete, and correct;

(d) as soon as practicable, but in any event within thirty (30) days of the end of each month, an unaudited income statement and statement of cash flows for such month, and an unaudited balance sheet as of the end of such month, all prepared in accordance with GAAP (except that such financial statements may (i) be subject to normal year-end audit adjustments and (ii) not contain all notes thereto that may be required in accordance with GAAP);

(e) as soon as practicable, but in any event thirty (30) days before the end of each fiscal year, a budget and business plan for the next fiscal year (collectively, the "**Budget**"), approved by the Board and prepared on a monthly basis, including balance sheets, income statements, and statements of cash flow for such months and, promptly after prepared, any other budgets or revised budgets prepared by the Company; and

(f) such other information relating to the financial condition, business, prospects, or corporate affairs of the Company as such Rights Stockholder may from time to time reasonably request; provided, however, that the Company shall not be obligated under this Section 3.1 to provide information (i) that the Company reasonably determines in good faith to be a trade secret or confidential information (unless covered by an enforceable confidentiality agreement, in a form acceptable to the Company); or (ii) the disclosure of which would adversely affect the attorney-client privilege between the Company and its counsel.

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 the foregoing sections shall be the consolidated and consolidating financial statements of the Company and all such consolidated subsidiaries.

Notwithstanding anything else in this Section 3.1 to the contrary, the Company may cease providing the information set forth in this Section 3.1 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 3.1 shall be reinstated at such time as the Company is no longer actively employing its commercially reasonable efforts to cause such registration statement to become effective.

3.2 Inspection. The Company shall permit each Rights Stockholder or an accountant of a Rights Stockholder (provided that the Board has not determined that such Rights Stockholder is a competitor, and provided further, that a Rights Stockholder shall not be deemed a competitor of the Company solely due to its or its Affiliates' ownership of any equity or membership interest of any entity or due to the service of any partner or employee of such Rights Stockholder or its Affiliates on the board of directors or other governing body of any company of which such Rights Stockholder or its Affiliates holds any equity or membership interest) at such Rights Stockholder'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 Rights Stockholder; provided, however, that the Company shall not be obligated pursuant to this Section 3.2 to provide access to any information that it reasonably and in good faith considers to be a trade secret or confidential information (unless covered by an enforceable confidentiality agreement, in form acceptable to the Company) or the disclosure of which would adversely affect the attorney-client privilege between the Company and its counsel.

3.3 Observer Rights.

(a) As long as 5AM Ventures V, L.P., together with its Affiliates ("**5AM Ventures**"), holds at least 1,000,000 shares of Common Stock issued or issuable upon conversion of the Preferred Stock, the Company shall invite a representative of 5AM Ventures to attend all meetings of its Board in a nonvoting observer capacity and, in this respect, shall give such representative copies of all notices, minutes, consents, and other materials that it provides to its directors at the same time and in the same manner as provided to such directors; provided, however, that such representative shall agree to hold in confidence and trust with respect to all information so provided (in a manner consistent with the confidentiality obligations of a director of a Delaware corporation); and provided further, that the Company reserves the right to withhold any information and to exclude such representative from any meeting or portion thereof if access to such information or attendance at such meeting could adversely affect the attorney-client privilege between the Company and its counsel or result in disclosure of trade secrets or a conflict of interest, or if 5AM Ventures or its representative is a competitor of the Company.

(b) As long as MRL Ventures Fund, LLC, together with its Affiliates ("**MRL Ventures**"), holds at least 1,000,000 shares of Common Stock issued or issuable upon conversion of the Preferred Stock, the Company shall invite a representative of MRL Ventures to attend all meetings of its Board in a nonvoting observer capacity and, in this respect, shall give such representative copies of all notices, minutes, consents, and other materials that it provides to its directors at the same time and in the same manner as provided to such directors; provided, however, that such representative shall agree to hold in confidence and trust with respect to all information so provided (in a manner consistent with the confidentiality obligations of a director of a Delaware corporation); and provided further, that the Company reserves the right to withhold any information and to exclude such representative from any meeting or portion thereof if access to such information or attendance at such meeting could adversely affect the attorney-client privilege between the Company and its counsel or result in disclosure of trade secrets or a conflict of interest.

(c) As long as Baker Brothers Life Sciences, L.P. and 667, L.P., together with their Affiliates (collectively, the "**BBI Funds**"), hold at least 50% of the Series B Preferred Stock (or other securities which the Series B Preferred Stock may be exchanged or converted into) they purchased pursuant to the Purchase Agreement, the Company shall invite a representative designated by the BBI Funds to attend all meetings of its Board in a nonvoting observer capacity and, in this respect, shall give such representative copies of all notices, minutes, consents, and other materials that it provides to its directors at the same time and in the same manner as provided to such directors; provided, however, that such representative shall agree to hold in confidence and trust with respect to all information so provided (in a manner consistent with the confidentiality obligations of a director of a Delaware corporation); and provided further, that the Company reserves the right to withhold any information and to exclude such representative from any meeting or portion thereof if access to such information or attendance at such meeting could adversely affect the attorney-client privilege between the Company and its counsel or result in disclosure of trade secrets or a conflict of interest, or if the BBI Funds or their representative are a competitor of the Company.

(d) As long as Greenspring Early Stage I, L.P., together with its Affiliates ("**Greenspring Associates**"), holds at least 1,000,000 shares of Common Stock issued or issuable upon conversion of the Series B Preferred Stock, the Company shall invite a representative of Greenspring Associates to attend all meetings of its Board in a nonvoting observer capacity and, in this respect, shall give such representative copies of all notices, minutes, consents, and other materials that it provides to its directors at the same time and in the same manner as provided to such directors; provided, however, that such representative shall agree to hold in confidence and trust with respect to all information so provided (in a manner consistent with the confidentiality obligations of a director of a Delaware corporation); and provided further, that the Company reserves the right to withhold any information and to exclude such representative from any meeting or portion thereof if access to such information or attendance at such meeting could adversely affect the attorney-client privilege between the Company and its counsel or result in disclosure of trade secrets or a conflict of interest, or if Greenspring Associates or its representative is a competitor of the Company.

3.4 Termination of Information and Observer Rights. The covenants set forth in Section 3.1, Section 3.2 and Section 3.3 shall terminate and be of no further force or effect (i) immediately before the consummation of the IPO, (ii) when the Company first becomes subject to the periodic reporting requirements of Section 12(g) or 15(d) of the Exchange Act, or (iii) upon the closing of a Deemed Liquidation Event, as such term is defined in the Certificate of Incorporation (other than a sale of all or substantially all of the Company's assets), whichever event occurs first.

3.5 Confidentiality. Each Investor and Licensor Stockholder agrees that such Investor or Licensor Stockholder will keep confidential and will not disclose or divulge for any purpose any confidential information obtained from the Company (including notice of the Company's intention to file a registration statement), 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 3.4 by such Investor or Licensor Stockholder), (b) is or has been independently developed or conceived by the Investor or Licensor Stockholder without use of the Company's confidential information, or (c) is or has been made known or disclosed to the Investor or Licensor Stockholder by a third party without a breach of any obligation of confidentiality such third party may have to the Company; provided, however, that an Investor or Licensor Stockholder may disclose confidential information (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 capital stock of the Company from such Investor or Licensor Stockholder, if such prospective purchaser agrees to be bound by the provisions of this Section 3.5; (iii) to any existing or prospective Affiliate, partner, partner of the Investor's partnership, subsequent partnerships under common investment management with Investor, member, stockholder, or wholly owned subsidiary of such Investor or Licensor Stockholder in the ordinary course of business, provided that such Investor or Licensor Stockholder informs such Person that such information is confidential and directs such Person to maintain the confidentiality of such information; or (iv) as may otherwise be required by law, provided that the Investor promptly notifies the Company of such disclosure and takes reasonable steps to minimize the extent of any such required disclosure.

4. Rights to Future Stock Issuances.

4.1 Right of First Offer. Subject to the terms and conditions of this Section 4.1 and applicable securities laws, if the Company proposes to offer or sell any New Securities, the Company shall first offer such New Securities to each Rights Stockholder. Each such Rights Stockholder shall be entitled to apportion the right of first offer hereby granted to it in such proportions as it deems appropriate, among (i) itself, (ii) its Affiliates, and (iii) its beneficial interest holders, such as limited partners, members or any other Person having "beneficial ownership," as such term is defined in Rule 13d-3 promulgated under the Exchange Act, of such Rights Stockholder ("**Investor Beneficial Owners**"); provided that each such Affiliate or Investor Beneficial Owner (x) is not a competitor, or is otherwise permitted, as determined by the Board, provided, that an Affiliate or Investor Beneficial Owner shall not be deemed a competitor of the Company solely due to such Affiliate's or Investor Beneficial Owner's ownership of any equity or membership interest of any entity or due to the service of any partner or employee of such Affiliate or Investor Beneficial Owner on the board of directors or other governing body of any company of which such Affiliate or Investor Beneficial Owner holds any equity or membership interest, (y) agrees to enter into this Agreement and each of the Voting Agreement and Right of First Refusal and Co-Sale Agreement of even date herewith among the Company, the Investors and the other parties named therein, as an "**Investor**" under each such agreement (provided that any competitor shall not be entitled to any rights as a Rights Stockholder under Sections 3.1, 3.2 and 4.1 hereof), and (z) agrees to purchase at least such number of New Securities as are allocable hereunder to the Investor holding the fewest number of shares of Preferred Stock and any other Derivative Securities.

(a) The Company shall give notice (the "**Offer Notice**") to each such Rights Stockholder, stating (i) its bona fide intention to offer such New Securities, (ii) the number of such New Securities to be offered, and (iii) the price and terms, if any, upon which it proposes to offer such New Securities.

(b) By notification to the Company within twenty (20) days after the Offer Notice is given, each Rights Stockholder may elect to purchase or otherwise acquire, at the price and on the terms specified in the Offer Notice, up to that portion of such New Securities which equals the proportion that the Common Stock then held by such Rights Stockholder (including all shares of Common Stock then issuable (directly or indirectly) upon conversion and/or exercise, as applicable, of the Preferred Stock and any other Derivative Securities then held by such holder) 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) At the expiration of such twenty (20) day period, the Company shall promptly notify each Rights Stockholder that elects to purchase or acquire all the shares available to it (each, a "**Fully Exercising Rights Stockholder**") of any other Rights Stockholder's failure to do likewise. During the ten (10) day period commencing after the Company has given such notice, each Fully Exercising Rights Stockholder may, by giving notice to the Company, elect to purchase or acquire, in addition to the number of shares specified above, up to that portion of the New Securities for which Rights Stockholders were entitled to subscribe but that were not subscribed for by the Rights Stockholders which is equal to the proportion that the Common Stock issued and held, or issuable (directly or indirectly) upon conversion and/or exercise, as applicable, of Preferred Stock and any other Derivative Securities then held, by such Fully Exercising Rights Stockholder bears to 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 all Fully Exercising Rights Stockholders who wish to purchase such unsubscribed shares. The closing of any sale pursuant to this Section 4.1(b) shall occur within the later of ninety (90) days of the date that the Offer Notice is given and the date of initial sale of New Securities pursuant to Section 4.1(c).

(c) If all New Securities referred to in the Offer Notice are not elected to be purchased or acquired as provided in Section 4.1(b), the Company may, during the ninety (90) day period following the expiration of the periods provided in Section 4.1(b), 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 shall be deemed to be revived and such New Securities shall not be offered unless first reoffered to the Rights Stockholders in accordance with this Section 4.1.

(d) The right of first offer in this Section 4.1 shall not be applicable to (i) Exempted Securities (as defined in the Certificate of Incorporation); (ii) shares of Common Stock issued in the IPO; or (iii) the issuance of shares of Series B Preferred Stock pursuant to the Purchase Agreement.

(e) In the event that the rights of a Rights Stockholder to purchase New Securities under this Section 4.1 are waived with respect to a particular offering of New Securities without such Rights Stockholder's prior written consent (a "**Waived Investor**") and any Rights Stockholder that participated in waiving such rights (a "**Waiving Investor**") actually purchases New Securities in such offering, then the Company shall grant, and hereby grants, each Waived Investor the right to purchase, in a subsequent closing of such issuance on the same terms and conditions as such Waiving Investor (but excluding any attendant right to designate a member of or observer to the Company's Board of Directors), the same percentage of its full pro rata share of such New Securities as the highest percentage of any such purchasing Waiving Investor, provided that such subsequent closing is consummated prior to forty-five (45) days after the closing of such offering of New Securities.

(f) Notwithstanding any provision hereof to the contrary, in lieu of complying with the provisions of this Section 4.1 the Company may elect to give notice to the Rights Stockholders within thirty (30) days after the issuance of New Securities. Such notice shall describe the type, price, and terms of the New Securities. Each Rights Stockholder shall have twenty (20) days from the date notice is given to elect to purchase up to the number of New Securities that would, if purchased by such Rights Stockholder, maintain such Rights Stockholder's percentage-ownership position, calculated as set forth in Section 4.1(b) before giving effect to the issuance of such New Securities. The closing of such sale shall occur within sixty (60) days of the date notice is given to the Rights Stockholders.

4.2 Termination. The covenants set forth in Section 4.1 shall terminate and be of no further force or effect (i) immediately before the consummation of the IPO, (ii) when the Company first becomes subject to the periodic reporting requirements of Section 12(g) or 15(d) of the Exchange Act, or (iii) upon the closing of a Deemed Liquidation Event (other than a sale of all or substantially all of the Company's assets), whichever occurs first.

5. Additional Covenants.

5.1 Insurance. The Company shall maintain, from financially sound and reputable insurers Directors and Officers liability in an amount and on terms and conditions satisfactory to the Board, and will use commercially reasonable efforts to cause such insurance policies to be maintained until such time as the Board determines that such insurance should be discontinued.

5.2 Employee Agreements. The Company will cause 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) to enter into a nondisclosure and proprietary rights assignment agreement in a form reasonably acceptable to the Board, including the Requisite Directors (as defined below).

5.3 Employee Stock. Unless otherwise approved by the Board, including a majority of the Preferred Directors then in office (the "**Requisite Directors**"), all employees and consultants of the Company who purchase, receive options to purchase, or receive awards of shares of the Company's capital stock after the date hereof shall be required to execute restricted stock or option agreements, as applicable, providing for (i) vesting of shares over a four (4) year period, with the first twenty-five percent (25%) of such shares vesting following twelve (12) months of continued employment or service, and the remaining shares vesting in equal monthly installments over the following thirty-six (36) months, and (ii) a market stand-off provision substantially similar to that in Section 2.11. Without the prior approval by the Board, including the Requisite Directors, the Company shall not amend, modify, terminate, waive or otherwise alter, in whole or in part, any stock purchase, stock restriction or option agreement with any existing employee or service provider if such amendment would cause it to be inconsistent with this Section 5.3. In addition, unless otherwise approved by the Board, including the Requisite Directors, the Company shall retain (and not waive) a "right of first refusal" on employee transfers until the IPO and shall have the right to repurchase unvested shares at cost upon termination of employment of a holder of restricted stock.

5.4 Matters Requiring Board Approval. So long as the holders of Preferred Stock are entitled to elect any Preferred Directors, the Company hereby covenants and agrees with each of the Investors that it shall not, nor shall it permit any of its subsidiaries to, without approval of the Board, which approval must include the affirmative vote of the Requisite Directors:

(a) make any investment inconsistent with any investment policy approved by the Board;

(b) 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 (provided that any interested director may not be a consenting director);

(c) hire, terminate, or change the compensation of the executive officers, including approving any option grants or stock awards to executive officers;

(d) sell, assign, license, pledge, or encumber material technology or intellectual property, other than licenses granted in the ordinary course of business; or

(e) enter into any corporate strategic relationship involving the payment, contribution, or assignment by the Company or to the Company of money or assets greater than $100,000.

5.5 Board Matters. Unless otherwise determined by the vote of a majority of the directors then in office, including the Requisite Directors, the Board shall meet at least quarterly in accordance with an agreed-upon schedule. The Company shall 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. Each non-employee director shall be entitled in such person's discretion to be a member of any committee of the Board.

5.6 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 shall 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.

5.7 Indemnification Matters. The Company hereby acknowledges that one (1) or more of the directors nominated to serve on the Board by the Investors (each an "**Investor Director**" and collectively, the "**Investor Directors**") may have certain rights to indemnification, advancement of expenses and/or insurance provided by one (1) or more of the Investors and certain of their Affiliates (collectively, the "**Investor Indemnitors**"). The Company hereby agrees (a) that it is the indemnitor of first resort (*i.e.*, its obligations to any such Investor Director are primary and any obligation of the Investor Indemnitors to advance expenses or to provide indemnification for the same expenses or liabilities incurred by such Investor Director are secondary), (b) that it shall be required to advance the full amount of expenses incurred by such Investor Director and shall be liable for the full amount of all expenses, judgments, penalties, fines and amounts paid in settlement by or on behalf of any such Investor Director to the extent legally permitted and as required by the Company's Certificate of Incorporation or Bylaws of the Company (or any agreement between the Company and such Investor Director), without regard to any rights such Investor Director may have against the Investor Indemnitors, and, (c) that it irrevocably waives, relinquishes and releases the Investor Indemnitors from any and all claims against the Investor Indemnitors for contribution, subrogation or any other recovery of any kind in respect thereof. The Company further agrees that no advancement or payment by the Investor Indemnitors on behalf of any such Investor Director with respect to any claim for which such Investor Director has sought indemnification from the Company shall affect the foregoing and the Investor Indemnitors shall have a right of contribution and/or be subrogated to the extent of such advancement or payment to all of the rights of recovery of such Investor Director against the Company. The Investor Directors and the Investor Indemnitors are intended third-party beneficiaries of this Section 5.7 and shall have the right, power and authority to enforce the provisions of this Section 5.7 as though they were a party to this Agreement.

5.8 Right to Conduct Activities. The Company hereby agrees and acknowledges that each of the Investors (and each of their Affiliates) is a professional investment organization, and as such 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, each of the Investors (and each of their Affiliates) shall not be liable to the Company for any claim arising out of, or based upon, (i) the investment by an Investor (or its Affiliates) in any entity competitive with the Company, or (ii) actions taken by any partner, officer, employee or other representative of such Investor (or its Affiliates) 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 shall 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, or (y) any director or officer of the Company from any liability associated with his or her fiduciary duties to the Company.

5.9 Restrictions on Publicity. The Company shall not, without the express prior approval of an Investor (which may be given or withheld in such Investors' sole discretion) issue any press release, advertisement or announcement (in whatever form) disclosing that such Investor has invested in the Company, or make any other disclosure regarding such Investor or its Affiliates. Further, the Company shall not use the name or logo of an Investor or its Affiliates (including portions of such Investor's name or any derivation or abbreviation thereof), or refer to an Investor or its Affiliates, directly or indirectly, in connection with such Investor's or its Affiliates' relationship, agreements or arrangements with the Company in any advertisement, press release, professional or trade publication, or in any other manner, except (a) as may be required by law, rule, or regulation (including, without limitation, any rule or regulation promulgated by the SEC or any other regulatory authority), (b) on a confidential basis to potential financing sources including lenders, investors, investment bankers or acquirors, (c) on a confidential basis to the Company's lawyers, contractors, accountants and other advisors who have a need to have access and knowledge of such information or (d) with such Investor's prior written consent, which may be withheld in such Investor's sole discretion. If the Company believes public disclosure of an Investor's or its Affiliates' relationship, agreements or arrangements with the Company is required by law, the Company shall at a reasonable time before making any such disclosure (including, without limitation, filing any document or material with the SEC or any other regulatory authority, which contains a reference to such Investor or its Affiliates), consult with such Investor regarding such disclosure, permit such Investors to review such disclosure not less than ten (10) business days prior to its proposed disclosure (unless the Company is legally obligated to make such disclosure on fewer than ten (10) business days' notice, in which case the Company shall give such Investor as much time to review such disclosure as is reasonably practicable, but in any event not less than two (2) business days), revise such disclosure as reasonably requested by such Investor, and if requested by such Investor, seek confidential treatment for any portion of any agreements or documents intended to be filed with the SEC or other regulatory authority as may be reasonably requested by such Investor.

5.10 Acknowledgment. The Company acknowledges that the Investors are in the business of venture capital investing and therefore review the business plans and related proprietary information of many enterprises, including enterprises which may have products or services which compete directly or indirectly with those of the Company. Nothing in this Agreement shall preclude or in any way restrict the Investors from investing or participating in any particular enterprise whether or not such enterprise has products or services which compete with those of the Company.

5.11 FCPA. The Company covenants that it shall not (and shall not permit any of its subsidiaries or Affiliates or any of its or their respective directors, officers, managers, employees, independent contractors, representatives or agents to) promise, authorize or make any payment to, or otherwise contribute any item of value to, directly or indirectly, to any third party, including any Non-U.S. Official (as such term is defined in the U.S. Foreign Corrupt Practices Act of 1977, as amended (the "**FCPA**")), in each case, in violation of the FCPA, the U.K. Bribery Act, or any other applicable anti-bribery or anti-corruption law. The Company further covenants that it shall (and shall cause each of its subsidiaries and Affiliates to) cease all of its or their respective activities, as well as remediate any actions taken by the Company, its subsidiaries or Affiliates, or any of their respective directors, officers, managers, employees, independent contractors, representatives or agents in violation of the FCPA, the U.K. Bribery Act, or any other applicable anti-bribery or anti-corruption law. The Company further covenants that it shall (and shall cause each of its subsidiaries and Affiliates to) maintain systems of internal controls (including, but not limited to, accounting systems, purchasing systems and billing systems) to ensure compliance with the FCPA, the U.K. Bribery Act, or any other applicable anti-bribery or anti-corruption law. Upon request, the Company agrees to provide responsive information and/or certifications concerning its compliance with applicable anti-corruption laws. The Company shall promptly notify each Investor if the Company becomes aware of any Enforcement Action (as defined in the Purchase Agreement). The Company shall, and shall cause any direct or indirect subsidiary or entity controlled by it, whether now in existence or formed in the future, to comply with the FCPA. The Company shall use its best efforts to cause any direct or indirect subsidiary, whether now in existence or formed in the future, to comply in all material respects with all applicable laws.

5.12 Real Property Holding Corporation. Promptly following (and in any event within ten (10) days after receipt of) written request by an Investor, the Company shall provide such Investor with a written statement informing such Investor whether such Investor's interest in the Company constitutes a United States real property interest. The Company's determination shall comply with the requirements of Treasury Regulation Section 1.897-2(h)(1) or any successor regulation, and the Company shall provide timely notice to the Internal Revenue Service, in accordance with and to the extent required by Treasury Regulation Section 1.897-2(h)(2) or any successor regulation, that such statement has been made.

5.13 Termination of Covenants. The covenants set forth in this Section 5, except for Sections 5.6, 5.7 and 5.9, shall terminate and be of no further force or effect (i) immediately before the consummation of the IPO, (ii) when the Company first becomes subject to the periodic reporting requirements of Section 12(g) or 15(d) of the Exchange Act, or (iii) upon a Deemed Liquidation Event (other than a sale of all or substantially all of the Company's assets), whichever event occurs first.

6. Miscellaneous.

6.1 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 (i) is an Affiliate of a Holder; (ii) 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; or (iii) after such transfer, holds at least 1,000,000 shares of Registrable Securities (subject to appropriate adjustment for stock splits, stock dividends, combinations, and other recapitalizations); provided, however, that (x) 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 (y) 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 2.11. For the purposes of determining the number of shares of Registrable Securities held by a transferee, the holdings of a transferee (1) that is an Affiliate or stockholder of a Holder; (2) who is a Holder's Immediate Family Member; or (3) that is a trust for the benefit of an individual Holder or such Holder's Immediate Family Member shall be aggregated together and with those of the transferring Holder; provided further that all transferees who would not qualify individually for assignment of rights shall, as a condition to the applicable transfer, establish a single attorney-in-fact for the purpose of exercising any rights, receiving notices, or taking any action under this Agreement. 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 assignees any rights, remedies, obligations or liabilities under or by reason of this Agreement, except as expressly provided herein.

6.2 Governing Law. This Agreement shall be governed by the internal law of the State of Delaware, without regard to any conflicts of laws principles that would require the application of laws of any other jurisdiction.

6.3 Counterparts. This Agreement may be executed in two (2) or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, *e.g.*, www.docusign.com) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

6.4 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.

6.5 Notices.

(a) All notices and other communications given or made pursuant to this Agreement shall be in writing and shall be deemed effectively given upon the earlier of actual receipt or: (i) personal delivery to the party to be notified, (ii) when sent, if sent by electronic mail or facsimile during normal business hours of the recipient, and if not sent during normal business hours, then on the recipient's next business day, provided that in either case it is followed promptly by a confirming copy of the notice given via another authorized means for that recipient, (iii) five (5) days after having been sent to a U.S. address by registered or certified mail, return receipt requested, postage prepaid, addressed to the party to be notified at such party's address as set forth on the signature page or Schedule A or Schedule B hereto, or as subsequently modified by written notice, and if to the Company, (iv) two (2) business days after deposit with a nationally recognized overnight courier, freight prepaid for delivery to a U.S. address, specifying next business day delivery, with written verification of receipt, or (v) three (3) business days after deposit with an internationally recognized expedited delivery services company, freight prepaid for delivery to a non-U.S. address, specifying next available business day delivery, with written verification of receipt; provided, however, that notice and other communications given or made to Roche Finance Ltd shall only be provided using the methods set forth in clauses (i), (ii) and (v) above. In addition to the above, if notice is given to the Company, a copy (which shall not constitute notice) shall also be sent to Goodwin Procter LLP, 100 Northern Avenue, Boston, MA 02210, Attention: Arthur McGivern, Fax: (617) 801-8626, E-mail: AMcGivern@goodwinlaw.com.

(b) Consent to Electronic Notice. Each Investor and Licensor Stockholder 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 Licensor Stockholder'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 Licensor Stockholder 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.

6.6 Amendments and Waivers. Any term of this Agreement may be amended, modified or terminated and the observance of any term of this Agreement may be waived (either generally or in a particular instance, and either retroactively or prospectively) only with the written consent of the Company and the Requisite Majority; provided that the Company may in its sole discretion waive compliance with Section 2.12(c) (and the Company's failure to object promptly in writing after notification of a proposed assignment allegedly in violation of Section 2.12(c) shall be deemed to be a waiver). Notwithstanding the foregoing, (a) this Agreement may not be amended, modified or terminated and the observance of any term hereof may not be waived with respect to any Rights Stockholder without the written consent of such Rights Stockholder, unless such amendment, modification, termination, or waiver applies to all Rights Stockholders in the same fashion (it being agreed that a waiver of the provisions of Section 4 with respect to a particular transaction will be deemed to apply to all Rights Stockholders in the same fashion if such waiver does so by its terms, notwithstanding the fact that certain Rights Stockholders may nonetheless, by agreement with the Company, purchase securities in such transaction; provided that Section 4.1(e) may not be waived in connection therewith with respect to any Waived Investor without the written consent of such Waived Investor), (b) Section 3.3(a) and this Section 6.6(b) shall not be amended, modified, terminated or waived without the written consent of 5AM Ventures, (c) Section 3.3(b) and this Section 6.6(b) shall not be amended, modified, terminated or waived without the written consent of MRL Ventures, (d) Sections 3.3(c) and this Section 6.6(b) shall not be amended, modified, terminated, or waived without the written consent of each of 667, L.P. and Baker Brothers Life Sciences, L.P., (e) Section 3.3(d) and this Section 6.6(b) shall not be amended, modified, terminated or waived without the written consent of Greenspring Associates, and (f) Sections 2.11, 3.1, 3.2, 3.4, 3.5 and 4 shall not be amended, modified, terminated or waived in a manner adverse to the rights of the Wellington Investor without the written consent of the Wellington Investor. Notwithstanding the foregoing, Schedule A hereto may be amended by the Company from time to time to add transferees of any Registrable Securities in compliance with the terms of this Agreement without the consent of the other parties; and Schedule A hereto may also be amended by the Company after the date of this Agreement without the consent of the other parties to add information regarding any additional Investor or Licensor Stockholder who becomes a party to this Agreement in accordance with Section 6.9. The Company shall give prompt notice of any amendment, modification or termination hereof or waiver hereunder to any party hereto that did not consent in writing to such amendment, modification, termination, or waiver. Any amendment, modification, termination, or waiver effected in accordance with this Section 6.6 shall be binding on all parties hereto, regardless of whether any such party has consented thereto. No waivers of or exceptions to any term, condition, or provision of this Agreement, in any one (1) or more instances, shall be deemed to be or construed as a further or continuing waiver of any such term, condition, or provision.

6.7 Severability. In case any one (1) 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 shall not affect any other provision of this Agreement, and such invalid, illegal, or unenforceable provision shall be reformed and construed so that it will be valid, legal, and enforceable to the maximum extent permitted by law.

6.8 Aggregation of Stock. All shares of Registrable Securities held or acquired by Affiliates shall 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.

6.9 Additional Investors. Notwithstanding anything to the contrary contained herein, if the Company issues additional shares of the Series B Preferred Stock after the date hereof, whether pursuant to the Purchase Agreement or otherwise, any purchaser of such shares of Series B Preferred Stock may become a party to this Agreement by executing and delivering an additional counterpart signature page to this Agreement, and thereafter shall be deemed an "Investor" for all purposes hereunder. No action or consent by the Investors or Licensor Stockholders shall 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.

6.10 Entire Agreement. This Agreement (including any Schedules hereto) 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. Upon the effectiveness of this Agreement, the Prior Agreement shall be amended and restated and superseded and replaced in its entirety by this Agreement, and shall be of no further force or effect.

6.11 Dispute Resolution. The parties (a) hereby irrevocably and unconditionally submit to the jurisdiction of the state courts of the State of Delaware and to the jurisdiction of the United States District Court for the District of Delaware 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 state courts of the State of Delaware or the United States District Court for the District of Delaware, 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 it is not subject personally to the jurisdiction of the above-named courts, that its property is exempt or immune from attachment or execution, that the suit, action or proceeding is brought in an inconvenient forum, that the venue of the suit, action or proceeding is improper or that this Agreement or the subject matter hereof may not be enforced in or by such court.

WAIVER OF JURY TRIAL: EACH PARTY HEREBY WAIVES ITS RIGHTS TO A JURY TRIAL OF ANY CLAIM OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF THIS AGREEMENT, THE OTHER TRANSACTION DOCUMENTS, THE SECURITIES OR THE SUBJECT MATTER HEREOF OR THEREOF. THE SCOPE OF THIS WAIVER IS INTENDED TO BE ALL-ENCOMPASSING OF ANY AND ALL DISPUTES THAT MAY BE FILED IN ANY COURT AND THAT RELATE TO THE SUBJECT MATTER OF THIS TRANSACTION, INCLUDING, WITHOUT LIMITATION, CONTRACT CLAIMS, TORT CLAIMS (INCLUDING NEGLIGENCE), BREACH OF DUTY CLAIMS, AND ALL OTHER COMMON LAW AND STATUTORY CLAIMS. THIS SECTION HAS BEEN FULLY DISCUSSED BY EACH OF THE PARTIES HERETO AND THESE PROVISIONS WILL NOT BE SUBJECT TO ANY EXCEPTIONS. EACH PARTY HERETO HEREBY FURTHER WARRANTS AND REPRESENTS THAT SUCH PARTY HAS REVIEWED THIS WAIVER WITH ITS LEGAL COUNSEL, AND THAT SUCH PARTY KNOWINGLY AND VOLUNTARILY WAIVES ITS JURY TRIAL RIGHTS FOLLOWING CONSULTATION WITH LEGAL COUNSEL.

6.12 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, shall impair any such right, power, or remedy of such nonbreaching or nondefaulting party, nor shall 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 shall 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, shall be cumulative and not alternative.

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

ENTRADA THERAPEUTICS, INC.

By: /s/ Dipal Doshi
Name: Dipal Doshi
Title: President and CEO

Exhibit 10.1

CYCLOPORTERS

2016 Stock Incentive Plan

1. Purpose.

The purpose of this plan (the "Plan") is to secure for CycloPorters, Inc., a Delaware corporation (the "Company") and its shareholders the benefits arising from capital stock ownership by employees, officers and directors of, and consultants or advisors to, the Company and its parent and subsidiary corporations who are expected to contribute to the Company's future growth and success. Under the Plan recipients may be awarded both (i) Options (as defined in Section 2.1) to purchase the Company's common stock, par value $0.0001 per share ("Common Stock") and (ii) shares of Common Stock ("Restricted Stock Awards"). Except where the context otherwise requires, the term "Company" shall include any parent and all present and future subsidiaries of the Company as defined in Sections 424(e) and 424(f) of the Internal Revenue Code of 1986, as amended or replaced from time to time (the "Code"). Those provisions of the Plan which make express reference to Section 422 of the Code shall apply only to Incentive Stock Options (as that term is defined below). **Appendix A to this Plan shall apply only to participants in the Plan who are residents of the State of California**.

2. Types of Awards and Administration.

2.1 **Options**. Options granted pursuant to the Plan ("Options") shall be authorized by action of the Board of Directors of the Company (the "Board" or "Board of Directors") and may be either incentive stock options ("Incentive Stock Options") meeting the requirements of Section 422 of the Code or non-statutory Options which are not intended to meet the requirements of Section 422. All Options when granted are intended to be non-statutory Options, unless the applicable Option Agreement (as defined in Section 5.1) explicitly states that the Option is intended to be an Incentive Stock Option. The vesting of Options may be conditioned upon the completion of a specified period of employment with the Company and/or such other conditions or events as the Board may determine. The Board may also provide that Options are immediately exercisable subject to certain repurchase rights in the Company dependent upon the continued employment of the optionee and/or such other conditions or events as the Board may determine.

2.1.1 **Incentive Stock Options**. Incentive Stock Options may only be granted to employees of the Company. For so long as the Code shall so provide, Options granted to any employee under the Plan (and any other incentive stock option plans of the Company) which are intended to constitute Incentive Stock Options shall not constitute Incentive Stock Options to the extent that such Options, in the aggregate, become exercisable for the first time in any one calendar year for shares of Common Stock with an aggregate fair market value (determined as of the respective date or dates of grant) of more than $100,000. If an Option is intended to be an Incentive Stock Option, and if for any reason such Option (or any portion thereof) shall not qualify as an Incentive Stock Option, then, to the extent of such nonqualification, such Option (or portion thereof) shall be regarded as a non-statutory Option appropriately granted under the Plan provided that such Option (or portion thereof) otherwise meets the Plan's requirements relating to non-statutory Options.

2.2 **Restricted Stock Awards**. The Board in its discretion may grant Restricted Stock Awards, entitling the recipient to acquire, for a purchase price determined by the Board, shares of Common Stock subject to such restrictions and conditions as the Board may determine at the time of grant ("Restricted Stock"), including continued employment and/or achievement of pre-established performance goals and objectives.

2.3 **Administration**. The Plan shall be administered by the Board, whose construction and interpretation of the terms and provisions of the Plan shall be final and conclusive. The Board may in its sole discretion authorize issuance of Restricted Stock, the grant of Options and the issuance of shares upon exercise of such Options as provided in the Plan. The Board shall have authority, subject to the express provisions of the Plan, to construe Restricted Stock Agreements, Option Agreements and the Plan, to prescribe, amend and rescind rules and regulations relating to the Plan, to determine the terms and provisions of Restricted Stock Agreements and Option Agreements, and to make all other determinations in the judgment of the Board necessary or desirable for the administration of the Plan, The Board may correct any defect or supply any omission or reconcile any inconsistency in the Plan or in any Restricted Stock Agreement or Option Agreement in the manner and to the extent it shall deem expedient.to carry the Plan into effect and it shall be the sole and final judge of such expediency. No director or person acting pursuant to authority delegated by the Board shall be liable for any action or determination under the Plan made in good faith. The Board may, to the full extent permitted by or consistent with applicable laws or regulations, delegate any or all of its powers under the Plan to a committee (the "Committee") appointed by the Board, and if the Committee is so appointed, to the extent of such delegation, all references to the Board in the Plan shall mean and relate to such Committee, other than references to the Board in this sentence and in Section 18 (as to amendment or termination of the Plan) and Section 22.

3. Eligibility.

Options may be granted, and Restricted Stock may be issued, to persons who are, at the time of such grant or issuance, employees, officers or directors of, or consultants or advisors to, the Company; *provided*, that the class of persons to whom Incentive Stock Options may be granted shall be limited to employees of the Company.

3.1 **10% Shareholder**. If any employee to whom an Incentive Stock Option is to be granted is, at the time of the grant of such Option, the owner of stock possessing more than 10% of the total combined voting power of all classes of stock of the Company (after taking into account the attribution of stock ownership rules of Section 424(d) of the Code) (a "Greater Than 10% Shareholder"), any Incentive Stock Option granted to such individual must: (i) have an exercise price per share of not less than 110% of the fair market value of one share of Common Stock at the time of grant; and (ii) expire by its terms not more than five years from the date of grant.

4. Stock Subject to Plan.

Subject to adjustment as provided in Section 14.2 below, the maximum number of shares of Common Stock which may be issued under the Plan is 816,523 shares, all of which may be issued with respect to Incentive Stock Options. If an Option shall expire or terminate for any reason without having been exercised in full, the unpurchased shares subject to such Option shall again be available for subsequent Option grants or Restricted Stock Awards under the Plan. If shares of Restricted Stock shall be forfeited to, or otherwise repurchased by, the Company pursuant to a Restricted Stock Agreement, such repurchased shares shall again be available for subsequent Option grants or Restricted Stock Awards under the Plan. If shares otherwise issuable upon exercise of an Option are withheld by the Company in payment of the exercise price of an Option or to satisfy tax withholding obligations with respect to such exercise, such withheld shares shall again be available for subsequent Option grants or Restricted Stock Awards under the Plan.

5. Forms of Restricted Stock Agreements and Option Agreements.

5.1 **Option Agreement**. Each recipient of an Option shall execute an option agreement ("Option Agreement") in such form not inconsistent with the Plan as may be approved by the Board of Directors. Such Option Agreements may differ among recipients.

5.2 **Restricted Stock Agreement**. Each recipient of a grant of Restricted Stock shall execute an agreement ("Restricted Stock Agreement") in such form not inconsistent with the Plan as may be approved by the Board of Directors. Such Restricted Stock Agreements may differ among recipients.

5.3 "**Lock-Up**" **Agreement**. Unless the Board specifies otherwise, each Restricted Stock Agreement and Option Agreement shall provide that upon the request of the Company or the managing underwriter(s) of any offering of securities of the Company that is the subject of a registration statement filed under the United States Securities Act of 1933, as amended from time to time (the "Act"), the holder of any Option or the purchaser of any Restricted Stock shall, in connection therewith, agree in writing (in such form as the Company or such managing underwriter(s) shall request) to the general effect that for a period of time (not to exceed 180 days, plus such additional number of days (not to exceed 35) as may reasonably be requested to enable the underwriter(s) of such offering to comply with Rule 2711(f) of the Financial Industry Regulatory Authority or any amendment or successor thereto) from the effective date of the registration statement under the Act for such offering, the holder or purchaser will not sell, make any short sale of, loan, grant any option for the purchase of, or otherwise dispose of any shares of the common stock of the Company owned or controlled by him or her.

6. Purchase Price.

6.1 **General**. The purchase price per share of Restricted Stock and per share of stock deliverable upon the exercise of an Option shall be determined by the Board, provided, however, that in the case of any Option, the exercise price shall not be less than 100% of the fair market value of such stock, as determined by the Board, at the time of grant of such Option, or less than 110% of such fair market value in the case of any Incentive Stock Option granted to a Greater Than 10% Shareholder.

6.2 **Payment of Purchase Price**. Option Agreements may provide for the payment of the exercise price by delivery of cash or a check to the order of the Company in an amount equal to the exercise price of such Options, or, to the extent provided in the applicable Option Agreement, by one of the following methods:

(i) with the consent of the Board, by delivery to the Company of shares of Common Stock; such surrendered shares shall have a fair market value equal in amount to the exercise price of the Options being exercised,

(ii) with the consent of the Board, a personal recourse note issued by the optionee to the Company in a principal amount equal to such aggregate exercise price and with such other terms, including interest rate and maturity, as the Company may determine in its discretion; provided, however, that the interest rate borne by such note shall not be less than the lowest applicable federal rate, as defined in Section 1274(d) of the Code,

(iii) with the consent of the Board, if the class of Common Stock is registered under the Securities Exchange Act of 1934 at such time, subject to rules as may be established by the Board, by delivery to the Company of a properly executed exercise notice along with irrevocable instructions to a broker to promptly deliver to the Company cash or a check payable and acceptable to the Company for the purchase price,

(iv) with the consent of the Board, by reducing the number of Option shares otherwise issuable to the optionee upon exercise of the Option by a number of shares of Common Stock having a fair market value equal to such aggregate exercise price,

(v) with the consent of the Board, by any combination of such methods of payment.

The fair market value of any shares of Common Stock or other non-cash consideration which may be delivered upon exercise of an Option shall be determined by the Board of Directors. Restricted Stock Agreements may provide for the payment of any purchase price in any manner approved by the Board of Directors at the time of authorizing the issuance thereof.

7. Option Period.

Notwithstanding any other provision of the Plan or any Option Agreement, each Option and all rights thereunder shall expire on the date specified in the applicable Option Agreement, provided that such date shall not be later than ten years after the date on which the Option is granted (or five years in the case of an Incentive Stock Option granted to a Greater Than 10% Shareholder), and in either case, shall be subject to earlier termination as provided in the Plan or Option Agreement.

8. Exercise of Options.

8.1 **General**. Each Option shall be exercisable either in full or in installments at such time or times and during such period as shall be set forth in the Option Agreement evidencing such Option, subject to the provisions of the Plan. To the extent not exercised, installments shall accumulate and be exercisable, in whole or in part, at any time after becoming exercisable, but not later than the date the Option expires.

8.2 **Notice of Exercise**. An Option may be exercised by the optionee by delivering to the Company on any business day a written notice specifying the number of shares of Common Stock the optionee then desires to purchase and specifying the address to which the certificates for such shares are to be mailed (the "Notice"), accompanied by payment for such shares. In addition, the Company may require any individual to whom an Option is granted, as a condition of exercising such Option, to give written assurances (the "Investment Letter") in a substance and form satisfactory to the Company to the effect that such individual is acquiring the Common Stock subject to the Option for his or her own account for investment and not with a view to the resale or distribution thereof, and to such other effects as the Company deems necessary or advisable in order to comply with any securities law(s).

8.3 **Delivery**. As promptly as practicable after receipt of the Notice, the Investment Letter (if required) and payment, the Company shall deliver or cause to be delivered to the optionee certificates for the number of shares with respect to which such Option has been so exercised, issued in the optionee's name; provided, however, that such delivery shall be deemed effected for all purposes when the Company or a stock transfer agent shall have deposited such certificates in the United States mail, addressed to the optionee, at the address specified in the Notice.

9. Nontransferability of Options.

No Option shall be assignable or transferable by the person to whom it is granted, either voluntarily or by operation of law, except by will or the laws of descent and distribution. During the life of an optionee, an Option shall be exercisable only by the optionee.

10. Termination of Employment; **Disability**; **Death**. Except as may be otherwise expressly provided in the terms and conditions of the Option Agreement, Options shall terminate on the earliest to occur of:

(i) the date of expiration thereof;

(ii) 0 days after termination of the optionee's employment with, or provision of services to, the Company by the Company for Cause (as hereinafter defined);

(iii) 90 days after the date of voluntary termination of the optionee's employment with, or provision of services to, the Company by the optionee (other than for death or permanent disability as defined below); or

(iv) 90 days after the date of termination of the optionee's employment with, or provision of services to, the Company by the Company without Cause (other than for death or permanent disability as defined below).

Until the date on which the Option so expires, the optionee may exercise that portion of his or her Option which is exercisable at the time of termination of the employment or service relationship.

An employment or service relationship between the Company and the optionee shall be deemed to exist during any period during which the optionee is employed by or providing services to the Company. Whether an authorized leave of absence or an absence due to military or government service shall constitute termination of the employment relationship between the Company and the optionee shall be determined by the Board at the time thereof.

For purposes of this Section 10, the term "Cause" shall mean (a) any material breach by the optionee of any agreement to which the optionee and the Company are both parties, (b) any act (other than retirement) or omission to act by the optionee which may have a material and adverse effect on the Company's business or on the optionee's ability to perform services for the Company, including, without limitation, the commission of any crime (other than minor traffic violations), or (c) any material misconduct or material neglect of duties by the optionee in connection with the business or affairs of the Company. An optionee's employment shall be deemed to have been terminated for Cause if the Company determines within thirty (30) days of the termination of employment (whether such termination was voluntary or involuntary) that termination for Cause was warranted.

In the event of the permanent and total disability or death of an optionee while in an employment or other relationship with the Company, any Option held by such optionee shall terminate on the earlier of the date of expiration of the Option or one year following the date of such disability or death. After disability or death, the optionee (or in the case of death, his or her executor, administrator or any person or persons to whom this option may be transferred by will or by laws of descent and distribution) shall have the right, at any time prior to such termination of an Option, to exercise the Option to the extent the optionee was entitled to exercise such Option as of the date of his or her disability or death. An optionee is permanently and totally disabled if he or she is unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to last for a continuous period of not less than 12 months; permanent and total disability shall be determined in accordance with Section 22(e)(3) of the Code and the regulations issued thereunder.

11. Rights as a Shareholder. The holder of an Option shall have no rights as a shareholder with respect to any shares covered by the Option (including, without limitation, any rights to receive dividends or non-cash distributions with respect to such shares) until the date of issue of a stock certificate to him or her for such shares. No adjustment shall be made for dividends or other rights for which the record date is prior to the date such stock certificate is issued.

12. Additional Provisions. The Board of Directors may, in its sole discretion, include additional provisions in Restricted Stock Agreements and Option Agreements, including, without limitation, restrictions on transfer, rights of the Company to repurchase shares of Restricted Stock or shares of Common Stock acquired upon exercise of Options, commitments to pay cash bonuses, to make, arrange for or guaranty loans or to transfer other property to optionees upon exercise of Options, or such other provisions as shall be determined by the Board of Directors; *provided that* such additional provisions shall not be inconsistent with any other term or condition of the Plan and such additional provisions shall not be such as to cause any Incentive Stock Option to fail to qualify as an Incentive Stock Option within the meaning of Section 422 of the Code.

13. Acceleration, **Extension**, **Etc**. The Board of Directors may, in its sole discretion, (i) accelerate the date or dates on which all or any particular Option or Options may be exercised or (ii) extend the period or periods of time during which all, or any particular, Option or Options may be exercised.

14. Adjustment Upon Changes in Capitalization

14.1 **No Effect of Options upon Certain Corporate Transactions**. The existence of outstanding Options shall not affect in any way the right or power of the Company to make or authorize any or all adjustments, recapitalizations, reorganizations or other changes in the Company's capital structure or its business, or any merger or consolidation, or any issue of Common Stock, or any issue of bonds, debentures, preferred or prior preference stock ahead of or affecting the Common Stock or the rights thereof, or the dissolution or liquidation of the Company, or any sale or transfer of all or any part of its assets or business, or any other corporate act or proceeding, whether of a similar character or otherwise.

14.2 **Adjustment Provisions**. If, through or as a result of any merger, consolidation, sale of all or substantially all of the assets of the Company, reorganization, recapitalization, reclassification, stock dividend, stock split, reverse stock split or other similar transaction, (i) the outstanding shares of Common Stock are increased, decreased or exchanged for a different number or kind of shares or other securities of the Company, or (ii) additional shares or new or different shares or other securities of the Company or other non-cash assets are distributed with respect to such shares of Common Stock or other securities, an appropriate and proportionate adjustment shall be made in (x) the maximum number and kind of shares reserved for issuance under the Plan, (y) the number and kind of shares or other securities subject to any then outstanding Options, and (z) the price for each share or other security subject to any then outstanding Options, so that upon exercise of such Options, in lieu of the shares of Common Stock for which such Options were then exercisable, the relevant optionee shall be entitled to receive, for the same aggregate consideration, the same total number and kind of shares or other securities, cash or property that the owner of an equal number of outstanding shares of Common Stock immediately prior to the event requiring adjustment would own as a result of the event. If any such event shall occur, appropriate adjustment shall also be made in the application of the provisions of this Section 14 and Section 15 with respect to Options and the rights of optionees after the event so that the provisions of such Sections shall be applicable after the event and be as nearly equivalent as practicable in operation after the event as they were before the event.

14.3 **No Adjustment in Certain Cases**. Except as hereinbefore expressly provided, the issue by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, for cash or property or for labor or services, either upon direct sale or upon the exercise of rights or warrants to subscribe therefor, or upon conversion of shares or obligations of the Company convertible into such shares or other securities, shall not affect, and no adjustment by reason thereof shall be made with respect to, the number or price of shares of Common Stock then subject to outstanding options.

14.4 **Board Authority to Make Adjustments**. Any adjustments under this Section 14 will be made by the Board of Directors, whose determination as to what adjustments, if any, will be made and the extent thereof will be final, binding and conclusive. No fractional shares will be issued under the Plan on account of any such adjustments.

15. Effect of Certain Transactions

15.1 **General**. Except as provided in any Option Agreement or Restricted Stock Agreement to the contrary, if the Company is merged with or into or consolidated with another corporation under circumstances where the stockholders of the Company immediately prior to such merger or consolidation do not own after such merger or consolidation shares representing at least fifty percent (50%) of the voting power of the Company or the surviving or resulting corporation, as the case may be, or if shares representing fifty percent (50%) or more of the voting power of the Company are transferred to an Unrelated Third Party, as hereinafter defined, or if the Company is liquidated, or sells or otherwise disposes of all or substantially all its assets (each such transaction is referred to herein as a "Change in Control Transaction"), the Board, or the board of directors of any corporation assuming the obligations of the Company, may, in its discretion, take any one or more of the following actions, as to some or all outstanding Options or Restricted Stock Awards (and need not take the same action as to each such Option or Restricted Stock Award): (i) provide that such Options shall be assumed, or equivalent Options shall be substituted, by the acquiring or succeeding corporation (or an affiliate thereof), provided that any such Options substituted for Incentive Stock Options shall meet the requirements of Section 424(a) of the Code, (ii) upon written notice to the optionees, provide that all unexercised Options (whether vested or unvested) will terminate immediately prior to the consummation of the Change in Control Transaction unless exercised by the optionee to the extent otherwise then exercisable within a specified period following the date of such notice, (iii) upon written notice to the grantees, provide that all unvested shares of Restricted Stock shall be repurchased at cost, (iv) make or provide for a cash payment to the optionees equal to the difference between (A) the fair market value of the per share consideration (whether cash, securities or other property or any combination of the above) the holder of a share of Common Stock will receive upon consummation of the Change in Control Transaction (the "Per Share Transaction Price") times the number of shares of Common Stock subject to outstanding vested Options (to the extent then exercisable at prices not equal to or in excess of the Per Share Transaction Price) and (B) the aggregate exercise price of such outstanding vested Options, in exchange for the termination of such Options, or (v) provide that all or any outstanding Options shall become exercisable and all or any outstanding Restricted Stock Awards shall vest in part or in full immediately prior to such event. To the extent that any Options are exercisable at a price equal to or in excess of the Per Share Transaction Price, the Board may provide that such Options shall terminate immediately upon the consummation of the Change in Control Transaction without any payment being made to the holders of such Options. "Unrelated Third Party" shall mean any person who is not, on the date of adoption of this Plan by the Board, a holder of stock of any class or preference or any stock option of the Company.

15.2 **Substitute Options**. The Company may grant Options in substitution for options held by employees, officers or directors of, or consultants or advisors to, another corporation who become employees, officers or directors of, or consultants or advisors to, the Company, as the result of a merger or consolidation of the employing corporation with the Company or as a result of the acquisition by the Company of property or stock of the employing corporation. The Company may direct that substitute Options be granted on such terms and conditions as the Board considers appropriate in the circumstances.

15.3 **Restricted Stock**. In the event of a business combination or other transaction of the type detailed in Section 15.1, any securities, cash or other property received in exchange for shares of Restricted Stock shall continue to be governed by the provisions of any Restricted Stock Agreement pursuant to which they were issued, including any provision regarding vesting, and such securities, cash, or other property may be held in escrow on such terms as the Board of Directors may direct, to insure compliance with the terms of any such Restricted Stock Agreement.

16. No Special Employment Rights. Nothing contained in the Plan or in any Option Agreement or Restricted Stock Agreement shall confer upon any optionee or holder of Restricted Stock any right with respect to the continuation of his or her employment by the Company or interfere in any way with the right of the Company at any time to terminate such employment or to increase or decrease his or her compensation.

17. Other Employee Benefits. The amount of any compensation deemed to be received by an employee as a result of the issuance of shares of Restricted Stock or the grant or exercise of an Option or the sale of shares received upon issuance of a Restricted Stock Award or exercise of an Option will not constitute compensation with respect to which any other employee benefits of such employee are determined, including, without limitation, benefits under any bonus, pension, profit-sharing, life insurance or salary continuation plan, except as otherwise specifically determined by the Board of Directors.

18. Amendment of the Plan.

18.1 The Board may at any time, and from time to time, modify or amend in any respect or terminate the Plan. If shareholder approval is not obtained within twelve months after any amendment increasing the number of shares authorized under the Plan or changing the class of persons eligible to receive Options under the Plan, no Options granted pursuant to such amendments shall be deemed to be Incentive Stock Options and no Incentive Stock Options shall be issued pursuant to such amendments thereafter.

18.2 The termination or any modification or amendment of the Plan shall not, without the consent of an optionee or the holder of Restricted Stock, adversely affect his or her rights under an Option or Restricted Stock Award previously granted to him or her. With the consent of the recipient of Restricted Stock or optionee affected, the Board may amend outstanding Restricted Stock Agreements or Option Agreements in a manner not inconsistent with the Plan.

19. Withholding. The Company shall have the right to deduct from payments of any kind otherwise due to the optionee or recipient of Restricted Stock, any federal, state or local taxes of any kind required by law to be withheld with respect to issuance of any shares of Restricted Stock or shares issued upon exercise of Options. Prior to delivery of any Common Stock pursuant to the terms of this Plan, the Board has the right to require that the optionee or recipient of Restricted Stock remit to the Company an amount sufficient to satisfy any minimum tax withholding obligation. Subject to the prior approval of the Company, which may be withheld by the Company in its sole discretion, the obligor may elect to satisfy any minimum withholding obligations, in whole or in part, (i) by causing the Company to withhold shares of Common Stock otherwise issuable, or (ii) by delivering to the Company a sufficient number of shares of Common Stock. The shares so withheld shall have a fair market value equal to such minimum withholding obligation. The fair market value of the shares used to satisfy such minimum withholding obligation shall be determined by the Company as of the date that the amount of tax to be withheld is to be determined. A person who has made an election pursuant to this Section 19 may only satisfy his or her withholding obligation with shares of Common Stock which are not subject to any repurchase, forfeiture, unfulfilled vesting or other similar restrictions.

20. Effective Date and Duration of the Plan.

20.1 **Effective Date**. The Plan shall become effective when adopted by the Board of Directors. If shareholder approval is not obtained within twelve months after the date of the Board's adoption of the Plan, no Options previously granted under the Plan shall be deemed to be Incentive Stock Options and no Incentive Stock Options shall be granted thereafter. Amendments to the Plan not requiring shareholder approval shall become effective when adopted by the Board. Amendments requiring shareholder approval shall become effective when adopted by the Board, but if shareholder approval is not obtained within twelve months of the Board's adoption of such amendment, any Incentive Stock Options granted pursuant to such amendment shall be deemed to be non-statutory Options provided that such Options are authorized by the Plan. Subject to this limitation, Options may be granted under the Plan at any time after the effective date and before the date fixed for termination of the Plan.

20.2 **Termination**. Unless sooner terminated by action of the Board of Directors, the Plan shall terminate upon the close of business on the day next preceding the tenth anniversary of the date of its adoption by the Board of Directors.

21. Provision for Foreign Participants. The Board of Directors may, without amending the Plan, modify the terms of Option Agreements or Restricted Stock Agreements to differ from those specified in the Plan with respect to participants who are foreign nationals or employed outside the United States to recognize differences in laws, rules, regulations or customs of such foreign jurisdictions with respect to tax, securities, currency, employee benefit or other matters.

22. **Requirements of Law**. The Company shall not be required to sell or issue any shares under any Option or Restricted Stock Award if the issuance of such shares shall constitute a violation by the optionee, the Restricted Stock Award recipient, or by the Company of any provision of any law or regulation of any governmental authority. In addition, in connection with the Act, the Company shall not be required to issue any shares upon exercise of any Option unless the Company has received evidence satisfactory to it to the effect that the holder of such Option will not transfer such shares except pursuant to a registration statement in effect under the Act or unless an opinion of counsel satisfactory to the Company has been received by the Company to the effect that such registration is not required in connection with any such transfer. Any determination in this connection by the Board shall be final, binding and conclusive. In the event the shares issuable on exercise of an Option are not registered under the Act or under the securities laws of each relevant state or other jurisdiction, the Company may imprint on the certificate(s) appropriate legends that counsel for the Company considers necessary or advisable to comply with the Act or any such state or other securities law. The Company may register, but in no event shall be obligated to register, any securities covered by the Plan pursuant to the Act; and in the event any shares are so registered the Company may remove any legend on certificates representing such shares. The Company shall not be obligated to take any affirmative action in order to cause the exercise of an Option, the grant of any Restricted Stock Award or the issuance of shares pursuant thereto to comply with any law or regulation of any governmental authority.

23. **Conversion of Incentive Stock Options into Non-Qualified Options**; **Termination**. The Board of Directors, with the consent of any optionee, may in its discretion take such actions as may be necessary to convert such optionee's Incentive Stock Options (or any installments or portions of installments thereof) that have not been exercised on the date of conversion into non-statutory Options at any time prior to the expiration of such Incentive Stock Options, regardless of whether the optionee is an employee of the Company or a parent or subsidiary of the Company at the time of such conversion. At the time of such conversion, the Board of Directors (with the consent of the optionee) may impose such conditions on the exercise of the resulting non-statutory Options as the Board of Directors in its discretion may determine, provided that such conditions shall not be inconsistent with this Plan. Nothing in this Plan shall be deemed to give any optionee the right to have such optionee's Incentive Stock Options converted into non-statutory Options, and no such conversion shall occur until and unless the Board of Directors takes appropriate action. The Board of Directors, with the consent of the optionee, may also terminate any portion of any 'Incentive Stock Option that has not been exercised at the time of such termination.

24. **Non-Exclusivity of this Plan**; **Non-Uniform Determinations**. Neither the adoption of this Plan by the Board of Directors nor the approval of this Plan by the stockholders of the Company shall be construed as creating any limitations on the power of the Board of Directors to adopt such other incentive arrangements as it may deem desirable, including, without limitation, the granting of stock options otherwise than under this Plan, and such arrangements may be either applicable generally or only in specific cases.

The determinations of the Board of Directors under this Plan need not be uniform and may be made by it selectively among persons who receive or are eligible to receive Options or Restricted Stock Awards under this Plan (whether or not such persons are similarly situated). Without limiting the generality of the foregoing, the Board of Directors shall be entitled, among other things, to make non-uniform and selective determinations, and to enter into non-uniform and selective Option Agreements and Restricted Stock Agreements, as to (a) the persons to receive Options or Restricted Stock Awards under this Plan, (b) the terms and provisions of Options or Restricted Stock Awards, (c) the exercise by the Board of Directors of its discretion in respect of the exercise of Options pursuant to the terms of this Plan, and (d) the treatment of leaves of absence pursuant to Section 10 hereof.

25. Governing Law. This Plan and each Option or Restricted Stock Award shall be governed by the laws of Delaware, without regard to its principles of conflicts of law.

APPENDIX A
TO CYCLOPORTERS, INC. 2016 STOCK INCENTIVE PLAN
FOR CALIFORNIA RESIDENTS ONLY

This Appendix to the CycloPorters, Inc. 2016 Stock Incentive Plan (the "Plan") shall have application only to participants in the Plan who are residents of the State of California. Capitalized terms contained herein shall have the same meanings given to them in the Plan, unless otherwise provided in this Appendix. **Notwithstanding any provision contained in the Plan to the contrary and to the extent required by applicable law, the following terms and conditions shall apply to all Options and Restricted Stock Awards (collectively "Awards") granted to residents of the State of California, until such time as the Common Stock becomes subject to registration under the Securities Act of 1933**:

1. Awards shall be nontransferable other than by will or the laws of descent and distribution. Notwithstanding the foregoing, and to the extent permitted by Section 422 of the Code, the Board, in its discretion, may permit distribution of an Award to an inter vivos or testamentary trust in which the Award is to be passed to beneficiaries upon the death of the trustor (settlor), or by gift to "immediate family" as that term is defined in Rule 16a-1(e) of the United States Exchange Act of 1934.

2. Unless employment is terminated for Cause, the right to exercise an Option in the event of termination of employment, to the extent that the optionee is otherwise entitled to exercise an Option on the date employment terminates, shall be

(a) at least six months from the date of termination of employment if termination was caused by death or permanent disability; and

(b) at least 30 days from the date of termination if termination of employment was caused by other than death or permanent disability;

(c) but in no event later than the remaining term of the Option.

3. Any Award exercised before shareholder approval is obtained shall be rescinded if shareholder approval is not obtained within 12 months of the Board's adoption of the Plan.

INCENTIVE STOCK OPTION

Granted by

CycloPorters, Inc. (the "Company")

Under the 2016 Stock Incentive Plan

This Option is and shall be subject in every respect to the provisions of the Company's 2016 Stock Incentive Plan, as amended from time to time (the "Plan"), which is incorporated herein by reference and made a part hereof. The holder of this Option (the "Holder") hereby accepts this Option subject to all the terms and provisions of the Plan and agrees that (a) in the event of any conflict between the terms hereof and those of the Plan, the latter shall prevail, and (b) all decisions under and interpretations of the Plan by the Board or the Committee shall be final, binding and conclusive upon the Holder and his or her heirs and legal representatives.

1. **Name of Holder**:

2. **Date of Grant**:

3. **Vesting Start Date**:

4. **Maximum number of shares for which this Option is exercisable**:

5. **Exercise (purchase) price per share**: [***Note***: ***must be at least fair market value, or 110% of fair market value in case of ISO granted to Greater Than 10% Shareholder***]

6. **Method of Exercise**: This Option may be exercised by the delivery of written notice to the Company setting forth the number of shares with respect to which the Option is to be exercised, together with payment by one of the following methods:

   cash or a personal, certified or bank check or postal money order payable to the order of the Company for an amount equal to the exercise price of the shares being purchased; or

   with the consent of the Company, any of the other methods set forth in the Plan.

As an additional condition to exercise of this Option, the Holder shall deliver to the Company an investment letter in form and substance satisfactory to the Company and its counsel. No such investment letter shall be required as a condition to such exercise at any time when there shall be an effective registration statement under the Securities Act of 1933, as amended (the "Act") covering the shares for which this Option may be exercised.

7. **Expiration Date of Option**: [***Note***: ***for ISO, cannot be longer than 10 years from date of grant, or 5 years in case of a Greater Than 10% Shareholder***]

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8. **Vesting Schedule**: [***Note***: ***Company to elect vesting schedule***; ***following is an example of a standard vesting provision***] This Option shall become exercisable for 25% of the maximum number of shares granted on the first anniversary of the Vesting Start Date, and shall become exercisable for an additional 2.0833% of the maximum number of shares granted on the last day of each one month period thereafter; so that the Option shall be fully vested on the fourth anniversary of the Vesting Start Date. All vesting shall cease upon the date of termination of employment.

In addition to the foregoing, upon the Holder's election at any time after the Date of Grant of this Option, the Holder shall be entitled to exercise this Option immediately and in full for the maximum number of shares as set forth herein, whether or not fully vested, provided that, upon such exercise, the Holder shall execute a stock restriction agreement containing a "reverse vesting" schedule effectively equivalent to the Vesting Schedule set forth herein, pursuant to which the Holder agrees to sell back any unvested shares at cost should he or she leave the employ of the Company prior to full vesting. Early exercise of this Option in accordance with the preceding sentence may have adverse tax implications, including the loss of potential tax benefits otherwise available to holders of incentive stock options, and the Holder is advised to consult his or her personal tax advisor prior to making any such election.

9. **Termination of Employment**. This Option shall terminate on the earliest to occur of:

(i) the date of expiration hereof;

(ii) 0 days after termination of the Holder's employment with the Company by the Company for Cause (as defined in the Plan);

(iii) 90 days after the date of voluntary termination of employment by the Holder (other than for death or permanent and total disability as defined in the Plan);

(iv) 90 days after the date of termination of the Holder's employment with the Company by the Company without Cause (other than for death or permanent and total disability as defined in the Plan); or

(v) one year after the "permanent and total disability"(as defined at Section 10 of the Plan) or death of the Holder.

10. **Company's Right of First Refusal**. Prior to the effective date of a registration statement under the Act, any shares of stock issued pursuant to exercise of this Option shall be subject to the Company's right of first refusal as set forth at Appendix A.

11. **Lock-Up Agreement**. The Holder agrees that upon the request of the Company or the managing underwriter(s) of any offering of securities of the Company that is the subject of a registration statement filed under the Act, for a period of time (not to exceed 180 days, plus such additional number of days (not to exceed 35) as may reasonably be requested to enable the underwriter(s) of such offering to comply with Rule 2711(f) of the Financial Industry Regulatory Authority or any amendment or successor thereto) from the effective date of the registration statement under the Act for such offering, the Holder will not sell, make any short sale of, loan, grant any option for the purchase of, or otherwise dispose of any shares of Common Stock issued pursuant to the exercise of this Option, without the prior written consent of the Company and such underwriters.

12. **Incentive Stock Option**; **Disqualifying Disposition**. Although this Option is intended to qualify as an incentive stock option under the Internal Revenue Code of 1986 (the "Code"), the Company makes no representation as to the tax treatment upon exercise of this Option or sale or other disposition of the shares covered by this Option, and the Holder is advised to consult a personal tax advisor. Upon a Disqualifying Disposition of shares received upon exercise of this Option, the Holder will forfeit the favorable income tax treatment otherwise available with respect to the exercise of this Option. A "Disqualifying Disposition" shall have the meaning specified in Section 421(b) of the Code; as of the date of grant of this Option a Disqualifying Disposition is any disposition (including any sale) of such shares before the later of (a) the second anniversary of the date of grant of this Option and (b) the first anniversary of the date on which the Holder acquired such shares by exercising this Option, *provided* that such holding period requirements terminate upon the death of the Holder. The Holder shall notify the Company in writing immediately upon making a Disqualifying Disposition of any shares of Common Stock received pursuant to the exercise of this Option, and shall provide the Company with any information that the Company shall request concerning any such Disqualifying Disposition.

13. **Notice**. Any notice to be given to the Company hereunder shall be deemed sufficient if addressed to the Company and delivered to the office of the Company, c/o 5AM Ventures, 2200 Sand Hill Road, Suite 110, Menlo Park, CA 94025, attention of the president, or such other address as the Company may hereafter designate.

Any notice to be given to the Holder hereunder shall be deemed sufficient if addressed to and delivered in person to the Holder at his or her address furnished to the Company or when deposited in the mail, postage prepaid, addressed to the Holder at such address.

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IN WITNESS WHEREOF, the parties have executed this Option, or caused this Option to be executed, as of the Date of Grant,

CycloPorters, **Inc**.

By: _____

The undersigned Holder hereby acknowledges receipt of a copy of the Plan and this Option (including Appendix A hereto), and agrees to the terms of this Option and the Plan.

_____

Holder:

Right of First Refusal

1. **General**. Prior to the effective date of a registration statement under the Securities Act of 1933, as amended (the "Act"), covering any shares of the Company's Common Stock and until such time as the Company shall have effected a public offering of its Common Stock registered under the Act, in the event that, at any time when the Holder (which term for purposes of this section shall mean the Holder and his or her executors, administrators and any other person to whom this Option may be transferred by will or the laws of descent and distribution) is permitted to do so, the Holder desires to sell, assign or otherwise transfer any of the shares issued upon the exercise of this Option, the Holder shall first offer such shares to the Company by giving written notice of the Holder's desire so to sell, assign or transfer such shares.

2. **Notice of Intended Transfer**. The notice shall state the number of shares offered, the name of the person or persons to whom it is proposed to sell, assign or transfer such shares and the price at which such shares are intended to be sold, assigned or transferred. Such notice shall constitute an offer to the Company for the Company to purchase the number of shares set forth in the notice at a price per share equal to the price stated therein.

3. **Company to Accept or Decline Within 30 Days**. The Company may accept the offer as to all, but not less than all, such shares by notifying the Holder in writing within 30 days after receipt of such notice of its acceptance of the offer. If the offer is accepted, the Company shall have 60 days after such acceptance within which to purchase the offered shares at a price per share as aforesaid. If within the applicable time periods the Holder does not receive notice of the Company's intention to purchase the offered shares, or if payment in full of the purchase price is not made by the Company, the offer shall be deemed to have been rejected and the Holder may transfer title to such shares within 90 days from the date of the Holder's written notice to the Company of the Holder's intention to sell, but such transfer shall be made only to the proposed transferee and at the proposed price as stated in such notice and after compliance with any other provisions of this Option applicable to the transfer of such shares.

4. **Transferred Shares to Remain Subject to Right of First Refusal**. Shares that are so transferred to such transferee shall remain subject to the rights of the Company set forth in this Appendix A. As a condition to such transfer, such transferee shall execute and deliver all such documents as the Company may require to evidence the binding agreement of such transferee so to remain subject to the rights of the Company.

5. **Remedies of Company**. No sale, assignment, pledge or other transfer of any of the shares covered by this Option shall be effective or given effect on the books of the Company unless all of the applicable provisions of this Appendix A have been duly complied with, and the Company may inscribe on the face of any certificate representing any of such shares a legend referring to the provisions of this Appendix A. If any transfer of shares is made or attempted in violation of the foregoing restrictions, or if shares are not offered to the Company as required hereby, the Company shall have the right to purchase such shares from the owner thereof or his transferee at any time before or after the transfer, as herein provided. In addition to any other legal or equitable remedies which it may have, the Company may enforce its rights by actions for specific performance (to the extent permitted by law) and may refuse to recognize any transferee as one of its stockholders for any purpose, including, without limitation, for purposes of dividend and voting rights, until all applicable provisions hereof have been complied with.

6. **Shares Subject to Right of First Refusal**. For purposes of the Right of First Refusal pursuant to this Appendix A, the term "shares" shall mean any and all new, substituted or additional securities or other property issued to the Holder, by reason of his or her ownership of Common Stock pursuant to the exercise of this Option, in connection with any stock dividend, liquidating dividend, stock split or other change in the character or amount of any of the outstanding securities of the Company, or any consolidation, merger or sale of all or substantially all of the assets of the Company.

7. **Legends on Stock Certificates**. Any certificate representing shares of stock subject to the provisions of this Appendix A may have endorsed thereon one or more legends, substantially as follows:

(i) "Any disposition of any interest in the securities represented by this certificate is subject to restrictions, and the securities represented by this certificate are subject to certain options, contained in a certain agreement between the record holder hereof and the Company, a copy of which will be mailed to any holder of this certificate without charge upon receipt by the Company of a written request therefor."

(ii) "The shares of stock represented by this certificate have not been registered under the Securities Act of 1933 or under the securities laws of any state and may not be pledged, hypothecated, sold or otherwise transferred unless such shares have been registered under the Act or unless the Company has received an opinion of counsel satisfactory to the Company, in form and substance satisfactory to the Company, that such registration is not required."

8. **Right of First Refusal to Lapse Upon Registration**. The restrictions imposed by this Appendix A shall terminate in all respects upon the effective date of a registration statement under the Act covering any of the Company's Common Stock.

NON-STATUTORY STOCK OPTION

Granted by

CycloPorters, Inc. (the "Company")

Under the 2016 Stock Incentive Plan

This Option is and shall be subject in every respect to the provisions of the Company's 2016 Stock Incentive Plan, as amended from time to time (the "Plan"), which is incorporated herein by reference and made a part hereof. The holder of this Option (the "Holder") hereby accepts this Option subject to all the terms and provisions of the Plan and agrees that (a) in the event of any conflict between the terms hereof and those of the Plan, the latter shall prevail, and (b) all decisions under and interpretations of the Plan by the Board or the Committee shall be final, binding and conclusive upon the Holder and his or her heirs and legal representatives.

1. **Name of Holder**:

2. **Date of Grant**:

3. **Vesting Start Date**:

4. **Maximum number of shares for which this Option is exercisable**:

5. **Exercise (purchase) price per share**: [***must be at least fair market value***]

6. **Method of Exercise**: This Option may be exercised by the delivery of written notice to the Company setting forth the number of shares with respect to which the Option is to be exercised, together with payment by one of the following methods:

   cash or a personal, certified or bank check or postal money order payable to the order of the Company for an amount equal to the exercise price of the shares being purchased; or

   with the consent of the Company, any of the other methods set forth in the Plan.

As an additional condition to exercise of this Option, the Holder shall deliver to the Company an investment letter in form and substance satisfactory to the Company and its counsel. No such investment letter shall be required as a condition to such exercise at any time when there shall be an effective registration statement under the Securities Act of 1933, as amended (the "Act") covering the shares for which this Option may be exercised.

7. **Expiration Date of Option**:

8. **Vesting Schedule**: [***Note***: ***Company to elect vesting schedule***; ***following is an example of a standard vesting provision***] This Option shall become exercisable for 25% of the maximum number of shares granted on the first anniversary of the Vesting Start Date, and shall become exercisable for an additional 2.0833% of the maximum number of shares granted on the last day of each one month period thereafter; so that the Option shall be fully vested on the fourth anniversary of the Vesting Start Date. All vesting shall cease upon the date of termination of employment with or provision of services to the Company.

In addition to the foregoing, upon the Holder's election at any time after the Date of Grant of this Option, the Holder shall be entitled to exercise this Option immediately and in full for the maximum number of shares as set forth herein, whether or not fully vested, provided that, upon such exercise, the Holder shall execute a stock restriction agreement containing a "reverse vesting" schedule effectively equivalent to the Vesting Schedule set forth herein, pursuant to which the Holder agrees to sell back any unvested shares at cost should he or she leave the service of the Company prior to full vesting.

9. **Termination of Employment with or Services to the Company**. This Option shall terminate on the earliest to occur of:

(i) the date of expiration thereof;

(ii) 0 days after termination of the Holder's employment with or services to the Company by the Company for Cause (as defined in the Plan);

(iii) 90 days after the date of voluntary termination of employment with or services to the Company by the Holder (other than for death or permanent and total disability as defined in the Plan);

(iv) 90 days after the date of termination of the Holder's employment with or services to the Company by the Company without Cause (other than for death or permanent and total disability as defined in the Plan); or

(v) one year after the "permanent and total disability"(as defined at Section 10 of the Plan) or death of the Holder.

10. **Company's Right of First Refusal**. Prior to the effective date of a registration statement under the Act, any shares of stock issued pursuant to exercise of this Option shall be subject to the Company's right of first refusal as set forth at Appendix A.

11. **Lock-Up Agreement**. The Holder agrees that upon the request of the Company or the managing underwriter(s) of any offering of securities of the Company that is the subject of a registration statement filed under the Act, for a period of time (not to exceed 180 days, plus such additional number of days (not to exceed 35) as may reasonably be requested to enable the underwriter(s) of such offering to comply with Rule 2711(f) of the Financial Industry Regulatory Authority or any amendment or successor thereto) from the effective date of the registration statement under the Act for such offering, the Holder will not sell, make any short sale of, loan, grant any option for the purchase of, or otherwise dispose of any shares of Common Stock issued pursuant to the exercise of this Option, without the prior written consent of the Company and such underwriters.

12. **Tax Withholding**. The Company's obligation to deliver shares shall be subject to the Holder's satisfaction of any federal, state and local income and employment tax withholding requirements.

13. **Notice**. Any notice to be given to the Company hereunder shall be deemed sufficient if addressed to the Company and delivered to the office of the Company, c/o 5 AM Ventures, 2200 Sand Hill Road, Suite 110, Menlo Park, CA 94025, attention of the president, or such other address as the Company may hereafter designate.

Any notice to be given to the Holder hereunder shall be deemed sufficient if addressed to and delivered in person to the Holder at his or her address furnished to the Company or when deposited in the mail, postage prepaid, addressed to the Holder at such address.

*****

IN WITNESS WHEREOF, the parties have executed this Option, or caused this Option to be executed, as of the Date of Grant.

CycloPorters, **Inc**.

By: _____

The undersigned Holder hereby acknowledges receipt of a copy of the Plan and this Option (including Appendix A hereto), and agrees to the terms of this Option and the Plan.

_____

Holder:

Right of First Refusal

1. **General**. Prior to the effective date of a registration statement under the Securities Act of 1933, as amended (the "Act"), covering any shares of the Company's Common Stock and until such time as the Company shall have effected a public offering of its Common Stock registered under the Act, in the event that, at any time when the Holder (which term for purposes of this section shall mean the Holder and his or her executors, administrators and any other person to whom this Option may be transferred by will or the laws of descent and distribution) is permitted to do so, the Holder desires to sell, assign or otherwise transfer any of the shares issued upon the exercise of this Option, the Holder shall first offer such shares to the Company by giving written notice of the Holder's desire so to sell, assign or transfer such shares.

2. **Notice of Intended Transfer**. The notice shall state the number of shares offered, the name of the person or persons to whom it is proposed to sell, assign or transfer such shares and the price at which such shares are intended to be sold, assigned or transferred. Such notice shall constitute an offer to the Company for the Company to purchase the number of shares set forth in the notice at a price per share equal to the price stated therein.

3. **Company to Accept or Decline Within 30 Days**. The Company may accept the offer as to all, but not less than all, such shares by notifying the Holder in writing within 30 days after receipt of such notice of its acceptance of the offer. If the offer is accepted, the Company shall have 60 days after such acceptance within which to purchase the offered shares at a price per share as aforesaid. If within the applicable time periods the Holder does not receive notice of the Company's intention to purchase the offered shares, or if payment in full of the purchase price is not made by the Company, the offer shall be deemed to have been rejected and the Holder may transfer title to such shares within 90 days from the date of the Holder's written notice to the Company of the Holder's intention to sell, but such transfer shall be made only to the proposed transferee and at the proposed price as stated in such notice and after compliance with any other provisions of this Option applicable to the transfer of such shares.

4. **Transferred Shares to Remain Subject to Right of First Refusal**. Shares that are so transferred to such transferee shall remain subject to the rights of the Company set forth in this Appendix A. As a condition to such transfer, such transferee shall execute and deliver all such documents as the Company may require to evidence the binding agreement of such transferee so to remain subject to the rights of the Company.

5. **Remedies of Company**. No sale, assignment, pledge or other transfer of any of the shares covered by this Option shall be effective or given effect on the books of the Company unless all of the applicable provisions of this Appendix A have been duly complied with, and the Company may inscribe on the face of any certificate representing any of such shares a legend referring to the provisions of this Appendix A. If any transfer of shares is made or attempted in violation of the foregoing restrictions, or if shares are not offered to the Company as required hereby, the Company shall have the right to purchase such shares from the owner thereof or his transferee at any time before or after the transfer, as herein provided. In addition to any other legal or equitable remedies which it may have, the Company may enforce its rights by actions for specific performance (to the extent permitted by law) and may refuse to recognize any transferee as one of its stockholders for any purpose, including, without limitation, for purposes of dividend and voting rights, until all applicable provisions hereof have been complied with.

6. **Shares Subject to Right of First Refusal**. For purposes of the Right of First Refusal pursuant to this Appendix A, the term "shares" shall mean any and all new, substituted or additional securities or other property issued to the Holder, by reason of his or her ownership of Common Stock pursuant to the exercise of this Option, in connection with any stock dividend, liquidating dividend, stock split or other change in the character or amount of any of the outstanding securities of the Company, or any consolidation, merger or sale of all or substantially all of the assets of the Company.

7. **Legends on Stock Certificates**. Any certificate representing shares of stock subject to the provisions of this Appendix A may have endorsed thereon one or more legends, substantially as follows:

(i) "Any disposition of any interest in the securities represented by this certificate is subject to restrictions, and the securities represented by this certificate are subject to certain options, contained in a certain agreement between the record holder hereof and the Company, a copy of which will be mailed to any holder of this certificate without charge upon receipt by the Company of a written request therefor."

(ii) "The shares of stock represented by this certificate have not been registered under the Securities Act of 1933 or under the securities laws of any state and may not be pledged, hypothecated, sold or otherwise transferred unless such shares have been registered under the Act or unless the Company has received an opinion of counsel satisfactory to the Company, in form and substance satisfactory to the Company, that such registration is not required."

8. **Right of First Refusal to Lapse Upon Registration**. The restrictions imposed by this Appendix A shah terminate in all respects upon the effective date of a registration statement under the Act covering any of the Company's Common Stock.

ENTRADA THERAPEUTICS, INC.

AMENDMENT TO THE 2016
STOCK INCENTIVE PLAN

The Entrada Therapeutics, Inc. 2016 Stock Incentive Plan (as amended, the "Plan") is hereby amended by the Board of Directors and stockholders of Entrada Therapeutics, Inc., a Delaware corporation, as follows:

Section 4 of the Plan is hereby amended to increase the total number of shares of Common Stock (as defined in the Plan) reserved for issuance under the Plan by 3,749,436 shares such that Section 4 of the Plan, as so amended, shall read in its entirety as follows:

"Stock Subject to Plan. Subject to adjustment as provided in Section 14.2 below, the maximum number of shares of Common Stock which may be issued under the Plan is 14,450,786 shares, all of which may be issued with respect to Incentive Stock Options. If an Option shall expire or terminate for any reason without having been exercised in full, the unpurchased shares subject to such Option shall again be available for subsequent Option grants or Restricted Stock Awards under the Plan. If shares of Restricted Stock shall be forfeited to, or otherwise repurchased by, the Company pursuant to a Restricted Stock Agreement, such repurchased shares shall again be available for subsequent Option grants or Restricted Stock Awards under the Plan. If shares otherwise issuable upon exercise of an Option are withheld by the Company in payment of the exercise price of an Option or to satisfy tax withholding obligations with respect to such exercise, such withheld shares shall again be available for subsequent Option grants or Restricted Stock Awards under the Plan."

All capitalized terms used herein and not separately defined shall have the meanings ascribed to them in the Plan.

DATE ADOPTED BY THE BOARD OF DIRECTORS: August 12, 2020

DATE APPROVED BY THE STOCKHOLDERS: August 12, 2020

ENTRADA THERAPEUTICS, INC.

AMENDMENT TO THE
2016 STOCK INCENTIVE PLAN

The Entrada Therapeutics, Inc. 2016 Stock Incentive Plan (as amended, the "Plan") is hereby amended by the Board of Directors and stockholders of Entrada Therapeutics, Inc., a Delaware corporation, as follows:

Section 4 of the Plan is hereby amended to increase the total number of shares of Common Stock (as defined in the Plan) reserved for issuance under the Plan by 8,057,090 shares such that Section 4 of the Plan, as so amended, shall read in its entirety as follows:

> "Stock Subject to Plan. Subject to adjustment as provided in Section 14.2 below, the maximum number of shares of Common Stock which may be issued under the Plan is 22,507,876 shares, all of which may be issued with respect to Incentive Stock Options. If an Option shall expire or terminate for any reason without having been exercised in full, the unpurchased shares subject to such Option shall again be available for subsequent Option grants or Restricted Stock Awards under the Plan. If shares of Restricted Stock shall be forfeited to, or otherwise repurchased by, the Company pursuant to a Restricted Stock Agreement, such repurchased shares shall again be available for subsequent Option grants or Restricted Stock Awards under the Plan. If shares otherwise issuable upon exercise of an Option are withheld by the Company in payment of the exercise price of an Option or to satisfy tax withholding obligations with respect to such exercise, such withheld shares shall again be available for subsequent Option grants or Restricted Stock Awards under the Plan."

Except as expressly modified by this Amendment, the Plan remains in full force and effect pursuant to its terms. All capitalized terms used herein and not separately defined shall have the meanings ascribed to them in the Plan.

DATE ADOPTED BY THE BOARD OF DIRECTORS: March 29, 2021

DATE APPROVED BY THE STOCKHOLDERS: March 29, 2021

Exhibit 10.13

License Agreement

This License Agreement, made and entered into as of February 28, 2020 ("**Agreement**"), is by and between Entrada Therapeutics, Inc., a Delaware domestic corporation, having a place of business located at 50 Northern Avenue, Boston MA 02210 ("**Licensee**") and MIL 6T, LLC a Delaware limited liability company having a place of business located at 6 Tide Street, Boston, MA 02110 ("**Licensor**").

RECITALS

WHEREAS, Licensor has leased certain space located at 6 Tide Street, Boston, MA 02110 (the "**Building**") through a lease agreement (the "**Lease**") between Licensor and RBK I Tenant, LLC ("**Landlord**"); and

WHEREAS, Licensee desires to use certain space and services, as set forth below, for research and development, laboratory research and office use, and Licensor desires to grant a license to Licensee for such use.

For good and valuable consideration, the receipt and legal sufficiency of which are hereby acknowledged, accepted and agreed to, the parties agree as follows:

1. License.

(a) **License Description**. Licensor grants to Licensee the following (A) and (B), of which shall constitute the Licensee's license (the "**License**"), solely to, (i) use as office, research and development, and laboratory space consistent with current zoning for the Building and all applicable laws; (ii) conduct Licensee's business; and (iii) collaborate with Licensor's staff and other licensees in accordance with this Agreement: (A) a non- transferable, non-assignable license (except as expressly set forth herein) (i) First Floor Labs, more specifically identified in the blue-shaded portion of the floor plan attached to this Agreement as **Exhibit 1** ("**Lab Suites**"), and (ii) First Floor Offices, more specifically identified in the blue-shaded portion of the floor plan attached to this Agreement as **Exhibit 1** ("**Office Suites**") (Lab Suites and Office Suites are collectively the "**Licensed Premises**") and (B) a non-transferable, non-exclusive, non-assignable license to use any common areas ("**Shared Premises**"), subject to Licensor's reasonable rules and restrictions; provided, however, in the event of a conflict between any such rules and regulations and this Agreement, this Agreement shall control. The parties acknowledge in all events during the Term (as hereinafter defined) of this Agreement, the Shared Premises shall include access to those conference room spaces, kitchen, snack, , showers, and wellness room that exist as of the date of this Agreement, subject to Licensor and Landlord's reasonable rules and regulations. Subject to the deliver requirements set forth in Section 2(a) below, Licensee shall accept the Licensed Premises and Shared Premises in their "as-is" conditions and Licensor shall have no obligation to alter, repair or otherwise prepare the Licensed Premises for Licensee's use or to pay for, or provide any, improvements to the Licensed Premises except as expressly provided herein. Licensee shall not use the Licensed Premises or Shared Premises for any use other than the foregoing, including but not limited to medical care or human clinical trials, without first obtaining written permission from Licensor, which Licensor may withhold in its sole discretion.

(b) **Scope of License**. The License shall not include access to any additional office or laboratory space in the Building except the Licensor has agreed to work with the Landlord to procure a conference room on the first floor of the Building for Licensee's exclusive use. To the extent said conference room is acquired, the parties agree an amendment to this License will be executed to set forth the relevant terms, which may include Licensee paying additional License Fees or sums hereunder. Licensee understands and agrees that other licensee(s) may jointly occupy portions of the Building, not including the Licensed Premises, which shall be exclusive to Licensee, but including but not limited to the Shared Premises. Licensee agrees to cooperate and coordinate with any other licensee(s) that occupies portions of the Building and that, other than the Licensed Premises, use of any other portion of the Building shall not be exclusive to Licensee. Except as set forth herein, Licensor shall have no liability for the actions of any other licensee(s), persons or entities using or occupying the Building.

(c) **Occupants**. The License shall only grant Licensee, and no more than one hundred (100) of Licensee's members, employees or agents (collectively, "**Occupants**"), access to the Licensed Premises and Shared Premises; provided, however, that Licensor may grant access to additional Occupants ("**Additional Occupants**") as set forth in Section 3 below.

2. Term and Termination.

(a) **Term**. Unless terminated earlier in accordance with this Section 2, the term ("**Term**") of this Agreement shall commence on November 1, 2020 ("**Term Commencement Date**") and expire on November 30, 2025 ("**Expiration Date**"); provided, however, notwithstanding the foregoing, Licensor shall deliver the Licensed Premises with certain construction and finishes as set forth in **Exhibit 1(a)**. Under no circumstance shall Licensor be liable to Licensee for failure to provide access to the Licensed Premises or Shared Premises on or before November 1, 2020; provided, however, that if Licensor is unable to provide Licensee access to the Licensed Premises on or before November 1, 2020 with the Licensor's Work Substantially Complete (as such terms are defined in **Exhibit 1(a)**), the Term Commencement Date shall be extended by the number of days Licensor is unable to provide access to the Licensed Premises. Notwithstanding the foregoing to the contrary, in the event the Licensed Premises has not been delivered to Licensee on or before November 15, 2020 with the Licensor's Work Substantially Complete (the "**Delivery Condition**"), subject to Licensee Delay (as such term is defined in **Exhibit 1(a)**), Licensee shall be entitled to (i) one (1) additional day of abatement of the Licensee Fee for each day from November 15, 2020 through December 15, 2020 that the Licensed Premises has not been delivered in the Delivery Condition, and (ii) two (2) additional days of abatement of the License Fee for each day from December 16, 2020 on until the Licensed Premises has been delivered to Licensee in the Delivery Condition. Upon either party's request, Licensor and Licensee shall execute a mutually-agreeable Term Commencement Agreement that sets forth the Term Commencement Date, Expiration Date and Term.

After November 30, 2023, Licensee shall have the right to terminate this Agreement provided Licensee gives Licensor written notice of its exercise of its termination right no less than nine (9) months prior to requested termination date. By way of clarification, Licensee shall be entitled to provide notice beginning March 1, 2023 for a termination right effective on or after November 31, 2023. There shall be no termination fee or penalty associated with Licensee's exercise of its termination right in accordance with this paragraph.

Provided Licensee is not in breach of the Agreement, Licensee shall have the option to extend the Term for one additional three (3) year period ("**Extended Term**") upon the terms set forth herein at the prevailing market license rate for the SmartLabs Program in submarket area, Boston Seaport, with the Extended Term commencing immediately upon the Expiration Date. Licensee shall exercise the foregoing option by written notice to Licensor given no less than twelve (12) months prior to the Expiration Date. The foregoing option shall terminate if notice is not timely given, time being of the essence.

(b) **Termination**. Licensor may terminate this Agreement immediately for "Default" by giving written notice to Licensee specifying the cause. "**Default**" shall be deemed as: (i) Licensee's failure to pay when due any sum of money under this Agreement, and such failure shall continue for a period of five (5) days after written notice from Licensor to Licensee that such payment was not paid when due; (ii) failure to comply with any covenants contained herein or (iii) use of the Licensed Premises or Shared Premises in violation of any rules and procedures promulgated by Licensor or Landlord and to the extent Licensee shall not cure such failure within thirty (30) days after written notice of such failure from Licensor to Licensee; provided, however, that such failure shall not be deemed a Default if such failure could not reasonably be cured during such thirty (30) day period, Licensee has commenced the cure within such thirty (30) day period and thereafter is diligently pursuing such cure to completion, but the total aggregate cure period shall not exceed forty five (45) days; further provided, however, in the event any Default endangers the health and/or safety of any other Building occupant and/or the Building itself, such failure shall be deemed a Default if Licensee receives notice of the same (which may be oral) and fails to cure within 24 hours, whereas for the avoidance of doubt in such instances Licensor shall have the immediate right to terminate this License following such failure to cure within 24 hours. Upon the occurrence of any of the foregoing, and at any time thereafter, with or without further notice or demand and without limiting Licensor in the exercise of any right or remedy that Licensor may have, Licensor may do any or all of the following by written notice to Licensee or by any lawful means, (A) terminate Licensee's access to the Licensed Premises, or (B) terminate the License. In either instance, Licensee shall immediately surrender the Licensed Premises to Licensor. In such event, Licensor shall have the immediate right to re-enter and remove all persons and property from the Licensed Premises and Shared Premises, and such property may be removed and stored in a public warehouse or elsewhere at the cost and for the account of Licensee, without being deemed guilty of trespass or becoming liable for any loss or damage that may be occasioned thereby. In the event that Licensor shall elect to so terminate this License, then Licensor shall be entitled to recover from Licensee all direct and indirect damages incurred by Licensor by reason of Licensee's default, including, but not limited to, recovery of any broker's fee paid by Licensor in relation to this Agreement and all reasonable attorneys' fees. Upon termination of this Agreement, the License shall expire and Licensee shall immediately vacate the Licensed Premises and Shared Premises. Under no circumstances shall Licensor or Landlord be liable for any alleged, purported, consequential or indirect damages resulting from Licensor or Landlord terminating this Agreement. Notwithstanding anything to the contrary contained herein, except as expressly set forth in Section 8 and in the event of damages stemming from hold over after termination of this Agreement, in no other case shall Licensee be liable under this Agreement for any lost profits, damage to business or any form of special, indirect, punitive or consequential damages.

3. License Fee.

(a) **Base Fee**. Commencing on the first full month after the Term Commencement Date ("**License Fee Commencement Date**"), Licensee shall pay a monthly license fee equal to $367,159.00 ("**License Fee**"), plus any pro rata portion thereof if the Term Commencement Date is any date other than the first of the month, which Licensee shall pay in advance on or before the first day of each and every month during the Term by electronic payment to Licensor. The License Fee shall be subject to a three percent (3%) increase upon each anniversary of the License Fee Commencement Date.

(b) **Late Fee**. If any payment of the License Fee, or any other payment due under this Agreement, is not received by Licensor no later than the second (2nd) business day of each month, or when otherwise due, Licensee shall pay to Licensor a late payment charge equal to five percent (5%) of the amount of such delinquent payment, in addition to any outstanding License Fee or any other payment due under this Agreement then owing; provided, however, Licensor hereby agrees to waive one such late fee in any twelve (12) month period so long as Licensee shall pay such outstanding amounts within five (5) days of written notice from Licensor to Licensee of such late payment. Licensee shall pay twelve percent (12%) interest per annum on any outstanding License Fee or other payment due under this Agreement that remains unpaid; such interest shall accrue beginning the date such payment is due until the date such payment is actually paid.

(c) **Additional Fees.** Licensee may request that Licensor grant access to Additional Occupants provided that Licensee first (i) submits a written request to Licensor requesting Additional Occupants; (ii) Licensee receives written confirmation from Licensor granting access to Additional Occupants (which Licensor may withhold in its sole discretion); and (iii) Licensee pays, in addition to the License Fee, an amount equal to $2,500 per month for each Additional Occupant.

(d) Security Deposit. Licensee shall to pay a Security Deposit equal to $413,240.69 ("**Security Deposit**"). The purpose of the Security Deposit is to guarantee the full, prompt and faithful performance by Licensee of all of the terms, conditions, covenants, agreements, warranties and provisions of this Agreement to be performed, fulfilled or observed by Licensee hereunder, including but not limited to the payment of the License Fee and other charges. If Licensee breaches any term or condition of this Agreement, beyond applicable notice and cure periods, said Security Deposit or any part thereof may be used to pay any such payment or perform any obligations of the Licensee, and the Licensee shall immediately replace the amount of the Security Deposit so used. Said Security Deposit may be co-mingled with the Licensor's other funds, need not be kept in a separate account, and Licensor shall not be required to pay interest on same. Licensor shall return the balance of the Security Deposit within thirty (30) days following the end of Term, as extended from time to time. Licensor, from time to time, may transfer the Security Deposit to any mortgagee or any grantee or grantees to be held by such mortgagee, grantee or grantees as the Security Deposit hereunder on the above terms, and upon such transfer to such mortgagee, grantee or grantees, Licensor thereupon shall be relieved from all further liability to the Licensee with respect to the Security Deposit, and Licensee thereafter shall look only to such mortgagee, grantee or grantees for the return of the Security Deposit.

(e) **Initial Payment**. Licensee shall pay, immediately upon executing this Agreement, an amount equal to the License Fee for the first three months of the Term of this Agreement ($1,101,477.00), the Security Deposit ($413,240.69), and the Parking Fees (as defined below) associated with Licensee's Parking Spaces (as defined below). As such, Licensee shall pay a total of $1,514,717.69, plus the aforementioned Parking Fees, as of the execution of this Agreement.

4. **Service Agreement**. Licensor agrees to provide to Licensee, during the entire Term of this Agreement, the services set forth in the Service Agreement attached hereto as **Exhibit 2**. The License Fee shall cover and include the cost of the services set forth in the Service Agreement and, unless the scope of services requested by Licensee exceed those set forth in the Service Agreement, Licensee shall not be assessed any additional fees for services contained in the Service Agreement. The Service Agreement shall be governed by the terms of this Agreement and if there is any conflict between the covenants and representations contained in this Agreement and the Service Agreement, the terms of this Agreement shall prevail and be binding upon Licensor and Licensee. Licensor shall not be liable for any failure to provide the services set forth in the Service Agreement to the extent such failure is beyond Licensor's reasonable control. Notwithstanding the foregoing to the contrary, if, due to any gross negligent or willful and wrongful act of Licensor, there is an interruption of one or more services or utilities that Licensor is obligated to perform or deliver under this Agreement, and such interruption of services or utilities renders the Licensed Premises untenantable (meaning that either (x) electric service to the Licensed Premises has been interrupted or (y) any other service or utility to the Licensed Premises is interrupted and Licensee is unable to reasonably use the Licensed Premises for the conduct of Licensee's business and, as a result thereof, Licensee has in fact ceased use of the Licensed Premises or portion thereof for the conduct of Licensee's business), and if such interruption shall continue for a period of five (5) consecutive business days after notice thereof from Licensee to Licensor that the Licensed Premises are untenantable as a result thereof, then License Fee, together with Licensee's payments on account of the Parking Fees and any additional fees related to Additional Occupant(s) shall equitably abate, based upon the degree of interference with Licensee's ongoing business, commencing on the sixth business day after such notice (and, if less than all of the Licensed Premises are made untenantable, such abatement shall be pro-rated according to the area made untenantable) until such time as such services and/or utilities are restored. Licensor shall use due diligence to cause such restoration of the interruption at the soonest reasonable time. Licensee's abatement rights herein granted shall be Licensee's sole and exclusive remedies for any loss or damage arising from any such interruption.

5. **Common Areas**. Licensee hereby acknowledges that other licensees and/or occupants are occupying or may in the future occupy other portions of the Building. Licensee's use of the Licensed Premises, and access to and use of the common areas and any other services in connection with the Licensed Premises or this Agreement, shall be subject to any and all rules and procedures reasonably promulgated by Licensor and/or Landlord and delivered to Licensee from time to time; provided, however, in the event of a conflict between the terms and conditions of those rules and regulations and this Agreement, this Agreement shall control. Licensee's compliance with such rules and procedures constitutes a material inducement to Licensor's willingness to enter into this Agreement; any violation thereof shall constitute a material breach of this Agreement.

6. **Parking**. During the Term, Licensee shall have a non-exclusive, irrevocable license to use at least twelve (12) unreserved parking spaces in the area adjacent to the Building ("**Licensee's Parking Spaces**"). Licensee shall have no right to elect to reduce its number of Licensee's Parking Spaces and shall be responsible for the Parking Fees (defined below) for such spaces regardless of whether its Occupants use Licensee's Parking Spaces. Licensee shall pay, in addition to the License Fee, monthly parking fees equal to the prevailing rates for the Building at no markup by Licensor ("**Parking Fees**") and shall pay such Parking Fees to Licensor at the time each License Fee payment is due. Upon Licensee's written request within the first eighteen (18) months of the Term, additional parking of up to fifteen (15) parking spaces may be available and is subject to Licensor's discretion and terms (provided, however, in no event shall Licensor be entitled to a markup of any parking fees). Parking Fees are subject to change. For the avoidance of doubt, Licensee shall be entitled to contract for additional parking spaces directly with the Landlord or other third party provider without affecting Licensee's right to the Licensee's Parking Spaces in accordance with this Section 6.

7. **Modifications to Licensed Premises**. Licensee shall not make any modification to the Licensed Premises without Licensor's prior written approval, which approval may be withheld or conditioned in Licensor's sole discretion. Following the initial improvements of the space, Licensee shall bear the cost of any approved modifications to the Licensed Premises completed by or on behalf of Licensee. All articles of personal property, and all business and trade fixtures, machinery and equipment, cabinet work, furniture and movable partitions, if any, paid for or installed by Licensee in the Licensed Premises will be and remain the property of Licensee and may be removed by Licensee at any time, provided that Licensee, at its expense, shall repair any damage to the Licensed Premises caused by such removal or by the original installation. Licensee shall remove all of Licensee's personal property at the expiration of the Term of this Agreement or sooner termination of this Agreement, in which event the removal shall be done at Licensee's expense and Licensee, prior to the end of the Term of this Agreement or upon sooner termination of this Agreement, shall repair any damage to the Licensed Premises caused by its removal.

Licensor shall, at its expense, provide Licensee with building standard lobby and directory signage. Licensor shall use best efforts to assist Licensee to gain permission from the Landlord to display window signage, which shall be at Licensee's expense. Licensee understands that the Lease has specific criteria and requirements with respect to signage and therefore any signage approvals must be made by Landlord, which Landlord may withhold in its sole discretion. Nothing contained herein shall be interpreted as a promise or agreement that Licensee may display any signage beyond building standard lobby and directory signage.

8. **Hazardous Materials**. Licensee shall strictly comply with any and all Hazardous Materials provisions contained in Section 29.11 of the Lease, attached hereto as **Exhibit 5**. Licensee shall strictly comply with all Environmental Laws to the extent such provisions relate to the Licensed Premises during the Term of this Agreement. For purposes hereof, "**Environmental Laws**" shall mean all laws, statutes, ordinances, rules and regulations of any local, state or federal governmental authority having jurisdiction concerning environmental, health and safety matters, including but not limited to any discharge by Licensee or Licensee's Occupants into the air, surface water, sewers, soil or groundwater of any Hazardous Material (defined below) whether within or outside the Licensed Premises, including, without limitation (i) the Federal Water Pollution Control Act, 33 U.S.C. Section 1251 et seq., (ii) the Federal Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 et seq., (iii) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. Section 9601 et seq., (iv) the Toxic Substances Control Act of 1976, 15 U.S.C. Section 2601 et seq., and (v) Chapter 21E of the General Laws of Massachusetts. Licensee, at its sole cost and expense, shall comply with (a) Environmental Laws, and (b) any rules, requirements and safety procedures of the Massachusetts Department of Environmental Protection, the city in which the Building is located, and any insurer of the Building or the Licensed Premises with respect to Licensee's use, storage and disposal of any Hazardous Materials. Notwithstanding anything in this Agreement to the contrary, Licensee shall have no liability to Licensor or responsibility under this Agreement for any Hazardous Materials in, on, under or about the Licensed Premises that were not released, discharged, stored or introduced by Licensee or its agents. Licensee understands and agrees that Licensor must decontaminate the Licensed Premise prior to Licensee vacating same and therefore Licensee shall fully cooperate with Licensor in the aforementioned decontamination, which may include Licensee ceasing its operations and/or removing personal property prior to the expiration of the Term. The term "**Hazardous Material**" means asbestos, oil or any hazardous, radioactive or toxic substance, material, waste or petroleum derivative which is or becomes regulated by any Environmental Law or which is designated as a "hazardous substance," "hazardous material," "oil," "hazardous waste" or toxic substance under any Environmental Law. Licensee shall follow all of Licensor's Environmental Health and Safety ("**EH&S**") guidelines and requirements, which may be modified from time to time.

9. **Fire, Other Casualty; Eminent Domain**. In the event of a fire or other casualty affecting the Building or the Licensed Premises, or a taking of all or a part of the Building or Licensed Premises under the power of eminent domain: (i) Licensor shall not have any obligation to repair or restore the Licensed Premises, alterations or personal property; (ii) Licensee shall be entitled only to a proportionate abatement of the License Fee (including any charges for Additional Occupant(s) and Parking Fees) during the time and to the extent the Licensed Premises are unfit for the purposes permitted under this Agreement and not used by Licensee as a result thereof; (iii) Licensee shall not, by reason thereof, have a right to terminate this Agreement unless the Lease shall be terminated; and (iv) Licensor and Landlord reserve the right to terminate this Agreement in connection with any right granted to either Licensor or Landlord under the Lease whether or not the Licensed Premises is damaged or the subject of a taking. In the event Licensor or Landlord exercises the right to terminate the Lease as the result of any such fire, casualty or taking, (a) Licensor shall provide Licensee with a copy of the relevant termination notice and this Agreement shall terminate on the date upon which the Lease terminates and (b) Licensee shall immediately pay to Licensor all of Licensee's insurance proceeds relating to all alterations. Notwithstanding anything to the contrary contained herein, in the event a casualty or condemnation proceeding occurs during the last twelve (12) months of the Term resulting in the destruction or taking of all or a material portion of the Licensed Premises or access thereto, Licensee and Licensor shall each have the right to terminate this Agreement upon thirty (30) days prior written notice to the other, with such notice to be given within thirty (30) days following the casualty or condemnation event.

10. **Limit of Liability**. Notwithstanding anything to the contrary contained in this Agreement, Landlord, Licensor, their respective, members, officers, directors, employees, agents, servants, lenders, mortgagees, ground lessors beneficiaries and contractors (collectively, the "**Licensor Parties**"), shall not be liable for any damages or injury to person or property or resulting from the loss of use thereof sustained by Licensee or anyone having claims through or on behalf of Licensee, based on, arising out of, or resulting from, any cause whatsoever, including any due to the Building becoming out of repair, or due to the occurrence of any accident or event in or about the Building, or due to any act or neglect of any tenant or occupant of the Building or any other person. Notwithstanding the foregoing provision of this Section, Licensor Parties shall not be released from liability to Licensee for any physical injury to any natural person caused by Licensor Parties' gross negligence or willful misconduct to the extent such injury is not covered by insurance either carried by Licensee (or such person) or required by this Agreement to be carried by Licensee; provided that Licensor Parties shall not, under any circumstances, be liable for any exemplary, punitive, consequential or indirect damages (or for any interruption of or loss to business). No Licensor Parties' shall be held to have any personal liability for satisfaction or any claim or judgment.

11. **Waiver of Claims**. Licensee hereby releases and waives any and all claims against the Licensor Parties for injury or damage to person, property or business of every kind, nature and description, sustained in or about the Building or the Licensed Premises by Licensee or anyone claiming under Licensee, other than by reason of gross negligence or willful misconduct of the Licensor Parties and except in any case which would render this release and waiver void under applicable law.

12. **Insurance**. See Insurance Requirements attached hereto as **Exhibit 3**.

(a) **Subrogation**. Licensee and its insurers hereby waive any and all rights of recovery or subrogation against the Licensor Parties with respect to any Claims (as defined below) howsoever caused, that are covered or should have been covered, by valid and collectible insurance, including any deductibles or self-insurance maintained thereunder. If necessary, Licensee shall endorse the required insurance policies to permit waivers of subrogation as required hereunder and hold harmless and indemnify the Licensor Parties for any loss or expense incurred as a result of a failure to obtain such waivers of subrogation from insurers. Such waivers shall continue so long as Licensee's insurers so permit. Any termination of such a waiver shall be by written notice to Licensor. Licensee, upon obtaining the policies of insurance required or permitted hereunder, shall give notice to its insurance carriers that the foregoing waiver of subrogation is contained in herein. If such policies shall not be obtainable with such waiver or shall be so obtainable only at a premium over that chargeable without such waiver, then Licensee shall notify Licensor of such conditions. Licensor and its insurers hereby waive any and all rights of recovery or subrogation against the Licensee with respect to any Claims (as defined below) howsoever caused, that are covered, or should have been covered, by valid and collectible insurance, including any deductibles or self-insurance maintained thereunder. If necessary, Licensor agrees to endorse the required insurance policies to permit waivers of subrogation as required hereunder and hold harmless and indemnify the Licensee for any loss or expense incurred as a result of a failure to obtain such waivers of subrogation from insurers. Such waivers shall continue so long as Licensor's insurers so permit. Any termination of such a waiver shall be by written notice to Licensee. If such policies shall not be obtainable with such waiver or shall be so obtainable only at a premium over that chargeable without such waiver, then Licensor shall notify Licensee of such conditions.

(b) **Assumption of Risk**. Licensee assumes the risk of damage, and shall be liable for any damage caused to, any fixtures, goods, inventory, merchandise, equipment and leasehold improvements, and the Licensor Parties shall not be liable for injury to Licensee's business or any loss of income therefrom, relative to such damage. Licensee shall, at Licensee's sole cost and expense, carry such insurance as Licensee desires for Licensee's protection with respect to personal property of Licensee or business interruption.

13. **Indemnification**. Except to the extent the same is solely the result of the gross negligence or willful misconduct of Licensor or any of the Licensor Parties, and subject to the waiver of subrogation contained in Section 12 hereof, Licensee shall indemnify, defend (by counsel acceptable to Licensor), release, protect and hold the Licensor Parties harmless from and against any and all demands, claims, liabilities, losses, costs, expenses, actions, causes of action, damages, suits or judgments, and all reasonable expenses (including reasonable attorneys' fees, charges and disbursements, regardless of whether the applicable demand, claim, action, cause of action or suit is voluntarily withdrawn or dismissed) incurred in investigating or resisting the same (collectively, "**Claims**") of any kind or nature that arise before, during or after the Term, arising out of or related to: (i) the use or occupancy of the Licensed Premises or Shared Premises by Licensee or its Occupants or anyone claiming by, through or under Licensee; (ii) the failure by Licensee or anyone claiming by, through or under Licensee to comply with any term, condition, or covenant of this Agreement or the Lease, including, without limitation, Licensee's obligation to surrender the Licensed Premises in the condition herein required; (iii) the negligence or willful misconduct of Licensee, its agents or anyone claiming by, through or under Licensee; (iv) the existence of Hazardous Materials on, under or about the Licensed Premises to the extent caused, stored, released, discharged or introduced by Licensee or its agents; (v) the death of or injury to any person or damage to any property in the Licensed Premises; or (vi) the death of or injury to any person or damage to any property on or about the Building to the extent caused by the negligence, recklessness or willful misconduct of Licensee or its agents.

14. **Assignment**. Licensee shall not assign, encumber or transfer this Agreement, or any part of it, or its right or interest in it, without Licensor's prior written approval, with such approval not to be unreasonably withheld, conditioned or delayed. Licensee shall not in any way obstruct or interfere with the rights of other licensees, occupants or users of the Building, nor shall it permit its employees, representatives, or contractors to do so. Licensor may assign this Agreement.

If Licensee is a corporation, limited liability company, partnership or trust, the transfer of outstanding capital stock of Licensee by persons or parties through the "over the counter market" or through any recognized stock exchange, shall not be deemed an assignment or transfer of this Agreement.

Notwithstanding anything to the contrary contained in this Section 14, the provisions of this Section 14 shall not apply to (and Licensor consent shall not be required in connection with,) the following transfers: (1) transfers to an entity into or with which Licensee is merged or consolidated, or (2) transfers to any entity which purchases all or substantially all of Licensee's voting stock, partnership interests or other membership interests, or (3) transfers to an entity to which all or substantially all of Licensee's assets are transferred (the transferee in clauses (1), (2) or (3) being referred to as a "**Licensee's Successor**"); or (4) transfers (including, without limitation, subleases or other occupancy agreements) to any entity which controls or is controlled by Licensee or is under common control with Licensee (the transferee in clause (4) being referred to as a "Licensee Affiliate"); provided however, Licensee shall provide thirty (30) day advance written notice to Licensor prior to any such transfer and, further provided that in any of such events:

(i) with respect to a Licensee Successor such Licensee Successor has a net worth which, in Licensor's reasonable judgment, is sufficient to meet the financial and other obligations of Licensee under this Agreement;

(ii) proof reasonably satisfactory to Licensor of such net worth shall have been delivered to Licensor at least ten (10) days prior to the effective date of any such transaction; provided, however, that if, due to securities regulations or other applicable laws or a written confidentiality agreement, Licensee is unable to provide prior notice of such transaction, then Licensee shall provide such notice to Licensor within ten (10) days after the date of such transaction; and

(iii) such merger, acquisition, consolidation or transfer shall be for a valid business purpose and not principally for the purpose of transferring this Agreement.

15. Miscellaneous.

(a) **Investment Right**. [INTENTIONALLY OMITTED]

(b) **Attorneys' Fees**. In the event of any litigation or arbitration between Licensee and Licensor, whether based on contract, tort or other cause of action or involving bankruptcy or similar proceedings, in any way related to this Agreement, the non-prevailing party shall pay to the prevailing party all reasonable attorneys' fees and costs and expenses of any 10 type, without restriction by statute, court rule or otherwise, incurred by the prevailing party in connection with any action or proceeding (including arbitration proceedings, any appeals and the enforcement of any judgment or award), whether or not the dispute is litigated or prosecuted to final judgment. The "prevailing party" shall be determined based upon an assessment of which party's major arguments or positions taken in the action or proceeding could fairly be said to have prevailed (whether by compromise, settlement, abandonment by other party of its claim or defense, final decision after any appeals, or otherwise) over the other party's major arguments or positions on major disputed issues. Any fees and cost incurred in enforcing a judgment shall be recoverable separately from any other amount included in the judgment and shall survive and not be merged in the judgment.

(c) **Authority**. Each person executing this Agreement on behalf of a party hereto represents and warrants that he or she is authorized and empowered to do so and to thereby bind the party on whose behalf he or she is signing.

(d) **Captions**. All captions and headings in this Agreement are for the purposes of reference and convenience and shall not limit or expand the provisions of this Agreement.

(e) **Counterparts**. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original and all of which taken together shall comprise but a single instrument.

(f) **Entire Agreement**. This Agreement contains all of the covenants, conditions and agreements between the parties concerning the Licensed Premises, and shall supersede any and all prior correspondence, agreements and understandings concerning the Licensed Premises, both oral and written. No addition or modification of any term or provision of this Agreement shall be effective unless set forth in writing and signed by both Licensor and Licensee.

(g) **Notices**. Any notice required or permitted under this Agreement shall be effective if in writing and delivered to the other party at the following address.

MIL, 6T, LLC	**ENTRADA THERAPEUTICS, INC.**
21 Erie Street	50 Northern Avenue
Cambridge, MA 02139	Boston, MA 02110
Attn : Amrit Chaudhuri	Atten: Dipal Doshi

(h) **Governing Law**. This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts. Licensee hereby consents to the personal jurisdiction and venue of any state or federal court located in Suffolk County Massachusetts, and any successor court, and the service or process by any means authorized by such court.

(i) **Exhibits**. All exhibits and any schedules or riders attached to this Agreement are incorporated herein by this reference and made a part hereof, and any reference in the body of the Agreement or in the exhibits, schedules or riders to the Agreement shall mean this Agreement, together with all exhibits, schedules and riders.

(j) **Waiver of Trial by Jury**. LICENSEE AND LICENSOR HEREBY WAIVE ANY AND ALL RIGHTS THEY MAY HAVE UNDER APPLICABLE LAW TO TRIAL BY JURY WITH RESPECT TO ANY DISPUTE WITH ANY LICENSOR OR LICENSEE PARTIES, AS APPLICABLE, ARISING DIRECTLY OR INDIRECTLY IN CONNECTION WITH THIS AGREEMENT OR THE LICENSED PREMISES. NOTHING CONTAINED IN THIS SECTION SHALL BE CONSTRUED AS A WAIVER BY LICENSOR OR LANDLORD OF ANY OF ITS RIGHTS TO TRIAL BY JURY IN CONNECTION WITH THE LEASE OR THIS AGREEMENT FOR ANY CLAIMS OR CAUSES OF ACTION SO TRIABLE.

(k) **Successors and Assigns**. Subject to the provisions of this Agreement relating to assignment and subletting, this Agreement shall be binding upon, and shall inure to the benefit of the parties' respective representatives, successors and assigns.

(l) **Relationship of Parties**. Nothing in this Agreement shall be deemed to create any joint venture or principal-agent relationship or partnership between any of the parties hereto, and no party is authorized to, and no party shall, act toward third parties or the public in any manner that would indicate any such relationship.

(m) **Access**. Landlord and Licensor reserve the right to enter the Licensed Premises upon reasonable prior written or oral notice to Licensee (except that in case of emergency no notice shall be necessary) in order to inspect the Licensed Premises and/or the performance by Licensee of the terms of this Agreement or to exercise Licensor's rights or perform Licensor's obligations hereunder. Licensee shall have access to the Licensed Premises and the Shared Premises seven (7) days a week, twenty-four (24) hours a day, and except in instances of an emergency. The foregoing shall be subject to the Lease and any applicable Building rules and regulations.

(n) **EDIC Ground Lease Provisions**. Licensee acknowledges and agrees that Licensee agrees to, and its use and occupancy of the Licensed Premises shall be in compliance with, the terms and conditions of the provisions of Exhibit 4 attached hereto and incorporated herein (the "**Required License Provisions**").

(o) **Brokerage**. Licensee warrants and represents that Licensee has dealt with no broker in connection with the consummation of this Agreement other than Cresa Partners Boston, and, in the event of any brokerage claims against Licensor predicated upon prior dealings with Licensee, Licensee agrees to defend the same and indemnify Licensor against any such claim (except any claim by Cresa Partners Boston). Per a separate agreement, to the extent both Licensor and Licensee execute this Agreement, Licensor agrees to pay Cresa a market fee which shall be due the later of (1) the execution of this Agreement or (2) the receipt by Licensor of all prepaid funds required under this Agreement as Initial Payment.

LICENSEE UNDERSTANDS AND ACKNOWLEDGES THAT RIGHTS UNDER THIS AGREEMENT ONLY CONSTITUTE A LICENSE FOR USE OF THE LICENSED PREMISES AND DO NOT INVOLVE THE GRANT OF ANY INTEREST IN REAL ESTATE. LICENSEE SPECIFICALLY DISCLAIMS ANY RIGHTS TO SUMMARY PROCESS AND, PROVIDED THAT LICENSOR COMPLIES WITH ALL OBLIGATIONS (INCLUDING WITHOUT LIMITATION NOTICE AND CURE REQUIREMENTS) HEREUNDER, EXPLICITLY PERMITS LICENSOR TO USE SELF-HELP REMEDIES PROVIDED THAT SUCH SELF-HELP REMEDIES DO NOT BREACH THE PEACE AND ARE ALLOWABLE UNDER APPLICABLE LAW.

IN WITNESS WHEREOF, Licensor and Licensee have duly executed this Agreement as of the day and year first above written.

MIL, 6T, LLC

/s/ Amrit Chaudhuri
By: Amrit Chaudhuri
Title: CEO

ENTRADA THERAPEUTICS, INC.

/s/ Dipal Doshi
By: Dipal Doshi
Title: President & Chief Executive Officer

First Amendment to License Agreement

This First Amendment to License Agreement ("**First Amendment**") is dated March 27, 2020 and is entered into by and between Entrada Therapeutics, Inc. ("**Licensee**") and MIL 6T, LLC ("**Licensor**").

WHEREAS, Licensor granted Licensee a License ("**License**") to use certain Lab Suites and Office Suites on the first floor of the Building as set forth in the Agreement as Exhibit 1 ("**Licensed Premises**"), (which hereafter shall also be known as "**First Floor Suites Licensed Premises**" as set forth below) and common areas ("**Shared Premises**") in a certain License Agreement dated February 28, 2020, ("**Agreement**");

WHEREAS, Licensee warrants and represents that, to the best of its knowledge, Licensor has fulfilled its obligation under the Agreement and is not in default of any covenants or obligations contained in the Agreement;

WHEREAS, Licensor and Licensee desire to amend the Agreement in certain respects as set forth herein; and;

WHEREAS, all capitalized terms contained herein shall, unless otherwise defined in this First Amendment, have the same meaning as set forth in the Agreement.

In consideration of good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Licensor and Licensee agree that the Agreement is hereby amended as follows:

Section 1: License.

Effective March 27, 2020, Section 1(a) of the Agreement is modified by adding the following to the beginning of the first paragraph:

The "Licensed Premises" consisting of the First Floor Labs and First Floor Offices as set forth in this paragraph shall be redefined as the "**First Floor Suites Licensed Premises**."

Effective March 27, 2020, the following shall be added to the end of Section 1(a):

> The License and Licensed Premises shall be increased to include: (i) Innovation Office Suite 4, more specifically identified in the blue-shaded portion of the floor plan attached to this Agreement as **Exhibit 1(b)** ("**Innovation Office**"), and (ii)Innovation Lab Suite 4, more specifically identified in the red-shaded portion of the floor plan attached to this Agreement as **Exhibit 1(b)**("**Innovation Lab**"), (collectively Innovation Office and Innovation Lab shall be known as "**Innovation Licensed Premises**"). Licensee shall have access to the Shared Premises subject to the terms set forth in the Agreement for the Innovation Occupants (defined below). **Exhibit 1** of the Agreement shall remain applicable, but the attached **Exhibit 1(b)** shall be inserted immediately after **Exhibit 1(a)** in the Agreement.

Effective March 27, 2020, Section 1(c) of the Agreement is modified by deleting the existing paragraph and replacing it as follows:

> The License shall only grant Licensee, and no more than seven (7) of Licensee's members, employees or agents (collectively "**Innovation Occupants**") access to the Innovation Licensed Premises and Shared Premises. Innovation Occupants will be provided access badges upon entry to the Building. Badges must be signed out for each use and must be returned to Licensor's front desk prior to leaving the premises. Badges must also be returned for Innovation Occupant reassignment should any shift changes occur. Any badges not returned by Innovation Occupant upon departure may be deactivated. Licensee will be required to provide a list of no more than twenty (20) employees to be granted access to the Innovation Licensed Premises and Shared Premises, but actual occupancy at any time shall be limited to seven (7) Innovation Occupants Upon commencement of Licensee's Term for the First Floor Suites Licensed Premises, beginning November 1, 2020, Licensee's total Occupants permitted under the License shall not exceed one hundred and five (105); provided, however, the Licensor may grant access to additional occupants ("**Additional Occupants**") as set forth in Section 3 below.

Section 2: Term and Termination.

Effective March 27, 2020, Section 2(a) of the Agreement is modified by deleting the existing first paragraph of section 2(a) and replacing it as follows:

> The "Term" as set forth in this paragraph shall be redefined as the "**First Floor Suites Term."**
>
> The "Term Commencement Date" as set forth in this paragraph shall be redefined as the "**First Floor Suites Term Commencement Date."**
>
> The "Expiration Date" as set forth in this paragraph shall be redefined as the "**First Floor Suites Expiration Date.**
>
> **Term**. Unless terminated earlier in accordance with this Section 2, the First Floor Suites term of this Agreement ("**First Floor Suites Term**") shall commence on November 1, 2020 (**"First Floor Suites Term Commencement Date"**) and expire on November 30, 2025 (**"First Floor Suites Expiration Date**"); provided, however, notwithstanding the foregoing, Licensor shall deliver the **First Floor Suites Licensed Premises** with certain construction and finishes as set forth in **Exhibit 1(a)**. Under no circumstance shall Licensor be liable to Licensee for failure to provide access to the First Floor Suites Licensed Premises or Shared Premises on or before November 1, 2020; provided, however, that if Licensor is unable to provide Licensee access to the First Floor Suites Licensed Premises on or before November 1, 2020 with the Licensor's Work Substantially Complete (as such terms are defined in **Exhibit 1(a)**), the First Floor Suites Term Commencement Date shall be extended by the number of days Licensor is unable to provide access to the First Floor Suites Licensed Premises. Notwithstanding the foregoing to the contrary, in the event the First Floor Suites Licensed Premises has not been delivered to Licensee on or before November 15, 2020 with the Licensor's Work Substantially Complete (the "**Delivery Condition**"), subject to Licensee Delay (as such term is defined in **Exhibit 1(a)**), Licensee shall be entitled to (i) one (1) additional day of abatement of the First Floor Suites Licensee Fee (as defined below) for each day from November 15, 2020 through December 15, 2020 that the First Floor Suites Licensed Premises has not been delivered in the Delivery Condition, and (ii) two (2) additional days of abatement of the First Floor Suites License Fee for each day from December 16, 2020 on until the First Floor Suites Licensed Premises has been delivered to Licensee in the Delivery Condition. Upon either party's request, Licensor and Licensee shall execute a mutually-agreeable First Floor Suites Term Commencement Agreement that sets forth the First Floor Suites (i) Term Commencement Date, (ii) Expiration Date and (iii) Term.

Effective March 27, 2020, the following shall be added to the end of section 2(a), paragraph 1:

> Unless terminated earlier in accordance with this Section 2: (i) the Innovation Office term ("**Innovation Office Term**") of this Agreement shall commence on April 7, 2020 (**"Innovation Office Term Commencement Date"**) and expire on April 6, 2021 ("**Innovation Office Expiration Date**") and (ii) the Innovation Lab term ("**Innovation Lab Term**") of this Agreement shall commence on April 15, 2020 (**"Innovation Lab Term Commencement Date"**) and expire on November 30, 2025 ("**Innovation Lab Expiration Date**"). Under no circumstance shall Licensor be liable to Licensee for failure to provide access to the Innovation Office Suite or Innovation Lab Suite on or before the respective date set forth herein; provided, however, that if Licensor is unable to provide Licensee access to the Innovation Office Suite or Innovation Lab Suite on or before the respective date set forth herein, the respective Innovation Term Commencement Date shall be extended by the number of days Licensor is unable to provide access to the respective Innovation Suite.

Effective March 27 2020, the Section 2(a) of the Agreement is modified by deleting the existing second paragraph and replacing it as follows:

> After December 15, 2023, Licensee shall have the right to terminate the remainder of the Innovation Lab Term provided Licensee gives Licensor written notice of its exercise of its termination right no less than nine (9) months prior to requested termination date. By way of clarification, Licensee shall be entitled to provide written notice beginning March 15, 2023 for a termination right of the Innovation Lab Term effective on or after December 15, 2023. After November 30, 2023, Licensee shall have the right to terminate the First Floor Suites Term provided Licensee gives Licensor written notice of its exercise of its termination right no less than nine (9) months prior to requested termination date. By way of clarification, Licensee shall be entitled to provide written notice beginning March 1, 2023 for a termination right of the First Floor Suites Term effective on or after November 30, 2023. Provided that Licensee otherwise complies with the terms of the Agreement, there shall be no termination fee or penalty associated with Licensee's exercise of its termination rights in accordance with this paragraph.

Effective March 27, 2020, Section 2(a) of the Agreement is modified by deleting the existing third paragraph and replacing it as follows:

Provided Licensee is not in breach of the Agreement, Licensee shall have the option to: (i) extend the First Floor Suites Term for one additional three (3) year period ("**First Floor Suite Extended Term**"); and (ii) extend the Innovation Lab Term for one additional three (3) year period **("Innovation Lab Extended Term**"). The foregoing respective Extended Terms shall be based upon the terms set forth herein at the prevailing market license rate for the SmartLabs Program in submarket area, Boston Seaport, with the Extended Term commencing immediately upon the respective Term Expiration Date. Licensee shall exercise the foregoing option by written notice to Licensor given no less than twelve (12) months prior to the respective Term Expiration Date. The foregoing option shall terminate if notice is not timely given, time being of the essence.

Section 3: License Fee.

Effective March 27, 2020, Section 3(a) of the Agreement is modified by deleting existing first paragraph and replacing it with the following:

The License Fee paid by the Licensee to the Licensor for the Licensed Premises shall be defined the include the following ("**License Fee**"):

(i) Licensee shall pay Licensor a license fee equal to $5,000.00 for the Innovation Office for April 7, 2020 to April 14, 2020. Upon the Innovation Lab Term Commencement Date, the monthly license fee shall be equal to $40,000.00 for the Innovation Lab and Innovation Office (collectively known as the "**Innovation License Fee**"), which Licensee shall pay in advance on or before the first day of each and every month during by electronic payment to Licensor. Upon the Innovation Office Expiration Date, by way of clarification April 6, 2021, the Innovation License Fee shall be reduced to $35,000.00 per month for the remainder of the Innovation Lab Term. The Innovation License Fee shall be subject to a three percent (3%) increase upon each anniversary of the Innovation Lab Term Date.

(ii) Commencing on the first full month after the First Floor Suites Term Commencement Date, which for clarification purposes was defined in the Agreement as "License Fee Commencement Date", but will hereafter be known as "**First Floor Suites License Fee Commencement Date**", Licensee shall pay a monthly license fee equal to $367,159.00 ("**First Floor Suites License Fee**") plus any pro rata portion thereof if the First Floor Suite Term Commencement Date is any date other than the first of the month, which Licensee shall pay in advance on or before the first day of each and every month during the **First Floor Suites Term** by electronic payment to Licensor. The First Floor Suites License Fee shall be subject to a three percent (3%) increase upon each anniversary of the First Floor Suites License Fee Commencement Date.

Effective March 27, 2020, Section 3(d) of the Agreement is modified by adding the following sentences to the end of the paragraph:

> Licensee shall pay an additional Security Deposit equal to $39,392.81 for the Innovation Licensed Premises ("Innovation Security Deposit") subject to the aforementioned provisions.

Effective March 27, 2020, Section 3(e) of the Agreement is modified by adding the following sentences to the end of the paragraph:

> Licensee shall pay immediately, an amount equal to the Innovation License Fee for the first month ($40,000.00) and the Security Deposit ($39,392.81) and the Parking Fees (as defined below) associated with Licensee's Parking Spaces (as defined below). As such, Licensee shall pay a total of $79,392.81 plus the aforementioned Parking Fees.

Section 4: Parking.

Effective March 27, 2020, Section 6 of the Agreement is modified by adding the following sentences to the end of the paragraph:

> Upon the Innovation Office Term Commencement Date, seven (7) unreserved parking spaces, out of the twelve (12) allotted as Licensee's Parking Spaces, shall be available in the area adjacent to the Building at the current monthly parking rate. Upon commencement of the First Floor Suites Term Commencement Date on November 1, 2020, the remaining five (5) of Licensee's Parking Space shall be made available.

As hereby amended, the License Agreement is ratified, approved and confirmed in all respects. In the event that any of the provisions of the License Agreement are inconsistent with this First Amendment or the state of facts contemplated hereby, the provisions of this First Amendment shall control.

EXCEPT AS EXPRESSLY SET FORTH HEREIN, ALL OTHER TERMS AND CONDITIONS IN THE AGREEMENT REMAIN UNMODIFIED.

MIL 6T, LLC

/s/ Amrit Chaudhuri

By: Amrit Chaudhuri
Title: CEO
Date: March 27, 2020

ENTRADA THERAPEUTICS, INC.

/s/ Dipal Doshi

By: Dipal Doshi
Title: President & CEO
Date: March 27, 2020

Second Amendment to License Agreement

This Second Amendment to License Agreement ("**Second Amendment**") is effective October 1, 2020 and is entered into by and between Entrada Therapeutics, Inc. ("**Licensee**") and MIL 6T, LLC ("**Licensor**").

WHEREAS, Licensor granted Licensee a License ("**License**") to use certain Lab Suites and Office Suites in a certain License Agreement dated February 28, 2020 as modified by a **First Amendment** dated March 27, 2020 (collectively, the "**Agreement**");

WHEREAS, Licensee warrants and represents that, to the best of its knowledge, Licensor has fulfilled its obligation under the Agreement and is not in default of any covenants or obligations contained in the Agreement;

WHEREAS, Licensor and Licensee desire to amend the Agreement in certain respects as set forth herein;

WHEREAS, all capitalized terms contained herein shall, unless otherwise defined in this Second Amendment, have the same meaning as set forth in the Agreement;

WHEREAS, the Licensor is performing its obligations as defined as Licensor's Work set forth in Exhibit 1A to the Agreement and the Licensee warrants and represents that all of Licensor's Work completed to date has been satisfactorily performed in accordance with Exhibit 1A; and

WHEREAS, the Licensor and Licensee agree that Licensee requested modifications and changes to the Licensor's Work that are outside the scope of the Licensor's Work and as such, pursuant to Section 7 of the Agreement, Licensee shall be solely responsible for the requested modifications and changes.

In consideration of good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Licensor and Licensee agree that the Agreement is hereby amended as follows:

Section 7 of the Agreement is modified by adding the following paragraph to the end of the Section:

Pursuant to the Agreement, and as detailed in Exhibit 1A thereto, Licensor agreed, at its cost and expense, to perform Licensor's Work to the Licensed Premises Licensee desires additional modifications ("**Licensee Modifications**") to the Licensed Premises that exceed the agreed scope and cost of the Licensor's Work. Licensor hereby agrees to have the Licensee Modifications performed to the Licensed Premises, provided that such Licensee Modifications are at Licensee's sole cost and expense in accordance with the project scopeand terms set forth in Entrada's Cost Breakdown attached to the Second Amendment as Exhibit 1C. For clarity purposes, the costs to be incurred are specifically allocated between the Parties in the Table in Exhibit 1C entitled "Summary of Entrada Project Costs as of 8/7/2020," specifying that the Licensor shall be responsible for the costs as listed in the third (3rd) column with the heading "Project Cost - SmartLabs" and the Licensee shall be responsible for the costs as listed in the fifth (5th) column with the heading "Project Cost - Entrada." As Licensor has a contractual agreement with the Contractor Commodore Builders, Inc. ("**Contractor**") for Licensor's Work, the Licensee Modifications will be performed by the Contractor in accordance with the construction documents and terms agreed upon by the parties as set forth in Exhibit 1C, with that understanding that Licensee assumes any and all costs incurred with the Licensee Modifications. Licensee acknowledges that the Cash Flow Projection set forth in Exhibit 1C is an approximation and subject to change and Licensee shall be responsible for the actual amounts invoiced Licensor by Contractor for Licensee Modifications consistent with the cost breakdown in Exhibit 1C. Notwithstanding the aforementioned, Licensor agrees that if the Licensor becomes aware or anticipates that the costs will deviate from the approximation in Exhibit 1C by more than ten (10) percent, Licensor shall notify Licensee to this effect as soon as reasonably possible and obtain approval for these additional charges prior to incurring the additional costs. Commencing on or around October 1, 2020, the Contractor's monthly requisition ("**Contractor's Requisition**") will separately itemize the costs for Licensee Modifications and the Licensor's Work. Within twenty (20) days of the Contractor's Requisition, Licensee shall, at Licensor's election, pay the amount of such Contractor's Requisition (i) directly to Contractor or (ii) as a reimbursement to Licensor if Licensor has already paid such sum to the Contractor.

As hereby amended, the Agreement is ratified, approved and confirmed in all respects. In the event that any of the provisions of the Agreement are inconsistent with this Second Amendment or the state of facts contemplated hereby, the provisions of this Second Amendment shall control.

EXCEPT AS EXPRESSLY SET FORTH HEREIN, ALL OTHER TERMS AND CONDITIONS IN THE AGREEMENT REMAIN UNMODIFIED.

MIL 6T, LLC

/s/ Amrit Chaudhuri
By: Amrit Chaudhuri
Title: CEO

ENTRADA THERAPEUTICS, INC.

/s/ Dipal Doshi
By: Dipal Doshi
Title: President and CEO

Third Amendment to License Agreement

This Third Amendment to License Agreement ("**Third Amendment**") is made as of June 4, 2021, by and between Entrada Therapeutics, Inc. ("**Licensee**") and MIL 6T, LLC ("**Licensor**").

WHEREAS, Licensor and Licensee are parties to a certain License Agreement dated February 28, 2020, as amended by that certain First Amendment to License Agreement dated March 27, 2020, as amended by that certain Second Amendment to License Agreement dated October 1, 2020 (collectively, "**License Agreement**);

WHEREAS, Licensee warrants and represents that, to the best of its knowledge, Licensor has fulfilled its obligations under the License Agreement and is not in default of any covenants or obligations contained in the License Agreement;

WHEREAS, Licensor and Licensee desire to amend the License Agreement in certain respects as set forth herein; and,

WHEREAS, all capitalized terms contained herein shall, unless otherwise defined in this Third Amendment, have the same meaning as set forth in the License Agreement.

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree that the License Agreement is hereby amended as follows:

1. Licensed Premises. Section 1(a) of the License Agreement is hereby modified by adding the following:

Effective October 1, 2021 ("**Innovation Suite Expanded Premises Commencement Date**"), the License shall be expanded to include Innovation Suite 1 and Innovation Suite 2, as shown on the blue-shaded portion of the floor plan attached hereto as **Exhibit 1-C** of this Third Amendment ("**Innovation Suite Expanded Premises**"), as part of the Licensed Premises. Under no circumstance shall Licensor be liable to Licensee for failure to provide access to the Innovation Suite Expanded Premises on or before the Innovation Suite Expanded Premises Commencement Date; provided, however, that if Licensor is unable to provide Licensee access to the Innovation Suite Expanded Premises on or before the Innovation Suite Expanded Premises Commencement Date, the Innovation Suite Expanded Premise Commencement Date shall be extended by the number of days Licensor is unable to provide access to the Innovation Suite Expanded Premises.

Effective March 15, 2022 ("**Scaling Suite Expanded Premises Commencement Date**"), the License shall be expanded to include Scaling Suite E1 and Scaling Suite F, as shown on the red-shaded portion of the floor plan attached hereto as **Exhibit 1-C** of this Third Amendment ("**Scaling Suite Expanded Premises**"), as part of the Licensed Premises. Under no circumstance shall Licensor be liable to Licensee for failure to provide access to the Scaling Suite Expanded Premises on or before the Scaling Suite Expanded Premises Commencement Date; provided, however, that if Licensor is unable to provide Licensee access to the Scaling Suite Expanded Premises on or before the Scaling Suite Expanded Premises Commencement Date, the Scaling Suite Expanded Premise Commencement Date shall be extended by the number of days Licensor is unable to provide access to the Scaling Suite Expanded Premises.

For the avoidance of doubt, Exhibit 1, 1-A and 1-B of the License Agreement shall remain applicable, and the attached Exhibit 1-C shall be inserted immediately thereafter.

2. Occupants. Section 1(c) of the License Agreement is hereby modified by adding the following new sentence to the end of the Section:

Effective the Innovation Suite Expanded Premises Commencement Date, Occupants shall be defined as one hundred twenty-four (124) of Licensee's members, employees or agents.

Effective the Scaling Suite Expanded Premises Commencement Date, Occupants shall be defined as one hundred fifty-four (154) of Licensee's members, employees or agents.

3. Term, Extension and Early Termination. Section 2(a) of the License Agreement is hereby modified by adding the following to the end of the Section:

The term of the Innovation Suite Expanded Premises license shall commence on the Innovation Suite Expanded Premises Commencement Date and expire on November 30, 2025 ("**Innovation Suite Expanded Premises Term**"). The term of the Scaling Suite Expanded Premises license shall commence on the Scaling Suite Expanded Premises Commencement Date and expire on November 30, 2025 ("**Scaling Suite Expanded Premises Term**").

Provided Licensee is not in breach of the Agreement, Licensee shall have the option to: (i) extend the Innovation Suite Expanded Premises Term for one additional three (3) year period ("**Innovation Suite Extended Term**"); and (ii) extend the Scaling Suite Expanded Premises Term for one additional three (3) year period ("**Scaling Suite Extended Term**"). The foregoing respective Extended Terms shall be based upon the terms set forth herein at the prevailing market license rate for the SmartLabs Program in submarket area, Boston Seaport, with the Extended Term commencing immediately upon the respective Term expiration date. Licensee shall exercise the foregoing option by written notice to Licensor given no less than twelve (12) months prior to the respective Term expiration date. The foregoing option shall terminate if notice is not timely given, time being of the essence.

In addition to Licensee's early termination rights as contained in the First Amendment to License Agreement, after March 1, 2023, Licensee shall also have the right to terminate the remainder of the Innovation Suite Expanded Premises Term and/or Scaling Suite Expanded Premises Term provided Licensee gives Licensor written notice of its exercise of its termination right no less than nine (9) months prior to requested termination date; further provided, it is expressly agreed that any termination of the Innovation Suite Expanded Premises and/or the Scaling Suite Expanded Premises is not to occur jointly or concurrently with each other or with the termination of the existing First Floor Suites Licensed Premises; at least thirty (30) days must pass between the forfeiture of the (1) Innovation Suite Expanded Premises, (2) Scaling Suite Expanded Premises, and/or (3) First Floor Suites Licensed Premises. Provided that Licensee otherwise complies with the terms of the Agreement, there shall be no termination fee or penalty associated with Licensee's exercise of its termination rights in accordance with this paragraph.

4. License Fee. Section 3(a) of the License Agreement is hereby modified by adding the following new paragraph to the end of the Section:

Effective the Innovation Suite Expanded Premises Commencement Date, in addition to the existing License Fee, Licensee shall pay a monthly license fee of $103,000.00 for the Expanded Premises ("**Innovation Suite Expanded Premises Fee**"). The Innovation Suite Expanded Premises Fee shall be subject to a three percent (3%) increase upon each anniversary of the Innovation Suite Expanded Premises Commencement Date, as shown on Schedule A attached hereto. Except as expressly stated otherwise herein, the Innovation Suite Expanded Premises Fee shall be subject to all the same terms and conditions as the License Fee.

Effective the Scaling Suite Expanded Premises Commencement Date, in addition to the existing License Fee, Licensee shall pay a monthly license fee of $154,975.00 for the Scaling Suite Expanded Premises ("**Scaling Suite Expanded Premises Fee**"). The Scaling Suite Expanded Premises Fee shall be subject to a three percent (3%) increase upon each anniversary of the Scaling Suite Expanded Premises Commencement Date, as shown on Schedule A attached hereto. Except as expressly stated otherwise herein, the Scaling Suite Expanded Premises Fee shall be subject to all the same terms and conditions as the License Fee.

5. Security Deposit. Section 3(d) of the License Agreement is hereby modified by adding the following new sentence to the end of the Section:

In consideration of the Innovation Suite Expanded Premises and Scaling Suite Expanded Premises, the Security Deposit shall be increased by $279,945.60.

6. Initial Payment. Section 3(e) of the License Agreement is hereby modified by adding the following new paragraph to the end of the Section:

Immediately upon the execution of this Third Amendment, Licensee shall pay an amount equal to the Innovation Suite Expanded Premises Fee and Scaling Suite Expanded Premises Fee for the last month of the Term ($279,945.60), as well as the increase in the Security Deposit commensurate with the addition of the Innovation Suite Expanded Premises and Scaling Suite Expansion Premises ($279,945.60). As such, Licensee shall pay a total of $559,891.10, on or before the execution of this Third Amendment.

7. Parking. Section 6 of the License Agreement is hereby modified by adding the following new sentence to the end of the Section:

   Effective the Scaling Suite Expanded Premises Commencement Date, Licensee's Parking Spaces shall be defined as sixteen (16).

8. Broker. Licensee warrants and represents that Licensee has dealt with no broker in connection with the consummation of this Third Amendment, and, in the event of any brokerage claims asserted against Licensor predicated upon prior dealings with Licensee, Licensee agrees to defend the same and indemnify Licensor against any such claim.

9. Ratification. Except as expressly amended hereby, all terms and conditions of the License Agreement shall remain unchanged and in full force and effect.

10. Counterparts. This Third Amendment to License Agreement may be executed in any number of counterparts, each of which shall be an original and all of which together shall constitute one and the same document.

IN WITNESS WHEREOF, Licensor and Licensee have duly executed this Third Amendment as of the date first written above.

LICENSOR

/s/ Brian Taylor
By: Brian Taylor
Title: Head of Field Operations
Date: June 4, 2021

LICENSEE:

/s/ Dipal Doshi
By: Dipal Doshi
Title: President & Chief Executive Officer
Date: 6/4/2021