As confidentially submitted to the Securities and Exchange Commission on April 8, 2022 as Amendment No. 2 to the draft registration statement originally submitted on October 1, 2021. This Amendment No. 2 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

PEPGEN INC.

(Exact name of registrant as specified in its charter)

Delaware	2834	85-3819886
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

245 Main Street
Cambridge, Massachusetts
02142
(781) 797-0979
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

James McArthur, Ph.D.
President and Chief Executive Officer
PepGen Inc.
245 Main Street
Cambridge, Massachusetts 02142
(781) 797-0979
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Richard Hoffman, Esq.
James Xu, Esq.
Alicia Tschirhart, Esq.
Goodwin Procter LLP
100 Northern Avenue
Boston, Massachusetts 02210
(617) 570-1000

Nathan Ajiashvili, Esq.
Alison Haggerty, Esq.
Latham & Watkins LLP
1271 Avenue of the Americas
New York, New York 10020
(212) 906-1200

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. ☐

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.

Table of Contents

The information in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to Completion
Preliminary Prospectus dated , 2022

PROSPECTUS

Shares

Common Stock

This is PepGen Inc.'s initial public offering. We are selling shares of our common stock.

We expect the public offering price to be between $ and $ per share. Currently, no public market exists for the shares. After pricing of the offering, we expect that the shares will trade on the Nasdaq Global Market under the symbol "PEPG."

We are an "emerging growth company" and a "smaller reporting company" under applicable Securities and Exchange Commission rules and will be subject to reduced public company reporting requirements for this prospectus and future filings.

Investing in our common stock involves risks that are described in the section titled "Risk Factors" beginning on page 14 of this prospectus.

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

(1) See the section titled "Underwriting" beginning on page 211 of this prospectus for additional information on underwriting compensation.

The underwriters may also exercise their option to purchase up to additional shares from us, at the public offering price, less the underwriting discount, for 30 days after the date of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission approved or disapproved of the securities that may be offered under this prospectus, nor have any of these organizations determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The shares will be ready for delivery on or about , 2022.

BofA Securities **SVB Leerink** **Stifel**

Wedbush PacGrow

The date of this prospectus is , 2022

TABLE OF CONTENTS

We have not, and the underwriters have not, authorized anyone to provide any information or to make any representation other than those contained in this prospectus, any amendment or supplement to this prospectus or any free writing prospectuses 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. This prospectus is an offer to sell only the shares of common stock offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus, any amendment or supplement to this prospectus or any applicable free writing prospectus is current only as of its date, regardless of its time of delivery or any sale of shares of our common stock. Our business, financial condition, results of operations and prospects may have changed since that date.

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

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 "Business," "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 "PepGen," "the Company," "the Registrant," "we," "us," and "our" in this prospectus refer to PepGen Inc. and, where appropriate, our subsidiaries.

Overview

We are a clinical-stage biotechnology company advancing the next generation of oligonucleotide therapeutics with the goal of transforming the treatment of severe neuromuscular and neurologic diseases. Our Enhanced Delivery Oligonucleotide, or EDO, platform is founded on over a decade of research and development and leverages cell-penetrating peptides to improve the uptake and activity of conjugated oligonucleotide therapeutics. This technology was initially developed through a collaboration between researchers at the University of Oxford and the Medical Research Council of United Kingdom Research and Innovation. We have in-licensed an extensive patent portfolio from these institutions to support the further advancement and potential commercialization of our EDO platform. Our EDO peptides are engineered to optimize tissue penetration, cellular uptake and nuclear delivery, and in preclinical studies we have observed their ability to transport oligonucleotides into a broad range of target tissues, including smooth, skeletal, and cardiac muscle and the central nervous system, or CNS. Furthermore, the high levels of pharmacological activity observed in preclinical studies support our belief that our EDO platform technology has the potential to deliver therapeutic agents to the cell nucleus. Using these EDO peptides, we are generating a pipeline of oligonucleotide therapeutic candidates that target the root cause of serious diseases.

We are currently in clinical-stage development, with our lead product candidate, PGN-EDO51, having entered the clinic in the second quarter of 2022. We are developing PGN-EDO51 to treat individuals with Duchenne muscular dystrophy, or DMD, whose mutations are amenable to an exon 51-skipping therapeutic approach. An exon is a segment of a gene that – together with other exons – contains the code that is translated into a protein. Exon skipping is a therapeutic modality that enables mutations in the gene to be bypassed, thereby repairing this code and enabling production of a truncated, yet functional version of the target protein. In non-human primate, or NHP, studies, PGN-EDO51 at a dose of 30 mg/kg achieved over 70% exon 51 skipping in skeletal muscle, including diaphragm. Based on a head-to-head comparison with the most clinically-advanced peptide-conjugated oligonucleotide therapeutic, and on cross-trial comparisons with publicly-available data for other preclinical approaches, we believe this to be the highest rate of exon 51 skipping reported for any approved therapeutic or known development candidate at tolerable dose levels. Following the review of our preclinical dataset by Health Canada and subsequent authorization of our Clinical Trial Application, or CTA, we initiated a Phase 1 clinical trial of PGN-EDO51 in healthy normal volunteers, or HNV, and we anticipate receiving topline data from this trial by the end of 2022. We are also developing PGN-EDODM1 for the treatment of myotonic dystrophy type 1, or DM1, for which we anticipate submitting an investigational new drug, or IND, application in the first half of 2023, and PGN-EDO53 for the treatment of DMD patients whose mutations are amenable to an exon 53-skipping therapeutic approach, for which we anticipate reporting exon skipping data in NHPs in the second half of 2022. Alongside these therapeutic candidates, we have initiated research efforts on EDO therapeutics for further DMD exon skipping populations, including exon 45- and exon 44-skipping amenable patients, and for additional indications, including neuromuscular diseases and neurologic disorders. We anticipate advancing additional programs into CTA- and IND-enabling studies in 2024.

The advent of oligonucleotide therapeutics represented a major advance in the history of the biopharmaceutical industry. Oligonucleotide therapeutics are a nucleic acid-based genetic medicine modality

that are designed to target the root cause of many diseases through the modulation of RNA expression and processing. These therapeutics have demonstrated clinical benefit and been approved for the treatment of multiple diseases. The approved drugs within this category include antisense oligonucleotides, or ASOs, which are short, synthetic, single-stranded oligonucleotides designed to inhibit or modify expression of protein and RNA.

However, despite the considerable potential of oligonucleotides as a therapeutic class, the challenges associated with their delivery has limited the development of these therapies in certain disease areas. On their own, oligonucleotides therapeutics are not readily distributed to heart and skeletal muscle, the key tissues affected in neuromuscular diseases, and are not efficiently taken up into these cells.

Our EDO Platform

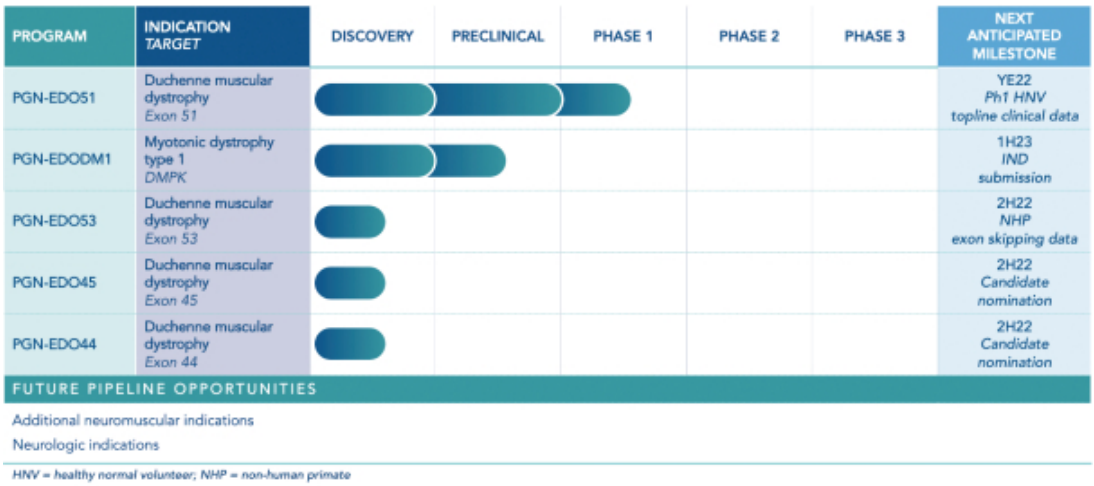
To address this challenge, we engineered our proprietary EDO technology to optimize tissue penetration, cellular uptake and nuclear delivery, which we believe may enhance the therapeutic activity of oligonucleotides and improve the tolerability of these genetic medicines. Our platform is based on novel cell-penetrating EDO peptides that were developed through an iterative process which selected simultaneously for high cellular uptake, biodistribution to key muscle targets, including cardiac tissue, and improved tolerability. We utilize phosphorodiamidate morpholino oligomers, or PMOs, a type of ASO chemistry that confers enhanced stability, in our approach, and these therapeutic cargos are conjugated to one of our optimized, proprietary, novel EDO peptides to generate our lead EDO product candidates. We are continuing to build and develop this platform technology as we expand into new therapeutic areas.

Using this novel, proprietary platform, we are developing a broad pipeline of disease-modifying EDO candidates to treat a variety of degenerative neuromuscular and neurologic diseases. Our platform is designed to offer the following advantages compared to existing oligonucleotide approaches:

- Enhanced delivery to skeletal muscle, including diaphragm, cardiac muscle and the CNS.
- Improved activity, which we have observed in NHPs with the greatest exon 51 skipping potency at tolerable target dose levels compared to any approved therapeutic or known developmental candidate.
- An enhanced balance between activity and tolerability, which is designed to afford our product candidates a wider therapeutic index.
- Robust, scalable and cost-efficient manufacturing that does not require cell-based processes.
- Accelerated and efficient pipeline development of therapeutic candidates enabled by use of the same EDO peptide across all our initial programs.

Our Portfolio

We are harnessing the power of our EDO platform to generate a pipeline of oligonucleotide therapeutic candidates. Our EDO conjugates have been engineered to successfully target the root cause of serious diseases and to exhibit a favorable tolerability profile. We are initially focused on addressing neuromuscular indications, and are building a portfolio of therapeutic candidates to address the underlying genetic mutations found in DMD and DM1, with our current pipeline being comprised of five programs. We anticipate expanding this pipeline to include other neuromuscular targets as well as opportunities in neurologic indications, and intend to leverage the modular, scalable nature of our EDO technology to support our rapid expansion into these new therapeutic areas. Our product candidates, PGN-EDO51 and PGN-EDODM1, target a large potential market opportunity, with approximately 135,000 DMD exon 51 and DM1 patients across the United States, Europe and Japan. We own worldwide development and commercialization rights to all our programs.



PGN-EDO51

Our lead product candidate is PGN-EDO51, an EDO peptide conjugated to a PMO therapeutic cargo, which we are developing for the treatment of DMD patients with mutations amenable to an exon 51-skipping approach. DMD is a debilitating X-linked recessive muscle-wasting disease that predominantly affects boys, and arises due to the presence of mutations in the gene encoding dystrophin, a protein necessary for normal muscle function. It is one of the most prevalent rare genetic diseases globally, with up to 15,000 DMD patients in the United States and approximately 25,000 DMD patients in Europe and 5,000 in Japan. It is thought that 13% of patients with DMD have mutations that are amenable to treatment with an exon 51-skipping therapeutic approach, and thus the estimated exon 51 patient population is approximately 2,000 in the United States, 3,200 in Europe and 700 in Japan. DMD patients typically succumb to cardiac and respiratory failure in their late teens or early twenties. There is no cure for DMD and there are no treatments that have clinically demonstrated a meaningful impact on disease progression.

PGN-EDO51 is designed to splice out exon 51 of the dystrophin pre-mRNA, resulting in the restoration of the open reading frame of the dystrophin transcript and the production of a shortened, yet functional dystrophin protein. In wild-type NHP studies, at tolerable doses, we have observed the most potent exon 51 skipping based on cross-trial comparisons with publicly-available data for any approved therapeutic or known developmental candidate across target tissues, including the heart and diaphragm. These cross-trial comparisons were conducted with data published by Sarepta Therapeutics, or Sarepta, for EXONDYS 51® (eteplirsen), and by

Dyne Therapeutics for DYN-251. In addition, in our head-to-head NHP studies, we observed that PGN-EDO51 had greater activity than R_6G-PMO, which we believe is structurally equivalent to Sarepta's SRP-5051, the most clinically advanced peptide-ASO conjugate. At a dose of 10 mg/kg, PGN-EDO51 exhibited approximately as much exon skipping activity as a 3-fold higher dose, i.e., 30 mg/kg, of R_6G-PMO. Our preclinical work also indicated that PGN-EDO51 was generally well-tolerated at target dose levels. Following the review of our preclinical dataset by Health Canada and its authorization of our CTA, we initiated a Phase 1 clinical trial of PGN-EDO51 in the second quarter of 2022, and anticipate receiving topline data by the end of 2022.

PGN-EDODM1

We are developing PGN-EDODM1, an EDO peptide-conjugated PMO, for the treatment of DM1. DM1 is a monogenic, autosomal dominant, progressive disorder that primarily affects skeletal, cardiac and smooth muscles as well as the CNS, resulting in significant physical, cognitive and behavioral impairments and disability. The burden of disease is significant, and many patients have a shortened lifespan. DM1 is caused by an abnormal trinucleotide repeat expansion in a region of the *DMPK* gene and is estimated to affect approximately 40,000 patients in the United States, 75,000 patients in Europe and 15,000 patients in Japan. There are currently no approved therapies for the treatment of DM1.

PGN-EDODM1 leverages the same EDO peptide as PGN-EDO51 to deliver a PMO into muscle cells that binds to the cytosine-uracil-guanine, or CUG, trinucleotide repeat expansion present in the *DMPK* mRNA, thus reducing the ability of these trinucleotide repeats to sequester MBNL1, a critical RNA processing protein. This steric blocking approach – which is not designed to knockdown *DPMK* – directly addresses the underlying genetic defect of this disease, and in DM1 patient cells we observed that treatment with PGN-EDODM1 led to the robust correction of multiple downstream mis-spliced transcripts and a reduction in toxic nuclear foci. Furthermore, we observed in our *in vivo* preclinical studies that a single dose of PGN-EDODM1 corrected the molecular and functional phenotypes presented in the human skeletal actin – long repeat, or HSA^{LR}, mouse model of disease, reducing myotonia and normalizing mobility. We also observed that the molecular correction effected by PGN-EDODM1 in this preclinical mouse model exhibited a durability of effect that was in excess of six months. The ability of the EDO conjugate to cross the blood-brain barrier may also enable PGN-EDODM1 to address the CNS phenotypes that are evident in DM1 patients. We anticipate submitting an IND in the first half of 2023 to initiate a Phase 1/2 clinical trial of PGN-EDODM1 in DM1 patients.

PGN-EDO53

Our second EDO therapeutic candidate for the treatment of DMD, and third product candidate, PGN-EDO53, is an EDO peptide-conjugated PMO designed to skip exon 53 of the dystrophin transcript. It is estimated that 8% of DMD patients have mutations that would be amenable to treatments with an exon 53-skipping approach. PGN-EDO53 will utilize the same EDO cell penetrating peptide as our exon 51-skipping product candidate, PGN-EDO51, which we believe will allow us to leverage our drug development experience in this indication to rapidly drive our exon 53-skipping product candidate to the clinic. We are currently conducting an *in vitro* screen of candidate oligonucleotide sequences, and we anticipate that we will report exon skipping results from an NHP study in the second half of 2022.

Additional Discovery Programs

We have active discovery programs focused on expanding our pipeline in DMD and other neuromuscular diseases. We are screening oligonucleotides for the treatment of DMD patient populations with mutations that are amenable to exon skipping approaches other than exon 51 and exon 53. Our initial discovery work is focused on selection of oligonucleotides for exon 45 and exon 44 skipping, and we have commenced synthesis activities to support an *in vitro* screen in patient cells. We anticipate nominating candidates for our PGN-EDO45 and PGN-EDO44 programs in the second half of 2022.

Expanding the Applications and Scope of Our EDO Platform

New indications with PMO therapeutics

We intend to leverage our deep understanding of our EDO platform and oligonucleotide therapeutic candidates to develop additional product candidates for other indications. We believe the ability to deliver exon skipping therapeutics to muscle cells, including cardiac muscle cells, as well as the CNS is largely independent of the exact sequence of the PMO. As such, by leveraging our preclinical data and the plug-and-play nature of our EDO platform, and by investigating other routes of administration, including intrathecal, we believe that we are well positioned to develop additional product candidates with the potential to drive clinically relevant therapeutic outcomes in other neuromuscular diseases as well as neurologic indications.

New cargos

We believe that our EDO technology has the potential to facilitate the delivery of multiple classes of oligonucleotide therapeutics. To date, our efforts have primarily focused on the delivery of PMOs, but we are also actively pursuing the expansion of our cargo scope to other nucleic acid species.

New peptide technologies

We intend to further establish our expertise and competitive position in the field of oligonucleotide delivery through the ongoing research and development of new cell penetrating peptides. We will leverage our extensive experience in this field to design new peptides that target specific tissue types, and will seek to further optimize the tissue, cellular and nuclear delivery of our EDO platform technology.

Our Strategy

Our goal is to become a leading biopharmaceutical company focused on the development and commercialization of oligonucleotide therapies to transform the lives of patients with severe neuromuscular and neurologic diseases. We aim to accomplish this goal by implementing the following strategies:

- Advance our lead product candidate, PGN-EDO51, through clinical trials and regulatory approval.
- Advance PGN-EDODM1 through clinical trials and regulatory approval.
- Expand our pipeline of oligonucleotide therapeutic candidates for the treatment of additional DMD patient populations.
- Leverage the full potential of our EDO technology to expand into other neuromuscular, neurological and cardiac disease areas.
- Utilize the modular nature of our EDO platform to evaluate new cargos and peptide technologies.
- Maximize the value of our pipeline and our EDO platform by selectively exploring strategic collaborations.

Our Team and Investors

Our mission is to deliver transformative therapeutics to those in need, and we believe our innovative technology is well-positioned to effect this change for patients, families and the broader healthcare community. As a company, we value:

- **Research:** We are a data-driven company at heart, and we approach our work with an evidence-based mindset;
- **Innovation:** We are always exploring new ways to learn, build and improve across all facets of our company;
- **Integrity:** We act ethically and honestly in both our scientific and business conduct; and
- **Responsibility:** As a therapeutic company, we appreciate the impact our work has on patients and their families.

In support of our mission, we have assembled a leadership team with deep experience in research and development, clinical translation, regulatory affairs and corporate development. Our Chief Executive Officer, James McArthur, Ph.D., brings over 25 years of industry experience to the company, including senior leadership and Board roles at Imara, Cydan and Nightstar Therapeutics, with a specific focus on rare disease therapeutics. Dr McArthur is ably supported by a team that includes Noel Donnelly, our Chief Financial Officer, who has over 25 years of experience in financial planning and analysis, business analytics and portfolio management and has held roles at EIP Pharma, Takeda and Shire; Jaya Goyal, Ph.D., our Executive Vice President of Research and Preclinical Development, who has held roles at Wave Life Sciences and Biogen, and brings considerable experience in bioanalytical studies, biomarkers and pharmacology across a broad range of preclinical-, clinical- and commercial-stage programs; Michelle L. Mellion, M.D., our Senior Vice President, Clinical Development, who is double Board-certified in neurology and clinical neurophysiology and has held roles at Fulcrum, Vertex and Biogen; Niels Svenstrup, Ph.D., our Senior Vice President of Chemistry, Manufacturing and Control, who has extensive experience in the manufacturing and release of peptide drugs for late-stage clinical programs and has held roles at Ascendis Pharma, Cydan and Lundbeck, amongst others; and Sonia Bracegirdle, D.Phil, our Senior Vice President of Strategy and Operations, who has held roles at Syncona Limited, the Boston Consulting Group and McKinsey & Company, and was one of the founding members of the PepGen team. We have established a strong scientific advisory board, who bring a wealth of expertise from both the indication and therapeutic modality perspectives in their roles as academics, clinicians and drug developers.

We were founded in 2018 with technology spun out from the University of Oxford and the Medical Research Council of United Kingdom Research and Innovation to further develop and commercialize this novel peptide delivery technology. This technology was created and refined over a decade by Michael Gait, Ph.D. and Professor Matthew Wood, M.D., Ph.D. We have exclusively licensed the patents, patent applications and know-how associated with this technology.

To date, we have raised $163.7 million in equity investment from a leading group of life sciences investors, including entities affiliated with RA Capital Management, Oxford Science Enterprises plc and KAVRA 16 LLC.

Risks Associated with our Business

- We have incurred significant losses since our inception, have no products approved for sale and we expect to incur losses for the foreseeable future.

- We have never generated revenue from product sales and may never achieve or maintain profitability.
- We are very early in our development efforts. We have only advanced one product candidate into clinical development, and as a result it will be years before we commercialize a product candidate, if ever. If we are unable to advance our product 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 approach to the discovery and development of product candidates based on our EDO platform is unproven, and we may not be successful in our efforts to identify, discover or develop potential product candidates.
- 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.
- Our lead product candidate is in clinical development, while all of our other product candidates are still in preclinical development. As an organization, we have never completed any clinical trials and may be unable to do so for any of our product candidates.
- Even if we complete the necessary preclinical studies and clinical trials, the marketing approval process is expensive, time-consuming and uncertain and may prevent us from obtaining approvals for the commercialization of our product candidates. If we are not able to obtain, or if there are delays in obtaining, required regulatory approvals, we will not be able to commercialize, or will be delayed in commercializing, our product candidates, and our ability to generate revenue will be materially impaired.
- We face substantial competition, which may result in others discovering, developing or commercializing products before us or more successfully than we do.
- If we or our licensors are unable to obtain, maintain and defend patent and other intellectual property protection for any product candidates or technology, or if the scope of the patent or other intellectual property 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 develop and commercialize our product candidates or our technology may be adversely affected due to such competition.
- Our future success depends on our ability to retain key executives and to attract, retain and motivate qualified personnel.

Impact of COVID-19

The ongoing COVID-19 pandemic continues to present a substantial public health and economic challenge around the world, and to date has led to the implementation of various responses, including government-imposed quarantines, stay-at-home orders, travel restrictions, mandated business closures and other public health safety measures.

We continue to closely monitor the impact of the ongoing COVID-19 pandemic on all aspects of our business, including how it has and will continue to impact our operations and the operations of our suppliers, vendors and business partners, and may take further precautionary and preemptive actions as may be required by federal, state or local authorities. In addition, we have taken steps to minimize the current environment's impact

on our business and strategy, including devising contingency plans and securing additional resources from third party service providers. For the safety of our employees and families, we have introduced enhanced safety measures for scientists to be present in our labs and increased the use of third party service providers for the conduct of certain experiments and studies for research programs.

Beyond the impact on our pipeline, the extent to which the ongoing COVID-19 pandemic ultimately impacts our business, results of operations and financial condition will depend on future developments, which remain highly uncertain and cannot be predicted with confidence, such as the duration of the pandemic the emergence of new variants, new information that may emerge concerning the severity of COVID-19, its variants or the effectiveness of actions taken to contain COVID-19 or treat its impact, including vaccination campaigns, among others. If we or any of the third parties with whom we engage, however, were to experience any additional shutdowns or other prolonged business disruptions, our ability to conduct our business in the manner and on the timelines presently planned could be materially or negatively affected, which could have a material adverse impact on our business, results of operations and financial condition. Although to date, our business has not been materially impacted by the ongoing COVID-19 pandemic, it is possible that our clinical development timelines could be negatively affected by COVID-19, which could materially and adversely affect our business, financial condition and results of operations. See "Risk Factors" for a discussion of the potential adverse impact of the ongoing COVID-19 pandemic on our business, financial condition and results of operations.

Corporate History

We were initially formed as PepGen Limited on January 25, 2018, in the United Kingdom. On November 9, 2020, PepGen Limited initiated a corporate reorganization, or the Reorganization. As part of the Reorganization, PepGen Limited formed PepGen Inc., a Delaware corporation with nominal assets and liabilities, for the purpose of consummating the Reorganization. In connection with the Reorganization, the existing shareholders of PepGen Limited exchanged each of its classes of shares of PepGen Limited for the same number and class of common stock of PepGen Inc. on a one-to-one basis. The newly issued stock of PepGen Inc. had substantially identical rights to the exchanged shares of PepGen Limited. As a result of the exchange, PepGen Inc. became the sole shareholder of PepGen Limited. Upon the completion of the Reorganization on November 23, 2020, the historical financial statements of PepGen Limited became the historical financial statements of PepGen Inc. as the Reorganization was deemed to be between entities under common control. After the Reorganization was completed, PepGen Limited began the process of transferring certain operations, including financial management functions, to PepGen Inc. pursuant to intercompany services agreement, effective as of April 2021, and certain assets, including a novation of all intellectual property assets, pursuant to an asset transfer agreement, effective as of January 1, 2022. We expect that PepGen Limited will continue to transfer additional operations and assets to PepGen Inc. in 2022.

We have one additional subsidiary, PepGen Securities Corp., which was formed in November 2021 under the laws of the Commonwealth of Massachusetts.

Our principal corporate office is located at 245 Main Street, Cambridge, Massachusetts 02142, and our telephone number is (781) 797-0979. Our website address is https://pepgen.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. 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. As an emerging growth company, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies. These provisions include:

- being permitted to only disclose 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;
- reduced disclosure about our executive compensation arrangements;
- not being required to hold advisory votes on executive compensation or to obtain stockholder approval of any golden parachute arrangements not previously approved; and
- an exemption from the auditor attestation requirement of Section 404 of the Sarbanes-Oxley Act of 2002, as amended, in the assessment of our internal control over financial reporting.

We may take advantage of these exemptions until the fifth anniversary of our initial public offering 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 revenue 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 $1.0 billion in nonconvertible debt during the previous three years; or (iv) the last day of the fiscal year in which we are deemed to be a large accelerated filer under the rules of the Securities and Exchange Commission, or SEC, which means the market value of our common stock that is held by non-affiliates exceeds $700.0 million as of the prior June 30th. 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. We are in the process of evaluating the benefits of relying on other exemptions and reduced reporting requirements under the JOBS Act. Subject to certain conditions, as an emerging growth company, we may rely on certain of these exemptions, including without limitation, 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 are also a "smaller reporting company" as defined under the Securities Act and Exchange Act. We may continue to be a smaller reporting company so long as either (i) the market value of shares of our common 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 shares of our common 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 have reduced disclosure obligations regarding executive compensation, and, similar to emerging growth companies, if we are a smaller reporting company under the requirements of (ii) above, we would not be required to obtain an attestation report on internal control over financial reporting issued by our independent registered public accounting firm.

THE OFFERING

Common stock offered by us	shares.
Common stock to be outstanding immediately after this offering	shares (shares if the underwriters exercise their option to purchase additional shares in full).
Option to purchase additional shares	We have granted the underwriters an option, exercisable for 30 days after the date of this prospectus, to purchase up to additional shares from us.
Use of proceeds	We estimate that our net proceeds to us 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, which is 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 to fund the development of our PGN-EDO51, PGN-EDODM1 and PGN-EDO53 programs, the further development of our pipeline and platform and for working capital and other 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	"PEPG"

The number of shares of our common stock to be outstanding after this offering is based on 1,051,720 shares of our common stock outstanding as of December 31, 2021, of which 70,780 were shares of unvested restricted common stock, and 12,546,805 shares of our common stock issuable upon the automatic conversion of all outstanding shares of our convertible preferred stock immediately prior to the completion of this offering, and excludes:

- 35,529 shares of Series A-2 convertible preferred stock issuable upon the exercise of outstanding preferred stock warrants as of December 31, 2021, at an exercise price of $11.42 per share, which will convert into 35,529 shares of our common stock;
- 1,932,273 shares of common stock issuable upon the exercise of stock options outstanding as of December 31, 2021, at a weighted-average exercise price of $7.33 per share;
- 464,609 shares of our common stock reserved for future issuance under our existing equity incentive plans as of December 31, 2021, which will no longer be available following the effectiveness of our 2022 Plan described below;
- shares of our common stock reserved for future issuance under our 2022 Stock Option and Incentive Plan, or 2022 Plan, which will be adopted in connection with this offering; and

- shares of our common stock reserved for future issuance under our 2022 Employee Stock Purchase Plan, or ESPP, which will be adopted in connection with this offering.

Except as otherwise indicated, all information in this prospectus assumes or gives effect to:

- the re-designation of all Class A common stock into shares of common stock immediately prior to the completion of this offering;
- the conversion of all outstanding shares of our convertible preferred stock into an aggregate of 12,546,805 shares of our common stock immediately prior to the completion of this offering;
- no exercise of the outstanding options or warrants described above;
- no exercise by the underwriters of their option to purchase up to an additional shares of our common stock in this offering;
- a one-for- split of our common stock, which became effective on ; and
- the filing of our amended and restated certificate of incorporation and the adoption of our amended and restated bylaws, which will occur in connection with 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 "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, 2020 and 2021 from our audited financial statements appearing elsewhere in this prospectus. Our historical results are not necessarily indicative of results that should be expected in any future period. The summary financial data included in this section are not intended to replace the audited financial statements and the related notes included elsewhere in this prospectus and are qualified in their entirety by the financial statements and the related notes included elsewhere in this prospectus.

	Year Ended December 31,	
	2020	2021
	(in thousands, except share and per share data)	
Statement of Operations Data:		
Operating expenses:		
Research and development (including related party amounts of $152 and $945, respectively)	$ 1,024	18,999
General and administrative	853	8,110
Total operating expenses	1,877	27,109
Operating loss	(1,877)	(27,109)
Other income (expense)		
Interest income	8	—
Other income (expense), net	(20)	(172)
Total other income (expense), net	(12)	(172)
Net loss	$ (1,889)	$ (27,281)
Deemed dividend on Class A and B stock conversion	(2,188)	—
Net loss attributable to common stockholders	$ (4,077)	$ (27,281)
Net loss per share, basic and diluted	$ (4.61)	$ (29.74)
Weighted-average shares used to compute net loss per share, basic and diluted(1)	885,311	917,335
Pro forma net loss per share, basic and diluted (unaudited)(2)		$
Pro forma weighted-average shares of common stock, basic and diluted (unaudited)(2)		

(1) See Note 2 to our financial statements appearing elsewhere in this prospectus for details on the calculation of basic and diluted net loss per share.

(2) Pro forma basic and diluted net loss per share attributable to common stockholders have been prepared to give effect to the automatic conversion of all shares of preferred stock outstanding into shares of common stock as if the conversion had occurred on the later of the beginning of the period presented or the date the preferred shares were issued.

The following table sets forth summary balance sheet data as of December 31, 2021:

	As of December 31, 2021		
	Actual	Pro Forma(1) (unaudited, in thousands)	Pro Forma as Adjusted(2) (3)
Balance Sheet Data:			
Cash and cash equivalents	$132,895	$	$
Working capital(4)	129,665		
Total assets	143,641		
Total current liabilities	10,321		
Preferred stock warrant liability	226		
Convertible preferred stock	165,176		
Total accumulated deficit	(33,752)		
Total stockholders' (deficit) equity	(32,082)		

(1) On a pro forma basis to give effect to (i) the automatic conversion of all outstanding shares of our convertible preferred stock into an aggregate of shares of our common stock as if such conversion had occurred as of December 31, 2021, and (ii) the filing and effectiveness of our amended and restated certificate of incorporation in connection with the completion of this offering.

(2) On a pro forma as adjusted basis to give effect to (i) the pro forma adjustments described above and (ii) our issuance and sale of shares of 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.

(3) 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 and cash equivalents, working capital, total assets and total stockholders' (deficit) equity 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 and estimated offering expenses payable by us. A 1.0 million share increase (decrease) 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 and cash equivalents, working capital, total assets and total stockholders' (deficit) equity 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. This information is illustrative only and will depend on the actual initial public offering price and other terms of this offering determined at pricing.

(4) 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.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully read and consider all of the risks described below, as well as the other information in this prospectus, including our financial statements and the related notes and the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations," before deciding whether to invest in our common stock. The occurrence of any of the events or developments described below could harm our business, financial condition, results of operations and growth prospects. Unless otherwise indicated, references to our business being harmed in these risk factors will include harm to our business, reputation, financial condition, results of operations and future prospects. In such an event, the market price of our common stock could decline, and you may lose all or part of your investment. Additional risks and uncertainties not presently known to us or that we currently deem immaterial also may impair our business operations and the market price of our common stock.

Risks Related to Our Financial Position and Need for Additional Capital

We have incurred significant losses since our inception, have no products approved for sale and we expect to incur losses for the foreseeable future.

Since inception, we have incurred significant operating losses. Our net losses were $1.9 million and $27.3 million for the years ended December 31, 2020 and 2021, respectively. As of December 31, 2021, we had an accumulated deficit of $33.8 million. To date, we have financed our operations primarily with the proceeds raised from the sale of our convertible preferred stock. We have devoted substantially all of our financial resources and efforts to research and development activities, business planning, establishing and maintaining our intellectual property portfolio, acquiring and developing product and technology rights, hiring personnel, leasing premises and associated capital expenditures, raising capital, and providing general and administrative support for these operations. We are still in the early stages of development of our programs and have only advanced one product candidate into clinical development. We expect to continue to incur significant expenses and operating losses for the foreseeable future. Our operating expenses and net losses may fluctuate significantly from quarter to quarter and year to year. We anticipate that our expenses will increase substantially if and as we:

- complete preclinical activities for our programs in DMD and DM1 and advance them into and through clinical development;
- advance any additional product candidates we identify through our research programs into IND- or CTA-enabling studies and clinical trials following regulatory clearance to commence clinical research;
- continue to develop and expand the capabilities of our proprietary EDO platform;
- seek marketing approvals for any product candidates that successfully complete clinical trials;
- obtain, expand, maintain, defend and enforce our intellectual property portfolio;
- hire additional clinical, regulatory and scientific personnel;
- establish manufacturing sources for our product candidates and secure supply chain capacity to provide sufficient quantities for preclinical and clinical development and commercial supply;
- ultimately establish a sales, marketing and distribution infrastructure to commercialize any products for which we may obtain marketing approval; and

- add operational, legal, compliance, financial and management information systems and personnel to support our research, product development and future commercialization efforts, as well as to support our operations as a public company.

Even if we obtain regulatory approval of, and are successful in commercializing, one or more of our product candidates, we will continue to incur substantial research and development and other costs to develop and market additional product candidates. We may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect our business. The size of our future net losses will depend, in part, on the rate of future growth of our expenses and our ability to generate revenue.

We have never generated revenue from product sales and may never achieve or maintain profitability.

While we have recently obtained authorization for our first CTA and initiated our first clinical trial, we have not completed any clinical trials for our product candidates. We expect that it will be many years, if ever, before we have a product candidate ready for commercialization. To become and remain profitable, we must succeed in developing, obtaining the necessary regulatory approvals for and eventually commercializing a product or products that generate significant revenue. The ability to achieve this success will require us to be effective in a range of challenging activities, including:

- identifying product candidates and completing preclinical development of our product candidates;
- obtaining regulatory authorization to commence clinical trials and initiating and successfully completing such trials;
- obtaining marketing approval for our product candidates;
- manufacturing (or securing third-party manufacturers to manufacture), marketing and selling any products for which we may obtain regulatory approval;
- achieving market acceptance of any products for which we obtain regulatory approval as a viable treatment option; and
- satisfying any post-marketing requirements.

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. We are currently only in Phase 1 of clinical development for our first product candidate. Because of the numerous risks and uncertainties associated with product development, we are unable to accurately estimate or know the nature, timing or costs of the efforts that will be necessary to complete the preclinical and clinical development and commercialization of our product candidates or when, or if, we will be able to generate revenues or achieve profitability.

If we are successful in obtaining regulatory approval to market one or more of our product candidates, our revenue will be dependent, in part, upon the size of the markets in the territories for which we gain regulatory approval, the accepted price for the product, the ability to obtain coverage and reimbursement, and whether we own the commercial rights for that territory. If the number of our addressable patients is not as significant as we estimate, the indication approved by regulatory authorities is narrower than we expect, or the treatment population is narrowed by competition, physician choice or treatment guidelines, we may not generate significant revenue from sales of such products, even if approved.

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 could impair our ability to raise capital, maintain our research and development efforts, expand our business 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.

Even if we consummate this offering, we will need substantial additional funding. If we are unable to raise capital when needed, we could be forced to delay, scale back or discontinue our product development programs or future commercialization efforts.

We expect our expenses to increase substantially in connection with our ongoing activities, particularly as we identify, continue the research and development of, continue preclinical testing and initiate clinical trials of, arrange for the manufacturing of, and potentially seek marketing approval for any product candidates that successfully completes clinical testing. In addition, if we obtain marketing approval for any product candidate, we expect to incur significant commercialization expenses related to product manufacturing, marketing, sales and distribution. Furthermore, we expect to continue to incur additional costs associated with operating as a public company. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. If we are unable to raise capital when needed, on attractive terms or at all, we may be forced to delay, reduce or eliminate our research and development programs or future commercialization efforts.

As of December 31, 2021, we had cash and cash equivalents of $132.9 million. In July 2021, we raised aggregate gross proceeds of $21.0 million from the final milestone closing of our Series A-2 convertible preferred stock and, additionally, in July 2021, we raised aggregate gross proceeds of $112.5 million from the private placement of our Series B convertible preferred stock. We believe that the net proceeds from this offering, together with our existing cash and cash equivalents, will enable us to fund our operating expenses and capital expenditure requirements into . However, we have based this estimate on assumptions that may prove to be wrong, and our operating plan may change as a result of many factors currently unknown to us. As a result, we could deplete our capital resources sooner than we currently expect and could be forced to seek additional funding sooner than planned.

Our future capital requirements will depend on many factors, including:

- the scope, progress, costs and results of preclinical and clinical development for our product candidates;
- the scope, costs, timing and outcome of regulatory review of our product candidates;
- the cost and timing of manufacturing activities;
- the identification of additional research programs and product candidates;
- the costs and scope of the continued development of our EDO platform;
- the costs and timing of preparing, filing and prosecuting applications for patents, maintaining and enforcing our intellectual property rights and defending any intellectual property-related claims, including claims of infringement, misappropriation or other violations of third-party intellectual property;
- the costs and timing of future commercialization activities, including product manufacturing, marketing, sales and distribution, for any product candidate that receives marketing approval;
- the costs of satisfying any post-marketing requirements;
- the revenue, if any, received from commercial sales of our product candidates if marketing approval is received;
- the costs of operational, financial and management information systems and associated personnel;

- the associated costs in connection with any acquisition of in-licensed products, intellectual property and technologies; and
- the costs of operating as a public company.

Identifying potential product candidates and conducting preclinical testing 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 marketing approval and achieve product sales. In addition, even if we successfully develop product candidates and those are approved, we may not achieve commercial success. Our commercial revenues, if any, may not be sufficient to sustain our operations. 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.

Any additional fundraising efforts may divert our management from their day-to-day activities, which may adversely affect our operations. We cannot be certain that additional funding will be available on acceptable terms, when needed or at all. We have no committed source of additional capital and, if we are unable to raise additional capital in sufficient amounts, when needed or on terms acceptable to us, we may be required to significantly curtail, delay or discontinue one or more of our research or development programs or the commercialization of any product candidate, or be unable to expand our operations or otherwise capitalize on our business opportunities, as desired, which could materially affect our business, financial condition and results of operations. We could be required to seek collaborators for product candidates at an earlier stage than otherwise would be desirable or on terms that are less favorable than might otherwise be available or relinquish or license on unfavorable terms our rights to product candidates in markets where we otherwise would seek to pursue development or commercialization 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.

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

We commenced operations in 2018, have no products approved for commercial sale and have not generated any revenue from product sales. To date, our operations have been limited to organizing and staffing our company, business planning, executing collaborations, raising capital, licensing, conducting research activities, conducting preclinical studies of our programs, filing and prosecuting patent applications and providing general and administrative support for these operations. All of our research programs are still in the research or preclinical stage of development, and their risk of failure is high. We have not yet demonstrated our ability to successfully complete any clinical trials, obtain marketing approvals, manufacture product on a commercial scale or arrange for a third party to do so on our behalf, or conduct sales, marketing and distribution activities necessary for successful product commercialization. Consequently, any predictions you make about our future success or viability may not be as accurate as they could be if we had a longer operating history or a history of successfully developing and commercializing products.

Our limited operating history may make it difficult to evaluate our technology and industry and predict our future performance. Our limited history as an operating company makes 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. If we do not address these risks successfully, our business will suffer.

In addition, as our business grows, we may encounter unforeseen expenses, restrictions, difficulties, complications, delays and other known and unknown factors. We will need to transition at some point from a company with a research focus to a company capable of conducting development activities and then to a company supporting commercial activities. We may not be successful in such transitions. If we do not adequately address these risks and difficulties or successfully make such a transition, it could have a material adverse impact on our business.

Risks Related to Discovery, Development, Preclinical and Clinical Testing

We are very early in our development efforts. We have only advanced one product candidate into clinical development, and as a result it will be years before we commercialize a product candidate, if ever. If we are unable to advance our product 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 very early in our development efforts and have invested our research efforts to date in developing our EDO platform. We have a portfolio of research programs and are in the early stages of developing five product candidates—PGN-EDO51, PGN-EDODM1, PGN-EDO53, PGN-EDO45 and PGN-EDO44. We have completed CTA-enabling activities for our first product candidate, PGN-EDO51, and advanced this product candidate into a Phase 1 clinical trial; however, we have not completed IND- or CTA-enabling activities for any of our other product candidates or advanced any of our other product candidates into clinical trials. Our ability to generate product revenue, which we do not expect will occur for many years, if ever, will depend heavily on the successful clinical development and eventual commercialization of our product 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 authorization by the U.S. Food and Drug Administration, or FDA, of an IND and finalizing the trial design based on discussions with the FDA and other regulatory authorities. In the event that the FDA requires us to complete additional preclinical studies or we are required to satisfy other FDA requests prior to commencing clinical trials, the start of our first clinical trials may be delayed. 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 or impose stricter approval conditions than we currently expect. There are equivalent processes and risks applicable to CTAs in other countries, including countries in the European Union.

Commercialization of our product candidates will require preclinical and clinical development; regulatory approval; manufacturing supply, capacity and expertise; a commercial organization; and significant marketing efforts. The success of our product candidates will depend on many factors, including the following:

- timely and successful completion of preclinical studies, including toxicology studies, biodistribution studies and minimally efficacious dose studies in animals, where applicable;
- regulatory authorization to initiate clinical trials under INDs, CTAs or comparable foreign applications that allow commencement of our planned clinical trials or future clinical trials for our product candidates;
- successful initiation, enrollment and completion of clinical trials, including under the FDA's Good Clinical Practices, or GCPs, Good Laboratory Practices, or GLPs, and any additional regulatory requirements from foreign regulatory authorities;
- positive results from our clinical trials that support a finding of safety and effectiveness and an acceptable risk-benefit profile in the intended populations to the satisfaction of the applicable regulatory authorities;
- receipt of marketing approvals from applicable regulatory authorities, including the completion of any required post-marketing studies or trials;
- establishment of arrangements through our own facilities or 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 our product candidates;
- commercial launch of our product candidates, if approved, whether alone or in collaboration with others;
- acceptance of the benefits and use of our product candidates, including method of administration, if and when approved, by patients, the medical community and third-party payors;
- effective competition with other therapies;
- maintenance of a continued acceptable safety, tolerability and efficacy profile of our product candidates following marketing approval, including acceptable results from any post-approval studies or clinical trials agreed to by us or required by FDA or other regulatory authorities; and
- establishment and maintenance of healthcare coverage and adequate reimbursement by payors.

Many of these factors are beyond our control and 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 product candidates, which would materially harm our business. If we are unable to advance our product candidates to clinical development, obtain regulatory approval and ultimately commercialize our product candidates, or experience significant delays in doing so, our business will be materially harmed.

Drug development is a lengthy and expensive process, and preclinical and clinical testing is uncertain as to the outcome. We may encounter substantial delays in the commencement, enrollment or completion of our clinical trials and may never advance to clinical trials, or we may fail to demonstrate safety and effectiveness to the satisfaction of applicable regulatory authorities, which could prevent us from advancing or commercializing our product candidates on a timely basis, if at all.

The risk of failure in developing product candidates is high. It is impossible to predict when or if any product 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 product candidate, we must complete preclinical development, obtain regulatory authorization to commence clinical trials, and then conduct extensive clinical trials to demonstrate the safety and efficacy of product candidates in humans. To date, we have not yet completed a clinical trial of any product candidate.

Clinical trials may fail to demonstrate that our product 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 product candidate, we must complete extensive preclinical testing and studies that support clearance of our INDs, CTAs and other similar regulatory filings. We have submitted a CTA, which has been authorized in Canada, for our first product candidate only and cannot be certain whether regulatory authorities will authorize our proposed clinical program or if the outcome of our preclinical studies will ultimately support further development of our other product candidates or other future programs. Although our lead product candidate is currently in clinical development, we cannot be certain of the completion or outcome of our preclinical testing and studies for our other product candidates and cannot predict whether the FDA, EMA or comparable foreign regulatory authorities will accept our proposed clinical programs or whether the outcome of our preclinical testing and studies will ultimately support the further development of our other product 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. In addition, the progress and timing of our preclinical studies, including pharmacology and toxicology studies, may be impacted by the limited supply of NHPs needed for such studies. As a result, we cannot be sure that we will be able to submit INDs, CTAs and other similar regulatory filings for our preclinical programs on the timelines we expect, if at all, and we cannot be sure that submission of such regulatory filings will result in the FDA, European Medicines Agency, or EMA, or comparable foreign regulatory authorities allowing clinical trials to begin.

Furthermore, product 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 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 or timely completion of clinical development include:

- delays in reaching a consensus with regulatory authorities on trial design;
- delays in reaching agreement on acceptable terms with prospective clinical research organizations, or CROs, and clinical trial sites;
- delays in opening clinical trial sites or obtaining required institutional review board, or IRB, or independent ethics committee approval, or the equivalent review groups for sites outside the United States, at each clinical trial site;
- imposition of a clinical hold by regulatory authorities as a result of a serious adverse event or manufacturing concerns 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, which could lead us, or cause regulators to require us, to conduct additional clinical trials or abandon product development programs;
- 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 GCPs;
- failure by physicians to adhere to delivery protocols leading to variable results;
- delays in the testing, validation, manufacturing and delivery of our product candidates 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;
- inability to recruit patients to participate in a clinical trial, including as a result of competition with other pharmaceutical and biotechnology companies and the patient population size for our product candidates;
- delays in having patients complete participation in a clinical 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 product candidate that are viewed to outweigh its potential benefits;
- occurrence of serious adverse events associated with a product 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;
- 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.

Clinical trials must be conducted in accordance with the FDA and other applicable regulatory authorities' legal requirements, regulations or guidelines, and are subject to oversight by these governmental agencies and IRBs or ethics committees at the medical institutions where the clinical trials are conducted. We could encounter delays if a clinical trial is suspended or terminated by us, by the data safety monitoring board for such trial or by the FDA or any other regulatory authority, or if the IRBs of the institutions in which such trials are being conducted suspend or terminate the participation of their clinical investigators and sites subject to their review. Such authorities may suspend or terminate a clinical trial 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 candidate, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial.

In addition, disruptions caused by the ongoing COVID-19 pandemic may increase the likelihood that we encounter such difficulties or delays in initiating, enrolling, conducting or completing our planned and ongoing clinical trials.

Moreover, principal investigators for our clinical trials may serve as scientific advisors or consultants to us from time to time and receive compensation in connection with such services. Under certain circumstances, we may be required to report some of these relationships to the FDA or comparable foreign regulatory authorities. The FDA or comparable foreign regulatory authority may conclude that a financial relationship between us and a principal investigator has created a conflict of interest or otherwise affected interpretation of the trial. The FDA or comparable foreign regulatory authority may therefore question the integrity of the data generated at the applicable clinical trial site and the utility of the clinical trial itself may be jeopardized. This could result in a delay in approval, or rejection, of our marketing applications by the FDA or comparable foreign regulatory authority, as the case may be, and may ultimately lead to the denial of marketing approval of our product candidates.

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, if we make manufacturing or formulation changes to our product candidates, we may need to conduct additional studies to bridge our modified product candidates to earlier versions. Clinical trial delays also could shorten any periods during which we may have the exclusive right to commercialize our product candidates or allow our competitors to bring products to market before we do, which could impair our ability to successfully commercialize our product candidates and may harm our business, financial condition, results of operations and prospects.

Further, conducting clinical trials in foreign countries, as we plan to do for our product candidates, presents additional risks that may delay completion of our clinical trials. These risks include the failure of enrolled patients in foreign countries to adhere to clinical protocol as a result of differences in healthcare services or cultural customs, managing additional administrative burdens associated with foreign regulatory schemes, as well as political and economic risks relevant to such foreign countries.

Additionally, if the results of clinical trials are inconclusive or if there are safety concerns or serious adverse events associated with our product candidates, we may:

- be delayed in obtaining marketing approval for product 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, or REMS;
- be subject to the addition of labeling statements, such as warnings or contraindications;
- be sued; or
- experience damage to our reputation.

In particular, each of the conditions for which we plan to develop product candidates are rare genetic diseases with limited patient pools from which to draw for clinical trials. Further, because it can be difficult to diagnose these diseases in the absence of a genetic screen, we may have difficulty finding patients who are eligible to participate in our studies. The eligibility criteria of our clinical trials will further limit the pool of available study participants. Additionally, the process of finding and diagnosing patients may prove costly. The treating physicians in our clinical trials may also use their medical discretion in advising patients enrolled in our clinical trials to withdraw from our studies to try alternative therapies.

Our approach to the discovery and development of product candidates based on our EDO platform is unproven, and we may not be successful in our efforts to identify, discover or develop potential product candidates.

The success of our business depends upon our ability to identify, develop and commercialize products based on our proprietary EDO platform. Our current product candidates that have been developed through our EDO platform are disease-modifying peptide-conjugated oligonucleotides designed to treat a variety of degenerative neuromuscular diseases.

Our lead product candidate is currently in clinical-stage development, while our other product candidates are still in the research or preclinical stage of development and our approach to treating muscle disease is unproven. Our research programs may fail to identify potential product candidates for clinical development for a number of reasons. Our research methodology may be unsuccessful in identifying potential

product candidates and our potential product candidates may be shown to have harmful side effects in preclinical *in vitro* experiments or *in vivo* animal model studies. In addition, our potential product candidates may not show promising signals of therapeutic effect in such experiments, studies or they may have other characteristics that may make the product candidates impractical to manufacture, unmarketable or unlikely to receive marketing approval. Further, because all of our development programs are based on our EDO 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.

We have advanced our lead product candidate, PGN-EDO51, into the clinic, but have not yet advanced any other product candidates into clinical development. Although we are advancing our initial programs in DMD and DM1, our EDO platform may fail to yield additional product candidates for clinical development for a number of reasons, including those discussed in these risk factors. In addition:

- we may not be able to assemble sufficient resources to acquire or discover product candidates;
- competitors may develop alternatives that render our potential product candidates obsolete or less attractive;
- potential product candidates we develop may nevertheless be covered by third parties' patents or other intellectual property rights;
- potential product candidates may, on further study, be shown to have harmful side effects, toxicities or other characteristics that indicate that they are unlikely to be products that will receive marketing approval and achieve market acceptance;
- potential product candidates may not be effective in treating their targeted diseases or disorders;
- the market for a potential product candidate may change so that the continued development of that product candidate is no longer reasonable;
- a potential product candidate may not be capable of being produced in commercial quantities at an acceptable cost, or at all; or
- the regulatory pathway for a potential product candidate may be too complex and difficult to navigate successfully or economically.

If we are unable to identify and discover suitable product candidates for clinical development, this would adversely impact our business strategy and our financial position and share price and could potentially cause us to cease operations.

The outcome of preclinical studies and earlier-stage clinical trials may not be predictive of future results or the success of later preclinical studies and clinical trials.

We are in the early stages of our programs and have successfully completed CTA-enabling activities and initiated a clinical trial in Canada for our lead product candidate, but have not completed IND- or CTA-enabling activities for our other product candidates or advanced any other product candidates into clinical development. As a result, our belief in the capabilities of our platform is based on early research and preclinical studies, as our first clinical topline readout is anticipated by the end of 2022. However, the results of preclinical studies may not be predictive of the results of later preclinical studies or clinical trials, and the results of any early-stage clinical trials may not be predictive of the results of later clinical trials. In addition, initial success in clinical trials may not be indicative of results obtained when such trials are completed. Moreover, preclinical and clinical data are often susceptible to varying interpretations and analyses, and many companies that have believed

their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain marketing approval of their products. Our clinical trials may not ultimately be successful or support further clinical development of our product candidates. There is a high failure rate for product candidates proceeding through clinical trials. A number of companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in clinical development even after achieving encouraging results in earlier studies. Any such setbacks in our clinical development could materially harm our business and results of operations.

If we experience delays or difficulties in the enrollment of patients in clinical trials, our ability to complete clinical trials may be adversely impacted.

Identifying and qualifying patients to participate in clinical trials of our product candidates is critical to our success. We may not be able to identify, recruit and enroll a sufficient number of patients, or those with required or desired characteristics, to complete our clinical trials in a timely manner. Patient enrollment and trial completion is affected by factors including:

- perceived risks and benefits of novel unproven approaches;
- 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;
- eligibility and exclusion criteria;
- perceived risks and benefits of the product candidate under study;
- 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;
- ability to recruit clinical trial investigators of appropriate competencies and experience;
- patient referral practices of physicians;
- ability to monitor patients adequately during and after treatment; and
- other factors outside of our control, such as the ongoing COVID-19 pandemic.

Our inability to enroll a sufficient number of patients for clinical trials would result in significant delays and could require us to abandon one or more clinical trials altogether. Enrollment delays in these clinical trials may result in increased development costs for our product candidates, which would cause the value of our company to decline and limit our ability to obtain additional financing. Furthermore, we rely on and expect to continue to rely on CROs and clinical trial sites to ensure the proper and timely conduct of our clinical trials and we will have limited influence over their performance.

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. Many of the patients who end up receiving placebo may

perceive that they are not receiving the product 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. If we have difficulty enrolling or maintaining a sufficient number of patients to conduct our clinical trials, we may need to delay, limit or terminate clinical trials, any of which would harm our business, financial condition, results of operations and prospects.

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

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

Further, others, including regulatory agencies, may not accept or agree with our assumptions, estimates, calculations, conclusions or analyses or may interpret or weigh the importance of data differently, which could impact the value of the particular program, the approvability or commercialization of the particular product candidate or product and our company in general. In addition, the information we choose to publicly disclose regarding a particular study or clinical trial is based on what is typically extensive information, and you or others may not agree with what we determine is material or otherwise appropriate information to include in our disclosure.

If the interim, topline, or preliminary data that we report differ from actual results, or if others, including regulatory authorities, disagree with the conclusions reached, our ability to obtain approval for, and commercialize, our product candidates may be harmed, which could harm our business, operating results, prospects or financial condition.

We may attempt to secure approval from the FDA 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 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 or comparable foreign regulatory authorities, if our confirmatory trials do not verify clinical benefit, or if we do not comply with rigorous post-marketing requirements, the FDA or comparable foreign regulatory authorities may seek to withdraw accelerated approval.

We may in the future seek an accelerated approval for our one or more of our product candidates. Under the accelerated approval program, the FDA may grant accelerated approval to a product candidate designed to treat a serious or life-threatening condition that provides meaningful therapeutic benefit over available therapies upon a determination that the product 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 product's clinical benefit. If such post-approval studies fail to confirm the product's clinical benefit, the FDA may withdraw its approval. In addition, the FDA currently requires, unless otherwise informed by the agency, pre-approval of promotional materials for products receiving accelerated approval, which could adversely impact the timing of the commercial launch of the product.

In the European Union, or EU, under the centralized procedure, the European Medicines Agency's Committee for Medicinal Products for Human Use may perform an accelerated assessment of a marketing authorization application. Applicants requesting an accelerated assessment procedure must justify that the product candidate is expected to be of major public health interest, particularly from the point of view of therapeutic innovation. Prior to seeking accelerated approval for any of our product candidates, we intend to seek feedback from the FDA or similar foreign regulatory authorities and will otherwise evaluate our ability to seek and receive 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 similar application for accelerated approval or any other form of expedited development or review. Similarly, there can be no assurance that after subsequent FDA or similar foreign regulatory authorities feedback we will continue to pursue or apply for accelerated approval or any other form of expedited development or review, even if we initially decide to do so. Furthermore, if we decide to submit an application for accelerated approval or other expedited development or review for our product candidates, there can be no assurance that such submission or application will be accepted or that any expedited development or review will be granted on a timely basis, or at all. The FDA 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. A failure to obtain accelerated approval or any other form of expedited development or review for our product candidate would result in a longer time period to commercialization of such product candidate, if any, could increase the cost of development of such product candidate, and could harm our competitive position in the marketplace.

If any of our product candidates cause undesirable side effects or have other unexpected adverse properties, such side effects or properties could delay or prevent the initiation or completion of clinical trials regulatory approval, limit the commercial potential or result in significant negative consequences following any potential marketing approval.

We have not evaluated any product candidates in human clinical trials. It is impossible to predict when or if any of our product candidates will prove safe in humans. There can be no assurance that our technologies will not cause undesirable side effects.

Although other oligonucleotide therapeutics have received regulatory approval, ours is a novel approach to oligonucleotide therapy. As a result, there is uncertainty as to the safety profile of our product candidates compared to more well-established classes of therapies, or oligonucleotide therapeutics on their own. Moreover, there have been only a limited number of clinical trials involving the use of conjugated oligonucleotide therapeutics and only one ongoing trial involving the proprietary technology used in our EDO platform.

Results of our current and planned clinical trials could reveal a high and unacceptable severity and prevalence of side effects or unexpected characteristics. If any product candidates we develop are associated with

serious adverse events, undesirable side effects or unexpected characteristics, we may need to abandon their development or limit development to certain uses or subpopulations in which the serious adverse events, undesirable side effects or other characteristics are less prevalent, less severe or more acceptable from a risk-benefit perspective, any of which would have a material adverse effect on our business, financial condition, results of operations and prospects. In addition, regulatory authorities may draw different conclusions, require additional testing to confirm these determinations, require more restrictive labeling or deny regulatory approval of the product candidate. Many product candidates that initially showed promise in early-stage testing have later been found to cause side effects that prevented further clinical development of the product candidates.

It is possible that, as we test our product candidates in larger, longer and more extensive clinical trials, including with different dosing regimens, or as the use of our product candidates becomes more widespread following any 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, will be reported by patients. If such side effects become known later in development or upon approval, if any, such findings may harm our business, financial condition, results of operations and prospects significantly.

In addition, if our product candidates receive marketing approval, and we or others later identify undesirable side effects caused by treatment with such drug, a number of potentially significant negative consequences could result, including:

- regulatory authorities may suspend, limit or withdraw approvals of such product, or seek an injunction against its manufacture or distribution;
- we may be required to recall a product or change the way the drug is administered to patients;
- regulatory authorities may require additional warnings in the labeling, such as a contraindication or a boxed warning, or issue safety alerts, Dear Healthcare Provider letters, press releases or other communications containing warnings or other safety information about the product;
- we may be required to change the way the product is administered or conduct additional clinical trials or post-approval studies;
- we may be required to implement a REMS, or create a medication guide outlining the risks of such side effects for distribution to patients;
- additional restrictions may be imposed on the marketing or promotion of the particular product or the manufacturing processes for the product or any component thereof;
- we may be subject to fines, injunctions or the imposition of criminal penalties;
- we could be sued and held liable for harm caused to patients;
- the drug could become less competitive; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of our lead product candidate or our other product candidates, if approved, and could significantly harm our business, financial condition, results of operations and prospects.

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

Because we have limited financial and managerial resources, we focus on research programs and expect to focus on product candidates that we identify for specific indications among many potential options. As a result, we may forego or delay pursuit of opportunities with other product candidates or for other indications that later prove to have greater commercial potential, or we may choose to focus our efforts and resources on a potential product candidate that ultimately proves to be unsuccessful. 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 product candidates for specific indications may not yield any commercially viable medicines. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through collaboration, licensing or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such product candidate. Any such event could have a material adverse effect on our business, financial condition, results of operations and prospects.

The increasing use of social media platforms presents new risks and challenges.

Social media is increasingly being used to communicate about pharmaceutical companies' clinical development activities, and we intend to utilize appropriate social media in connection with our development efforts. Additionally, patients may use social media channels to comment on their experience in an ongoing blinded clinical trial or to report an alleged adverse event. If such disclosures occur in the future once we commence our first clinical trials, there is a risk that trial enrollment may be adversely impacted, that we may fail to monitor and comply with applicable adverse event reporting obligations or that we may not be able to defend our business or the public's legitimate interests in the face of the political and market pressures generated by social media due to restrictions on what we may say about our product candidates. There is also a risk of inappropriate disclosure of sensitive or confidential information or negative or inaccurate posts or comments about us on any social networking website. In addition, we may encounter attacks on social media regarding our company, management or our product candidates. If any of these events were to occur or we otherwise fail to comply with applicable regulations, we could incur liability, face regulatory actions or incur other harm to our business.

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

We will face an inherent risk of clinical trial and product liability exposure related to the testing of product candidates that proceed to clinical trials, and we will face an even greater risk if we commercially sell any products that receive marketing approval. While we currently have only one product candidate in clinical development and none that have been approved for commercial sale, the future use of product 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 product candidates or products caused injuries, we will incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for our product candidates;
- injury to our reputation and significant negative media attention;
- withdrawal of clinical trial participants;
- significant costs to defend any related litigation;

- substantial monetary awards to trial participants or patients;
- loss of revenue;
- reduced resources of our management to pursue our business strategy; and
- the inability to commercialize our product candidates.

We have insurance coverage in place that we believe to be appropriate for our current phase of clinical development, but we may need to further increase this coverage for subsequent clinical trials, or if we commence commercialization of any product 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 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 intend to conduct certain of our clinical trials for our product candidates outside of the United States. However, the FDA and comparable foreign regulatory authorities may not accept data from such trials, in which case our development plans will be delayed, which could materially harm our business.

We are conducting our first clinical trial in Canada, and we intend to conduct one or more of our subsequent clinical trials for our product candidates outside the United States. Although the FDA may accept data from clinical trials conducted outside the United States, acceptance of this data is subject to certain conditions imposed by the FDA. Where data from foreign clinical trials are intended to serve as the basis for marketing approval in the United States, the FDA will not approve the application on the basis of foreign data alone unless those data are applicable to the U.S. population and U.S. medical practice; the studies were performed by clinical investigators of recognized competence; and the data are considered valid without the need for an on-site inspection by the FDA or, if the FDA considers such an inspection to be necessary, the FDA is able to validate the data through an on-site inspection or other appropriate means. For studies that are conducted only at sites outside of the United States and not subject to an IND, the FDA generally does not provide advance comment on the clinical protocols for the studies, and therefore there is an additional potential risk that the FDA could determine that the study design or protocol for a non-U.S. clinical trial was inadequate, which could require us to conduct additional clinical trials. In addition, even where the foreign study data are not intended to serve as the sole basis for approval, the FDA will not accept the data as support for an application for marketing approval unless the study is well-designed and well-conducted in accordance with GCP and the FDA is able to validate the data from the study through an onsite inspection if deemed necessary. Many foreign regulatory authorities have similar approval requirements. There can be no assurance the FDA will accept data from clinical trials conducted outside of the United States. If the FDA does not accept data from our clinical trials of our product candidates, it would likely result in the need for additional clinical trials, which would be costly and time consuming and delay or permanently halt our development of our product candidates.

Conducting clinical trials outside the United States also exposes us to additional risks, including risks associated with:

- additional foreign regulatory requirements;
- foreign exchange fluctuations;
- compliance with foreign manufacturing, customs, shipment and storage requirements;
- cultural differences in medical practice and clinical research; and
- diminished protection of intellectual property in some countries.

Risks Related to Our Dependence 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, or CMOs, for the manufacturing of any product candidates we test in preclinical or clinical development, as well as CROs for the conduct of our animal testing and research for the conduct of our current and planned clinical trials. Any of these third parties may terminate their engagements with us at any time. If we need to enter into alternative arrangements, it 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, we will remain responsible for ensuring that each of our IND- and CTA-enabling studies and clinical trials are conducted in accordance with the study plan and protocols. Moreover, the FDA requires us to comply with GCPs 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 GCPs, 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 GCP regulations. In addition, our clinical trials must be conducted with product produced under conditions that comply with the FDA's current Good Manufacturing Practices, or cGMPs. 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 preclinical studies and clinical trials for our product candidates, CROs will conduct some or all of the preclinical studies and 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.

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 the CROs and other third parties do not perform preclinical studies and 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 our product candidates may be delayed, we may not be able to obtain regulatory approval and commercialize our product 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.

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, CTA and other similar regulatory filings and potential approval of our product candidates.

In addition, there are few CMOs who have the capability to both, on the one hand, manufacture oligonucleotides and peptides, and, other, conjugate them, both of which processes are critical to the development and production of our product candidates. We are aware that one or more competitors have engaged many of these CMOs, which may hinder our ability to also contract with those CMOs. As a result, we may have difficulty finding and engaging sufficient third-party manufacturers to develop and manufacture our product candidates, which may affect our ability to conduct preclinical studies and clinical trials.

We currently depend on a small number of third-party suppliers to supply the product candidates that we are evaluating in our research programs. The loss of these or future third-party suppliers, or their inability provide us with sufficient supply, could harm our business.

We do not own or operate manufacturing facilities and have no current plans to develop our own clinical or commercial-scale manufacturing capabilities. We rely on a small number of third-party suppliers for the manufacture of the product candidates that we are evaluating in our research programs. We expect to continue to depend on third-party suppliers for the manufacture of any product candidates we advance into preclinical and clinical development, as well as for commercial manufacture if those product candidates receive marketing approval. The facilities used by third-party manufacturers to manufacture our product candidates must be approved by the FDA, the EMA and any comparable foreign regulatory authority pursuant to inspections that will be conducted after we submit a new drug application, or NDA, to the FDA or any comparable filing to the EMA or other foreign regulatory authority. We do not control the manufacturing process of, and are completely dependent on, third-party manufacturers for compliance with cGMP requirements for manufacture of products. If these third-party manufacturers cannot successfully manufacture material that conforms to our specifications and the strict regulatory requirements of the FDA, the EMA or any comparable foreign regulatory authority, they will not be able to secure and/or maintain regulatory approval for their manufacturing facilities.

In addition, we have no control over the ability of third-party manufacturers to maintain adequate quality control, quality assurance and qualified personnel. If the FDA, the EMA or any comparable foreign regulatory authority does not approve these facilities for the manufacture of our product candidates or if it withdraws any such approval in the future, we may need to find alternative manufacturing facilities, which would significantly impact our ability to develop, obtain regulatory approval for or market our product candidates, if approved. Our failure, or the failure of our third-party manufacturers, to comply with applicable regulations could result in sanctions being imposed on us, including clinical holds, fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, seizures or recalls of product candidates or products, operating restrictions and criminal prosecutions, any of which could significantly and adversely affect supplies of our product candidates.

We may also seek to eventually establish our own manufacturing facility for the long-term commercial supply of our product candidates for which receive regulatory approval, if any. If we determine to establish our own manufacturing facility and manufacture our products on our own, we will need to obtain the resources and expertise in order to build such manufacturing capabilities and to conduct such manufacturing operations. In addition, our conduct of such manufacturing operations will be subject to the extensive regulations and operational risks to which our third-party suppliers are subject. If we are not successful in building these capabilities or complying with the regulations or otherwise operating our manufacturing function, our commercial supply could be disrupted and our business could be materially harmed.

Our or a third party's failure to execute on our manufacturing requirements on commercially reasonable terms and in compliance with cGMP could adversely affect our business in a number of ways, including:

- an inability to initiate preclinical studies or clinical trials of product candidates;
- delays in submitting regulatory applications, or receiving marketing approvals, for product candidates;
- subjecting third-party manufacturing facilities or our manufacturing facilities to additional inspections by regulatory authorities;
- requirements to cease development or to recall batches of product candidates; and
- in the event of approval to market and commercialize any product, an inability to meet commercial demands for the product.

We are party to manufacturing agreements with a number of third-party manufacturers. We may be unable to maintain these agreements or establish any additional agreements with third-party manufacturers or to do so on acceptable terms. Even if we are able to maintain or establish agreements with third-party manufacturers, reliance on third-party manufacturers entails additional risks, including:

- failure of third-party manufacturers to comply with regulatory requirements and maintain quality assurance;
- breach of the manufacturing agreement by the third party;
- failure to manufacture according to our specifications;
- failure to manufacture according to our schedule or at all;
- misappropriation of our proprietary information, including our trade secrets and know-how; and
- termination or nonrenewal of the agreement by the third party at a time that is costly or inconvenient for us.

We may compete with third parties for access to manufacturing facilities. There are a limited number of manufacturers that operate under cGMP regulations and that might be capable of manufacturing for us.

We do not currently have arrangements in place for redundant supply or a second source for all required raw materials. If our existing or future third-party manufacturers cannot perform as agreed, we may be required to replace such manufacturers and we may be unable to replace them on a timely basis or at all.

Additionally, if supply from one approved manufacturer is interrupted, there could be a significant disruption in supply. An alternative manufacturer would need to be qualified and authorized pursuant to a submission to our approved NDA or NDA supplement which could result in further delay. Further, we will also need to verify, such as through comparability or bridging studies, that any new or modified manufacturing processes will produce our product candidate according to the specifications previously submitted to the FDA, the EMA or comparable foreign regulatory authorities. The delays associated with the verification of a new third-party manufacturer could negatively affect our ability to develop product candidates or commercialize our products in a timely manner or within budget. Furthermore, a third-party manufacturer may possess technology related to the manufacture of our product candidate that such third-party manufacturer owns independently. This would increase our reliance on such third-party manufacturer or require us to obtain a license from such third-party manufacturer in order to have another third-party manufacturer manufacture our product candidates. We may be unsuccessful in demonstrating the comparability of clinical supplies to those previously allowed into clinical development by the FDA, the EMA or comparable foreign regulatory authorities which could require the conduct of additional studies or clinical trials.

Switching manufacturers may involve substantial costs and is likely to result in a delay in our desired clinical and commercial timelines. These factors could cause the delay of clinical trials, regulatory submissions, required approvals or commercialization of our product candidates, cause us to incur higher costs and prevent us from commercializing our products successfully. Furthermore, if our suppliers fail to meet contractual requirements, and we are unable to secure one or more replacement suppliers capable of production at a substantially equivalent cost, our clinical trials may be delayed or we could lose potential revenue.

Our current and anticipated future dependence upon third parties for the manufacture of any product candidates we develop may adversely affect our development programs and our ability to commercialize any products that receive marketing approval on a timely and competitive basis.

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

Although we currently do not use any single-source supplier, we may from time to time depend on such suppliers for some of the components and materials used in our product candidates. 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 are required to switch to a replacement supplier, the manufacture and delivery of our product candidates 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. In the event that we should depend on single-source suppliers, we would seek to maintain adequate inventory of the single source components and materials used in our products; however, 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 with third parties for the research, development and commercialization of certain of our product candidates. If any such collaborations are not successful, we may not be able to capitalize on the market potential of those product candidates.

We may seek third-party collaborators for the research, development and commercialization of certain of our product candidates. 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 collaborators dedicate to the development or commercialization of any product candidates we may seek to develop with them. Our ability to generate revenues from these arrangements will depend on our collaborators' abilities to successfully perform the functions assigned to them in these arrangements. We cannot predict the success of any collaboration that we enter into.

Collaborations involving our research programs or our product candidates 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 pursue development and commercialization of our product candidates 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 product candidate, repeat or conduct new clinical trials or require a new formulation of a product candidate for clinical testing;
- collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our product candidates 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;
- disputes may arise between the collaborators and us that result in the delay or termination of the research, development, or commercialization of our product candidates or that result in costly litigation or arbitration that diverts management attention and resources;
- 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 affected product candidates; and
- collaboration agreements may not lead to development or commercialization of product candidates in the most efficient manner or at all.

If our collaborations do not result in the successful development and commercialization of product candidates, or if one of our collaborators terminates its agreement with us, we may not receive any future research funding or milestone or royalty payments under the collaboration. If we do not receive the funding we expect under these agreements, our development of product candidates could be delayed, and we may need additional resources to develop product 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 product 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 our product candidates 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 product 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 our product candidates will require substantial additional cash to fund expenses. For some of our product candidates, we may decide to collaborate with other pharmaceutical and biotechnology companies for the development and potential commercialization of those product 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 comparable foreign regulatory authorities, the potential market for the subject product candidate, the costs and complexities of manufacturing and delivering such product 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 product

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 product 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 product candidate.

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 ongoing 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 product 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. Any of these events could adversely affect our results of operations and our business.

Risks Related to Regulatory Approval and Other Regulatory and Legal Compliance Matters

Our lead product candidate is in clinical development, while all of our other product candidates are still in preclinical development. As an organization, we have never completed any clinical trials and may be unable to do so for any of our product candidates.

Although we are currently in clinical development for our first product candidate, we have no experience as a company in conducting, completing and managing the full suite of clinical trials necessary to obtain regulatory approvals, including approval by the FDA, the EMA or comparable foreign regulatory authorities, or in obtaining approval of any of our product candidate. We are early in our development efforts for our product candidates, and we have successfully completed CTA-enabling activities and commenced a clinical trial for our lead product candidate, PGN-EDO51, only. We will need to successfully complete IND- or CTA-enabling activities, Phase 1 clinical trials and later-stage and pivotal clinical trials, in order to obtain FDA, EMA or comparable foreign regulatory approval to market PGN-EDO51, PGN-EDODM1, PGN-EDO53, PGN-EDO45, PGN-EDO44 and any future product candidates.

Carrying out clinical trials and the submission of a successful NDA is a complicated process. We commenced our first Phase 1 clinical trial for PGN-EDO51 in the second quarter of 2022, and plan to commence our Phase 1/2 clinical trial for PGN-EDODM1 in DM1 patients in the first half of 2023, subject to receiving authorization to proceed under a CTA or IND. Based on our preclinical observations of levels of exon-skipping following administration of PGN-EDO51, as compared to an R_6G-PMO compound that we believe is equivalent

to a molecule currently under development by Sarepta, we expect to observe higher levels of exon skipping and dystrophin production by PGN-EDO51 in clinical testing. However, our belief in the equivalency of the R_6G-PMO compound that we tested in the preclinical setting may be erroneous. In addition, there can be no assurance that our expectations of higher exon skipping and dystrophin production will be reflected in clinical evaluation of PGN-EDO51.

Although we are currently engaged in a clinical trial for our lead product candidate, we have not previously conducted any clinical trials, have limited experience as a company in preparing, submitting and prosecuting regulatory filings, and have submitted a CTA, which was subsequently authorized in Canada, for our lead product candidate only. We have not previously submitted an IND or an NDA for any product candidate. In addition, we have had limited interactions with the FDA, the EMA and comparable foreign regulatory authorities and cannot be certain how many clinical trials of PGN-EDO51, PGN-EDODM1, PGN-EDO53 or any other product candidates will be required or how such trials should be designed. For example, the FDA has approved at least four drugs based on their minimal dystrophin production, and it is our belief that we may be able to pursue for accelerated approval of PGN-EDO51 on that same basis; however, we have not yet had any interactions with the FDA, the EMA or comparable foreign regulatory authorities regarding the potential for an accelerated approval program for PGN-EDO51 nor have we received feedback from the FDA, the EMA or comparable foreign regulatory authorities on the viability of this clinical strategy.

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 product candidates. We may require more time and incur greater costs than our competitors and may not succeed in obtaining regulatory approvals of product candidates that we develop. Failure to commence or complete, or delays in, our current or planned clinical trials, could prevent us from or delay us in submitting NDAs for and commercializing our product candidates.

Even if we complete the necessary preclinical studies and clinical trials, the marketing approval process is expensive, time-consuming and uncertain and may prevent us from obtaining approvals for the commercialization of our product candidates. If we are not able to obtain, or if there are delays in obtaining, required regulatory approvals, we will not be able to commercialize, or will be delayed in commercializing, our product candidates, and our ability to generate revenue will be materially impaired.

Our product candidates and the activities associated with their development and commercialization, including their design, testing, manufacture, safety, efficacy, recordkeeping, labeling, storage, approval, advertising, promotion, sale and distribution, are subject to comprehensive regulation by the FDA and other regulatory authorities in the United States, the EMA and comparable authorities in other countries. Failure to obtain marketing approval for a product candidate will prevent us from commercializing the product candidate in a given jurisdiction. We have not received approval to market any product candidates from regulatory authorities in any jurisdiction.

We have no experience as a company in submitting and supporting the applications necessary to gain marketing approvals and may need to rely on third parties to assist us in this process. Securing regulatory approval requires the submission of extensive preclinical and clinical data and supporting information to the various regulatory authorities for each therapeutic indication to establish the product candidate's safety and effectiveness. Securing regulatory approval also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities by, the relevant regulatory authority. Our product candidates may not be effective, may be only moderately effective or may prove to have undesirable or unintended side effects, toxicities, or other characteristics that may preclude our obtaining marketing approval or prevent or limit commercial use.

The process of obtaining marketing approvals, both in the United States and abroad, is expensive, may take many years if additional clinical trials are required, if approval is obtained at all, and can vary substantially

based upon a variety of factors, including the type, complexity and novelty of the product candidates involved. Of the large number of products in development, only a small percentage successfully complete the FDA, EMA or foreign regulatory approval processes and are commercialized. Even if our product candidates demonstrate safety and efficacy in clinical trials, the regulatory agencies may not complete their review processes in a timely manner, or we may not be able to obtain regulatory approval. Additional delays may result if an FDA Advisory Committee or other regulatory authority recommends non-approval or restrictions on approval. Changes in marketing approval policies during the development period, changes in or the enactment of additional statutes or regulations, or changes in regulatory review for each submitted product application, may cause delays in the approval or rejection of an application. The FDA, the EMA and comparable foreign regulatory authorities in other countries have substantial discretion in the approval process and may refuse to accept any application or may decide that our data is insufficient for approval and require additional preclinical, clinical or other studies. In addition, varying interpretations of the data obtained from preclinical and clinical testing could delay, limit or prevent marketing approval of a product candidate. If we experience delays in obtaining approval or if we fail to obtain approval of our product candidates, the commercial prospects for those product candidates may be harmed, and our ability to generate revenues will be materially impaired.

The FDA also has substantial discretion in the approval process. The number and types of preclinical studies and clinical trials that will be required for NDA approval varies depending on the product candidate, the disease or the condition that the product candidate is designed to treat and the regulations applicable to any particular product candidate. Despite the time and expense associated with preclinical studies and clinical trials, failure can occur at any stage.

Clinical trial failure may result from a multitude of factors including flaws in trial design, dose selection, patient enrollment criteria and failure to demonstrate favorable safety or efficacy traits, and failure in clinical trials can occur at any stage. Companies in the drug development industry frequently suffer setbacks in the advancement of clinical trials due to lack of efficacy or adverse safety profiles, notwithstanding promising results in earlier trials. Based upon negative or inconclusive results, we may decide, or regulators may require us, to conduct additional clinical trials or preclinical studies. In addition, data obtained from clinical trials is susceptible to varying interpretations, and regulators may not interpret our data as favorably as we do, which may further delay, limit or prevent marketing approval.

The FDA or any foreign regulatory authority could delay, limit or deny approval of a product candidate for many reasons, including because the FDA or such other regulatory authority:

- may disagree with the design or implementation of our trials;
- may not deem a product candidate to be safe or effective for its intended uses;
- determines that the product candidate does not have an acceptable benefit-risk profile;
- may not agree that the data collected from preclinical studies and clinical trials are acceptable or sufficient to support the submission of an NDA or other submission or to obtain regulatory approval, and may impose requirements for additional preclinical studies or clinical trials;
- may determine that adverse events experienced by participants in our clinical trials represent an unacceptable level of risk;
- may determine that the population studied in the clinical trial may not be sufficiently broad or representative to assure safety in the full population for which we seek approval;
- may not accept clinical data from trials that are conducted at clinical facilities or in countries where the standard of care is potentially different from that of the United States;

- may disagree regarding the formulation, labeling and/or specifications;
- may not approve the manufacturing processes associated with a product candidate or may determine that a manufacturing facility does not have an acceptable compliance status;
- may change approval policies or adopt new regulations; or
- may not file a submission due to, among other reasons, the content or formatting of the submission.

Even if we eventually complete clinical testing and receive approval of an NDA or foreign marketing application for any product candidates, the FDA, EMA or applicable foreign regulatory authority may grant approval or other marketing authorization contingent on the performance of costly additional clinical trials, including post-market clinical trials. For example, we expect that the FDA will require a post-marketing confirmatory trial of PGN-EDO51, if it is approved under the accelerated approval regulations requiring applicants to demonstrate clinical benefit in post-approval studies. The FDA, EMA or the applicable foreign regulatory authority also may approve or authorize for marketing a product candidate for a more limited indication or patient population that we originally request, and the FDA, EMA or applicable foreign regulatory authority may not approve or authorize the labeling that we believe is necessary or desirable for the successful commercialization of a product candidate. Any of these restrictions or commitments could render an approved product not commercially viable, which would materially adversely impact our business and prospects.

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

In order to market and sell our product candidates in the European Union 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 the EMA or 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 recent withdrawal of the United Kingdom from the European Union, commonly referred to as Brexit. Pursuant to the formal withdrawal arrangements agreed between the United Kingdom and the European Union, the United Kingdom withdrew from the European Union, effective December 31, 2020. On December 24, 2020, the United Kingdom and the European Union entered into a Trade and Cooperation Agreement. The agreement sets out certain procedures for approval and recognition of medical products in each jurisdiction.

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 product candidates in the United Kingdom and/or the European Union and restrict our ability to generate revenue and achieve and 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 European Union for our product candidates, which could significantly and materially harm our business.

We may seek one or more designations or expedited programs for one or more of our product candidates, but we might not receive such designations or be allowed to proceed on expedited program pathways, and even if we do and proceed on such expedited program pathways in the future, such designations or expedited programs may not lead to a faster development or regulatory review or approval process, and each designation does not increase the likelihood that any of our product candidates will receive marketing approval in the United States.

We may seek fast track designation for some of our product candidates. If a drug is intended for the treatment of a serious or life-threatening condition and nonclinical or clinical data for the drug demonstrates the potential to address an unmet medical need for such a condition, the drug sponsor may apply for fast track designation. The FDA has broad discretion whether or not to grant this designation, so even if we believe a particular product candidate is eligible for this designation, we cannot assure you that the FDA would decide to grant it. Even if we do receive fast track designation, we may not experience a faster development process, review or approval compared to conventional FDA procedures. The FDA may withdraw fast track designation if it believes that the designation is no longer supported by data from our clinical development program. Fast track designation alone does not guarantee qualification for the FDA's priority review procedures.

We may seek a breakthrough therapy designation for some of our product candidates. A breakthrough therapy is defined as a drug that is intended, alone or in combination with one or more other drugs, to treat a serious or life-threatening disease or condition, and preliminary clinical evidence indicates that the drug may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. For drugs 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. Drugs designated as breakthrough therapies by the FDA may also be eligible for priority review and accelerated approval. Designation as a breakthrough therapy is within the discretion of the FDA. Accordingly, even if we believe one of our product candidates meets the criteria for designation as a breakthrough therapy, the FDA may disagree and instead determine not to make such designation. In any event, the receipt of a breakthrough therapy designation for a product candidate may not result in a faster development process, review or approval compared to therapies considered for approval under conventional FDA procedures and does not assure ultimate approval by the FDA. In addition, even if one or more of our product candidates qualify as breakthrough therapies, the FDA may later decide that such product candidates no longer meet the conditions for qualification or decide that the time period for FDA review or approval will not be shortened.

In the future, we may also seek approval of product candidates under the FDA's accelerated approval pathway. A product may be eligible for accelerated approval if it is designed to treat a serious or life-threatening disease or condition and generally provides a meaningful advantage over available therapies upon a determination that the product 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 verity and describe the drug's clinical benefit. If the sponsor fails to conduct such studies in a timely manner, or if such post-approval studies fail to verify the drug's predicted clinical benefit, the FDA may withdraw its approval of the drug on an expedited basis. In addition, for products being considered for accelerated approval, the FDA generally requires, unless otherwise informed by the agency, that all advertising and promotional materials intended for dissemination or publication within 120 days of marketing approval be submitted to the agency for review during the pre-approval review period. There can be no assurance that FDA would allow any of the product candidates we may develop to proceed on an accelerated approval pathway, and even if FDA did allow such pathway, there can be no assurance that such submission or application will be accepted or that any expedited development, review or approval will be granted on a timely basis, or at all. Moreover, even if we received accelerated approval, any post-approval studies required to confirm and verify clinical benefit may not show such benefit, which could lead to withdrawal of any approvals we have obtained.

If the FDA determines that a product candidate offers a treatment for a serious condition and, if approved, the product would provide a significant improvement in safety or effectiveness, the FDA may designate the product candidate for priority review. A priority review designation means that the goal for the FDA to review an application is six months, rather than the standard review period of ten months. We may request priority review for our product candidates. The FDA has broad discretion with respect to whether or not to grant priority review status to a product candidate, so even if we believe a particular product candidate is eligible for such designation or status, the FDA may decide not to grant it. Moreover, a priority review designation does not necessarily result in an expedited regulatory review or approval process or necessarily confer any advantage with respect to approval compared to conventional FDA procedures. Receiving priority review from the FDA does not guarantee approval within the six-month review cycle or at all.

We may pursue orphan drug designation for certain of our product candidates, and we may not be able to obtain such designation, or obtain or maintain the benefits of such designation including orphan drug exclusivity, and even if we do, that exclusivity may not prevent regulatory authorities from approving other competing products.

We may seek orphan drug designation for some of our product candidates; however, we may never receive such designations. Under the Orphan Drug Act, the FDA may designate a product as an orphan drug if it is a drug or biologic intended to treat a rare disease or condition, defined as a patient population of fewer than 200,000 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. Orphan drug designation must be requested before submitting an NDA. A similar regulatory scheme governs orphan products in the European Union.

Orphan drug designation entitles a party to financial incentives such as opportunities for grant funding towards clinical trial costs, tax advantages and application fee waivers. After the FDA grants orphan drug designation, the generic identity of the drug and its potential orphan use are disclosed publicly by the FDA. In addition, if a product candidate with an orphan drug designation subsequently receives the first marketing approval for the indication for which it has such designation, the product is entitled to a period of marketing exclusivity, which precludes the FDA from approving another marketing application for the same product for the same therapeutic indication for that seven years.

Even if we obtain orphan drug exclusivity for a product, that exclusivity may not effectively protect the product from competition because different products can be approved for the same condition. In addition, even after an orphan drug is approved, the FDA can subsequently approve the same product for the same condition if the FDA concludes that the later product is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care. Orphan drug exclusivity may also be lost if the FDA determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the product to meet the needs of the patients with the rare disease or condition. Further, even if we obtain orphan drug designation, we may not be the first to obtain marketing approval for any particular orphan indication due to the uncertainties associated with developing pharmaceutical products.

The FDA may further reevaluate the Orphan Drug Act and its regulations and policies. We do not know if, when, or how the FDA may change the orphan drug regulations and policies in the future, and it is uncertain how any changes might affect our business. Depending on what changes the FDA may make to its orphan drug regulations and policies, our business could be adversely impacted.

Even if we receive regulatory approval for any of our product candidates, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense. Additionally, our product candidates, if approved, could be subject to post-market study requirements, marketing and labeling restrictions, and even recall or market withdrawal if unanticipated safety issues are discovered following approval. In addition, we may be subject to penalties or other enforcement action if we fail to comply with regulatory requirements.

The FDA, the EMA or a comparable foreign regulatory authority may not approve any of our product candidates derived from our platform. However, if the FDA, EMA or comparable foreign regulatory authority approves any of our product candidates, the manufacturing processes, labeling, packaging, distribution, adverse event reporting, storage, advertising, promotion and recordkeeping for the product will be subject to extensive and ongoing regulatory requirements. These requirements include submissions of safety and other post-marketing information and reports, conformance with applicable product tracking and tracing requirements, establishment registration and listing, as well as continued compliance with cGMPs and GCPs for any clinical trials that we conduct post-approval. Any regulatory approvals that we receive for our product candidates may also be subject to limitations on the approved indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing studies, and surveillance to monitor the safety and efficacy of the product. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with our third-party manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may result in, among other things:

- restrictions on the marketing or manufacturing of the product, withdrawal of the product from the market, or voluntary or mandatory product recalls;
- restrictions on our ability to conduct clinical trials, including full or partial clinical holds on ongoing or planned trials;
- restrictions on product distribution or use, or requirements to conduct post-marketing studies or clinical trials;
- fines, warning letters or other regulatory enforcement action;
- refusal by the FDA, the EMA or comparable foreign regulatory authorities to approve pending applications or supplements to approved applications filed by us;
- product seizure or detention, or refusal to permit the import or export of products; and
- injunctions or the imposition of civil or criminal penalties.

The occurrence of any event or penalty described above may inhibit our ability to commercialize our product candidates and generate revenue and could require us to expend significant time and resources in response and could generate negative publicity.

In addition, the FDA's, EMA's and other foreign regulatory authorities' policies may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained, which would adversely affect our business, prospects and ability to achieve or sustain profitability.

Any product candidate for which we obtain marketing approval will be subject to restrictions, such as the laws and regulations prohibiting the promotion of off-label uses, or may need to be withdrawn from the market, and we may be subject to substantial penalties if we fail to comply with regulatory requirements or if we experience unanticipated problems with our medicines, when and if any of them are approved.

The FDA, EMA and other foreign regulatory authorities closely regulate the post-approval marketing and promotion of medicines to ensure that they are marketed only for the approved indications and in accordance with the provisions of the approved labeling. The FDA, EMA and other foreign regulatory authorities impose stringent restrictions on manufacturers' communications regarding off-label use. In particular, a product may not be promoted for uses that are not approved by the FDA, EMA and other foreign regulatory authorities as reflected in the product's approved labeling. If we receive marketing approval for a product candidate, physicians may nevertheless prescribe it to their patients in a manner that is inconsistent with the approved label. If we are found to have promoted such off-label uses, we may be subject to enforcement action for off-label marketing by the FDA and other federal and state enforcement agencies, including the Department of Justice. Violation of the Federal Food, Drug, and Cosmetic Act and other statutes, including the False Claims Act, relating to the promotion and advertising of prescription products may also lead to investigations or allegations of violations of federal and state healthcare fraud and abuse laws and state consumer protection laws. The federal government has levied large civil and criminal fines against companies for alleged improper promotion of off-label use and has enjoined several companies from engaging in off-label promotion. The government has also required companies to enter into consent decrees and/or imposed permanent injunctions under which specified promotional conduct is changed or curtailed. If we cannot successfully manage the promotion of our product candidates, if approved, we could become subject to significant liability, which would materially adversely affect our business and financial condition.

In addition, later discovery of previously unknown problems with our medicines, manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may yield various results, including:

- restrictions on such medicines, manufacturers or manufacturing processes;
- restrictions on the labeling or marketing of a medicine;
- restrictions on the distribution or use of a medicine;
- requirements to conduct post-marketing clinical trials;
- receipt of warning or untitled letters;
- withdrawal of the medicines from the market;
- refusal to approve pending applications or supplements to approved applications that we submit;
- recall of medicines;
- fines, restitution or disgorgement of profits or revenue;
- suspension or withdrawal of marketing approvals;
- suspension of any ongoing clinical trials;
- refusal to permit the import or export of our medicines;
- product seizure; and
- injunctions or the imposition of civil or criminal penalties.

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 product candidates we develop and adversely affect our business, financial condition, results of operations and prospects.

Additionally, if any of our product candidates receive marketing approval, the FDA could require us to adopt a REMS to ensure that the benefits outweigh its risks, which may include, among other things, a medication guide outlining the risks of the product for distribution to patients and a communication plan to healthcare practitioners. Furthermore, if we or others later identify undesirable side effects caused by our product candidate, several potentially significant negative consequences could result, including:

- regulatory authorities may suspend or withdraw approvals of such product candidate;
- regulatory authorities may require additional warnings on the label;
- we may be required to change the way a product candidate is administered or conduct additional clinical trials;
- we could be sued and held liable for harm caused to patients; and
- our reputation may suffer.

We and our contract manufacturers are subject to significant regulation. The manufacturing facilities on which we rely may not continue to meet regulatory requirements, which could materially harm our business.

All entities involved in the preparation of product candidates for clinical trials or commercial sale, including any contract manufacturers, are subject to extensive regulation. Components of a finished therapeutic product approved for commercial sale or used in late-stage clinical trials must be manufactured in accordance with cGMP regulations. These regulations govern manufacturing processes and procedures (including record keeping) and the implementation and operation of quality systems to control and assure the quality of investigational products and products approved for sale. Poor control of production processes can lead to the introduction of adventitious agents or other contaminants or to inadvertent changes in the properties or stability of our product candidates that may not be detectable in final product testing. We or our contract manufacturer must supply all necessary documentation in support of an NDA on a timely basis and must adhere to the FDA's cGMP regulations enforced through its facilities inspection program. Our facilities and quality systems and the facilities and quality systems of some or all of our third-party contractors must pass a pre-approval inspection for compliance with the applicable regulations as a condition of regulatory approval of our product candidates. In addition, the regulatory authorities may, at any time, audit or inspect a manufacturing facility involved with the preparation of our product candidates or our other potential products or the associated quality systems for compliance with the regulations applicable to the activities being conducted. If these facilities do not pass a pre-approval plant inspection, FDA approval of the products will not be granted.

The regulatory authorities also may, at any time following approval of a product for sale, audit any of our future manufacturing facilities or those of our third-party contractors. If any such inspection or audit identifies a failure to comply with applicable regulations or if a violation of our product specifications or applicable regulations occurs independent of such an inspection or audit, we or the relevant regulatory authority may require remedial measures that may be costly and/or time-consuming for us or a third party to implement and that may include the temporary or permanent suspension of a clinical trial or commercial sales or the temporary or permanent closure of a facility. Any such remedial measures imposed upon us or third parties with whom we contract could materially harm our business.

If we or any of our third-party manufacturers fail to maintain regulatory compliance, the FDA can impose regulatory sanctions including, among other things, refusal to approve a pending application for a new

product, or revocation of a pre-existing approval. Any such consequence would severely harm our business, financial condition and results of operations.

If we or any contract manufacturers and suppliers we engage fail to comply with environmental, health, and safety laws and regulations, we could become subject to fines or penalties or incur significant costs.

We and any contract manufacturers and suppliers we engage are subject to numerous federal, state and local environmental, health, and safety laws, regulations and permitting requirements, including those governing laboratory procedures; the generation, handling, use, storage, treatment and disposal of hazardous and regulated materials and wastes; the emission and discharge of hazardous materials into the ground, air and water; and employee health and safety. Our operations involve the use of hazardous and flammable materials, including chemicals. Our operations also produce hazardous waste. 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. Under certain environmental laws, we could be held responsible for costs relating to any contamination at third-party facilities. We also could incur significant costs associated with civil or criminal fines and penalties.

Compliance with applicable environmental laws and regulations may be expensive, and current or future environmental laws and regulations may impair our research and product development efforts. In addition, we cannot entirely eliminate the risk of accidental injury or contamination from these materials or wastes. 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 carry specific hazardous waste insurance coverage, and our property, casualty and general liability insurance policies specifically exclude coverage for damages and fines arising from hazardous waste exposure or contamination. Accordingly, in the event of contamination or injury, we could be held liable for damages or be penalized with fines in an amount exceeding our resources, and our clinical trials or regulatory approvals could be suspended.

In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws, regulations and permitting requirements. These current or future laws, regulations and permitting requirements may impair our research, development or production efforts. Failure to comply with these laws, regulations and permitting requirements also may result in substantial fines, penalties or other sanctions or business disruption. Any third-party contract manufacturers and suppliers we engage will also be subject to these and other environmental, health and safety laws and regulations. Liabilities they incur pursuant to these laws and regulations could result in significant costs or an interruption in operations, which could in turn have a material adverse effect on our business, financial condition, results of operations and prospects.

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

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

government has shut down several times and certain regulatory agencies, such as the FDA, have had to furlough critical FDA employees and stop critical activities.

Separately, in response to the ongoing COVID-19 pandemic, 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. Ongoing travel restrictions and other uncertainties continue to impact oversight operations both domestic and abroad and it is unclear when standard operational levels will resume. The FDA is continuing to complete mission-critical work, prioritize other higher-tiered inspectional needs (e.g., for-cause inspections), and carry out surveillance inspections using risk-based approaches for evaluating public health. Should the FDA determine that an inspection is necessary for approval and an inspection cannot be completed during the review cycle due to restrictions on travel, and the FDA does not determine a remote interactive evaluation to be adequate, the agency has stated that it generally intends to issue, depending on the circumstances, a complete response letter or defer action on the application until an inspection can be completed. During the COVID-19 public health emergency, a number of companies announced receipt of complete response letters due to the FDA's inability to complete required inspections for their applications. Regulatory authorities outside the United States may adopt similar restrictions or other policy measures in response to the ongoing COVID-19 pandemic. If a prolonged government shutdown occurs, or if global health concerns continue to prevent the FDA or other regulatory authorities from conducting their regular inspections, reviews or other regulatory activities, it could significantly impact the ability of the FDA or other regulatory authorities to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

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

Healthcare providers, physicians and third-party payors play a primary role in the recommendation and prescription of any product candidates that we develop for which we obtain marketing approval. Our 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 research, market, sell and distribute our medicines for which we obtain marketing approval. Restrictions under applicable federal and state healthcare laws and regulations include the following:

- the federal healthcare anti-kickback statute, which prohibits, among other things, persons from knowingly and willfully soliciting, offering, receiving or providing remuneration (including any kickback, bribe or rebate), directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, lease, order, arrangement or recommendation of, any good, facility, item or service, for which payment may be made under federal and state healthcare programs such as Medicare and Medicaid. 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;

- the federal civil and criminal false claims laws, including the federal False Claims Act, and civil monetary penalty laws which can be enforced through civil whistleblower or qui tam actions, impose civil and criminal penalties against individuals or entities for knowingly presenting or causing to be presented, to the federal government, claims for payment or approval from Medicare, Medicaid or other government payors that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government, with potential liability including mandatory treble damages and significant per-claim penalties. 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. 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 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, or HIPAA, which prohibits, among other things, knowingly and willfully executing, or attempting to execute, a scheme or artifice 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 in connection with the delivery of, or payment for, healthcare benefits, items or services relating to 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;

- the U.S. Physician Payments Sunshine Act and its implementing regulations, which requires certain manufacturers of drugs, devices, biologics and medical supplies that are reimbursable under Medicare, Medicaid, or the Children's Health Insurance Program, with specific exceptions, to report annually to CMS information related to certain payments and other transfers of value to physicians (currently defined to include doctors, dentists, optometrists, podiatrists and chiropractors), certain non-physician practitioners (nurse practitioners, certified nurse anesthetists, physician assistants, clinical nurse specialists, anesthesiology assistants and certified nurse midwives) as well as teaching hospitals. Manufacturers are also required to disclose ownership and investment interests held by physicians and their immediate family members;

- 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 customers.

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.

The provision of benefits or advantages to physicians to induce or encourage the prescription, recommendation, endorsement, purchase, supply, order or use of medicinal products is prohibited in the European Union. The provision of benefits or advantages to induce or reward improper performance generally is typically 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 EU.

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 European Union Member States. These requirements are provided in the national laws, industry codes or professional codes of conduct applicable in the European Union Member States. Failure to comply with these requirements could result in reputational risk, public reprimands, administrative penalties, fines or imprisonment.

The scope and enforcement 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 has led to a number of investigations, prosecutions, convictions and settlements in the healthcare industry. Ensuring that our internal operations and future business arrangements with third parties comply with applicable healthcare laws and regulations will involve substantial costs. We have entered into consulting and scientific advisory board arrangements with physicians and other healthcare providers, including some who could influence the use of our product candidates, if approved. Compensation under some of these arrangements includes the provision of stock or stock options in addition to cash consideration. 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, 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 are found to not be in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs and individual imprisonment. If any of the above occur, our ability to operate our business and our results of operations could be adversely affected.

Healthcare legislative reform discourse and potential or enacted measures may increase the difficulty and cost for us and any future collaborators to obtain marketing approval of and commercialize our product candidates and affect the prices we, or they, may obtain.

Payors, whether domestic or foreign, or governmental or private, are developing increasingly sophisticated methods of controlling healthcare costs and those methods are not always specifically adapted for new technologies such as gene therapy and therapies addressing rare diseases such as those we are developing. In both the United States and certain foreign jurisdictions, there have been a number of legislative and regulatory changes to the health care system that could impact our ability to sell our products profitably. In particular, in 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, or collectively, the ACA, was enacted, which, 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 numerous executive and legal challenges and Congressional actions to repeal and replace provisions of the law. 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 U.S. Budget Control Act of 2011, among other things, included aggregate reductions of Medicare payments to providers of 2% per fiscal year. These reductions went into effect on April 1, 2013 and, due to subsequent legislative amendments to the statute, will remain in effect through 2030, with the exception of a temporary suspension from May 1, 2020 through March 31, 2022 due to the COVID-19 pandemic. Following the temporary suspension, a 1% payment reduction will occur beginning April 1, 2022 through June 30, 2022, and the 2% payment reduction will resume on July 1, 2022.

- In January 2013, the American Taxpayer Relief Act of 2012 became 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. These new laws may result in additional reductions in Medicare and other healthcare funding and otherwise affect the prices we may obtain for any of our product candidates for which we may obtain regulatory approval or the frequency with which any such product candidate is prescribed or used.

- On January 2, 2013, the U.S. American Taxpayer Relief Act of 2012 was signed into law, which, among other things, further reduced Medicare payments to several types of providers.

- On April 13, 2017, CMS published a final rule that gave states greater flexibility 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.

- 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 new drug 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 pharmaceutical manufacturer to make its drug products available to eligible patients as a result of the Right to Try Act.

- On May 23, 2019, CMS published a final rule to allow Medicare Advantage Plans the option of using step therapy for Part B drugs beginning January 1, 2020.

- On March 11, 2021, President Biden signed the American Rescue Plan Act of 2021 into law, which eliminates the statutory Medicaid drug rebate cap, currently set at 100% of a drug's average manufacturer price, for single source and innovator multiple source drugs, beginning January 1, 2024.

Additionally, there has been increasing legislative and enforcement interest in the United States with respect to drug pricing practices. Specifically, there has been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products, which has resulted in several U.S. Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to drug pricing, reduce the cost of prescription drugs under Medicare, and review the relationship between pricing and manufacturer patient programs.

At the state level, individual states are increasingly aggressive in passing legislation and implementing regulations designed to control pharmaceutical and biological 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. In addition, regional healthcare authorities and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription drug and other healthcare programs. These measures could reduce the ultimate demand for our products, once approved, or put pressure on our product pricing. We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for our product candidates or additional pricing pressures.

We expect that the ACA, as well as other healthcare reform measures that may be adopted in the future, may result in additional reductions in Medicare and other healthcare funding, more rigorous coverage criteria, lower reimbursement, and new payment methodologies. This could lower the price that we receive for our products. Any denial in coverage or reduction in reimbursement from Medicare or other government-funded programs may result in a similar denial or reduction in payments from private payors, which may prevent us from being able to generate sufficient revenue, attain profitability or commercialize our products. It is not clear how other future potential changes to the ACA will change the reimbursement model and market outlook for our current and future product candidates.

Our employees, principal investigators, consultants and commercial partners may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements and insider trading.

We are exposed to the risk of fraud or other misconduct by our employees, consultants and partners, and, if we commence clinical trials, our principal investigators. Misconduct by these parties could include intentional failures to comply with FDA regulations or the regulations applicable in the European Union and other jurisdictions, provide accurate information to the FDA, the European Commission and other regulatory authorities, comply with healthcare fraud and abuse laws and regulations in the United States and abroad, report financial information or data accurately, or disclose unauthorized activities to us. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Such misconduct also could involve the improper use of information obtained in the course of clinical trials or interactions with the FDA, the European Commission and other regulatory authorities, which could result in regulatory sanctions and cause serious harm to our reputation.

It is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from government investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, financial condition, results of operations and prospects, including the imposition of significant fines or other sanctions.

Laws and regulations governing any international operations we may have in the future may preclude us from developing, manufacturing and selling certain product candidates outside of the United States and require us to develop and implement costly compliance programs.

We are subject to numerous laws and regulations in each jurisdiction outside the United States in which we operate. The creation, implementation and maintenance of international business practices compliance programs is costly and such programs are difficult to enforce, particularly where reliance on third parties is required.

The Foreign Corrupt Practices Act, or FCPA, prohibits any U.S. individual or business from paying, offering, or authorizing the provision of money or anything of value, directly or indirectly through parties, to any foreign official, official of a public international organization, or political party official or candidate for the purpose of influencing any act or decision of the foreign entity in order to assist the individual or business in obtaining or retaining business. The FCPA also obligates companies whose securities are listed in the United States to comply with certain accounting provisions requiring the company to maintain books and records that accurately and fairly reflect all transactions of the corporation, including international subsidiaries, and to devise and maintain an adequate system of internal accounting controls for international operations. The anti-bribery provisions of the FCPA are enforced primarily by the Department of Justice. The Securities and Exchange Commission, or SEC, is involved with enforcement of the books and records provisions of the FCPA.

Compliance with the FCPA and other anti-corruption laws potentially applicable to our business is expensive and difficult, particularly in countries in which corruption is a recognized problem. In addition, compliance with the FCPA and other anti-corruption laws presents particular challenges in the pharmaceutical industry, because, in many countries, hospitals are operated by the government, and doctors and other hospital employees are considered foreign officials.

Various U.S. export and sanctions laws, regulations and executive orders also restrict the use and dissemination outside of the United States, or the sharing with certain non-U.S. nationals, of certain products and technical data relating to those products. Furthermore, such export and sanctions laws include restrictions or prohibitions on the sale or supply of certain products and services to United States embargoed countries or sanctioned countries, governments, persons and entities. Our expansion outside of the United States has required, and will continue to require, us to dedicate additional resources to comply with these laws, and these laws may preclude us from developing, manufacturing or selling certain drugs and drug candidates outside of the United States, which could limit our growth potential and increase our development costs. The failure to comply with laws governing international business practices may result in substantial penalties, including suspension or debarment from government contracting. Violation of the FCPA and export and sanctions laws can result in significant civil and criminal penalties, imprisonment, the loss of export or import privileges, debarment, breach of contract and fraud litigation, reputational harm, and other consequences. Indictment alone under the FCPA can lead to suspension of the right to do business with the U.S. government until the pending claims are resolved. Conviction of a violation of the FCPA can result in long-term disqualification as a government contractor. The termination of a government contract or relationship as a result of our failure to satisfy any of our obligations under laws governing international business practices would have a negative impact on our operations and harm our reputation and ability to procure government contracts. The SEC also may suspend or bar issuers from trading securities on U.S. exchanges for violations of the FCPA's accounting provisions.

We are subject to stringent data protection, privacy, and security laws, regulations, standards and contractual obligations and actual or perceived failure to comply with such requirements could have a material adverse effect on our business, financial condition, results of operations or prospects.

We are subject to data privacy and protection laws, regulations, policies, standards and contractual obligations that impose certain requirements relating to the collection, transmission, storage and use of personal information. The legislative and regulatory landscape for data privacy and protection continues to evolve in jurisdictions worldwide, and there has been an increasing focus on privacy and data protection issues. Actual or perceived failure to comply with laws and regulations governing personal information could result in government investigations and enforcement actions against us, fines, claims for damages by affected third parties, damage to our reputation and loss of goodwill, any of which could have a material adverse effect on our business, financial condition, results of operations or prospects.

The regulatory framework for the collection, use, safeguarding, sharing, transfer and other processing of personal information worldwide is rapidly evolving and is likely to remain uncertain for the foreseeable future. Globally, virtually every jurisdiction in which we operate has established its own data security and privacy frameworks with which we must comply. For example, the collection, use, disclosure, transfer or other processing of personal data, including personal health data, of individuals in the European Economic Area, or EEA, is subject to the European Union General Data Protection Regulation (EU) 2016/679, or the GDPR, as well as national data protection laws in effect in the member states of the EEA. The GDPR went into effect in May 2018, and imposes stringent requirements on companies that process personal data, including requirements relating to processing health-related and other sensitive data, obtaining consent of the individuals to whom the personal data relates, establishing a legal basis for processing, providing information to individuals regarding data processing activities, implementing safeguards to protect the security and confidentiality of personal data that requires the adoption of administrative, physical and technical safeguards to protect such information, providing notification of data breaches to appropriate data protection authorities or data subjects, establishing means for data subjects to exercise rights in relation to their personal data and taking certain measures when engaging third-party processors. The GDPR increases our obligations with respect to clinical trials conducted in the EEA by expanding the definition of personal data to include coded data and requiring changes to informed consent practices and more detailed notices for clinical trial subjects and investigators. In addition, the GDPR 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. It also provides that EEA member states may make their own laws and regulations limiting the processing of personal data, including genetic, biometric or health data. Noncompliant companies face significant fines, which can be up to 4% of global revenues or €20 million, whichever is greater. Further, from January 1, 2021, companies have had to comply with the GDPR and also the United Kingdom GDPR, or the UK GDPR, which, together with the amended UK Data Protection Act 2018, retains the GDPR in UK national law. The UK GDPR mirrors the fines under the GDPR, i.e. fines up to the greater of €20 million (£17.5 million) or 4% of global turnover. The relationship between the United Kingdom and the European Union in relation to certain aspects of data protection law remains unclear, and it is unclear how United Kingdom data protection laws and regulations will develop in the medium to longer term.

Among other requirements, the GDPR and UK GDPR regulate transfers of personal data subject to the GDPR to third countries that have not been found to provide adequate protection to such personal data, including the United States. Switzerland has also adopted similar restrictions on transfer of personal data outside of its borders. In July 2020, the Court of Justice of the EU, or the CJEU, limited how organizations could lawfully transfer personal data from the EU/EEA to the United States by invalidating the Privacy Shield for purposes of international transfers and imposing further restrictions on the use of standard contractual clauses or SCCs. The European Commission issued revised SCCs on June 4, 2021 to account for the decision of the CJEU and recommendations made by the European Data Protection Board. The revised SCCs must be used for relevant new data transfers from September 27, 2021; existing standard contractual clauses arrangements must be migrated to the revised clauses by December 27, 2022. The new SCCs apply only to the transfer of personal data outside of

the EEA and not the UK; the UK's Information Commissioner's Office launched a public consultation on its draft revised data transfers mechanisms in August 2021. For the United Kingdom, the European Commission has adopted an adequacy decision in favor of the United Kingdom, enabling data transfers from EU member states to the United Kingdom without additional safeguards. However, the UK adequacy decision will automatically expire in June 2025 unless the European Commission re-assesses and renews or extends that decision and remains under review by the Commission during this period. In September 2021, the UK government launched a consultation on its proposals for wide-ranging reform of UK data protection laws following Brexit. There is a risk that any material changes which are made to the UK data protection regime could result in the European Commission reviewing the UK adequacy decision, and the UK losing its adequacy decision if the European Commission deems the UK to no longer provide adequate protection for personal data. As supervisory authorities issue further guidance on personal data export mechanisms, including circumstances where the SCCs cannot be used, and/or start taking enforcement action, we could suffer additional costs, complaints and/or regulatory investigations or fines, and/or if we are otherwise unable to transfer personal data between and among countries and regions in which we operate, it could affect the manner in which we provide our services, the geographical location or segregation of our relevant systems and operations, and could adversely affect our financial results.

If we are unable to implement a valid solution for personal data transfers from the EEA, United Kingdom or Switzerland, including, for example, obtaining individuals' explicit consent to transfer their personal data from the EEA, United Kingdom, and Switzerland to the United States or other countries, we will face increased exposure to regulatory actions, substantial fines and injunctions against processing personal data in those jurisdictions. Inability to import personal data from the EEA, United Kingdom or Switzerland may also restrict our clinical trials activities in those jurisdictions; limit our ability to collaborate with contract research organizations as well as other service providers, contractors and other companies subject to data protection laws in those jurisdictions; and require us to increase our data processing capabilities in those jurisdictions at significant expense. Additionally, other countries outside of the EEA, United Kingdom, and Switzerland have enacted or are considering enacting similar cross-border data transfer restrictions and laws requiring local data residency, which could increase the cost and complexity of delivering our services and operating our business.

Given the breadth and depth of changes in data protection obligations, preparing for and complying with the GDPR and similar laws' requirements are rigorous and time intensive and require significant resources and a review of our technologies, systems and practices, as well as those of any third-party collaborators, service providers, contractors or consultants that process or transfer personal data. The GDPR and other changes in laws or regulations associated with the enhanced protection of certain types of sensitive data, such as healthcare data or other personal information from our clinical trials, could require us to change our business practices and put in place additional compliance mechanisms, may interrupt or delay our development, regulatory and commercialization activities and increase our cost of doing business, and could lead to government enforcement actions, private litigation and significant fines and penalties against us and could have a material adverse effect on our business, financial condition or results of operations.

Similar privacy and data security requirements are either in place or underway in the United States. There are numerous data protection laws that may be applicable to our activities, and a range of enforcement agencies at both the state and federal levels that can review companies for privacy and data security concerns based on general consumer protection laws. The Federal Trade Commission and state Attorneys General are aggressive in reviewing privacy and data security protections for consumers. New laws also are being considered or have been implemented at both the state and federal levels. For example, the California Consumer Privacy Act of 2018, or the CCPA, which became effective on January 1, 2020, requires companies that process information of California consumers (as defined under the CCPA) to provide disclosures to such consumers about their data collection, use and sharing practices, provides Californian consumers with new individual data privacy rights, imposes new operational requirements for covered businesses, provides a private right of action for data breaches and creates a statutory damages framework. Although there are limited exemptions for clinical trial data under the CCPA, the CCPA and other similar laws could impact our business activities depending on how such laws are interpreted. Additionally, effective starting on January 1, 2023, the California Privacy Rights Act, or the

CPRA, will significantly modify the CCPA, including by expanding consumers' rights with respect to certain sensitive personal information. The CPRA also creates a new state agency that will be vested with authority to implement and enforce the CCPA and the CPRA. Many other states are considering similar legislation, and a broad range of legislative measures also have been introduced at the federal level.

Further, regulations promulgated pursuant to HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, or collectively HIPAA, imposes privacy, security and breach notification obligations on health plans, healthcare clearinghouses and certain healthcare providers, known as covered entities, as well as their business associates that perform certain services that involve creating, receiving, maintaining or transmitting individually identifiable health information for or on behalf of such covered entities, and their covered subcontractors. HIPAA establishes privacy and security standards that limit the use and disclosure of protected health information, or PHI, and requires the implementation of administrative, physical and technological safeguards to protect the privacy of PHI and ensure the confidentiality, integrity and availability of electronic PHI. Most healthcare providers, including research institutions from which we obtain patient health information, are subject to HIPAA. We do not believe that we are currently acting as a covered entity or business associate under HIPAA and thus are not directly subject to its requirements. However, any person may be prosecuted under HIPAA's criminal provisions either directly or under aiding-and-abetting or conspiracy principles. Consequently, depending on the facts and circumstances, we could face substantial criminal penalties if we knowingly receive individually identifiable health information from a HIPAA-covered healthcare provider or research institution that has not satisfied HIPAA's requirements for disclosure of individually identifiable health information.

In addition to the risks associated with enforcement activities and potential contractual liabilities, our ongoing efforts to comply with evolving laws and regulations at the federal and state level may be costly and require ongoing modifications to our policies, procedures and systems. Further, any failure by our third-party collaborators, service providers, contractors or consultants to comply with applicable law, regulations or contractual obligations related to data privacy or security could result in proceedings against us by governmental entities or others.

We may also publish privacy policies and other documentation regarding our collection, processing, use and disclosure of personal information and/or other confidential information. Although we endeavor to comply with our published policies and other documentation, we may at times fail to do so or may be perceived to have failed to do so. Despite our efforts, we may not be successful in achieving compliance if our employees or vendors fail to comply with our published policies and documentation. Such failures can subject us to potential international, local, state and federal action if they are found to be deceptive, unfair, or misrepresentative of our actual practices. Claims that we have violated individuals' privacy rights or failed to comply with data protection laws or applicable privacy notices, even if we are not found liable, could be expensive and time-consuming to defend and could result in adverse publicity that could harm our business. We also face a threat of consumer class actions related to these laws and the overall protection of personal information. Even if we are not determined to have violated these laws, government investigations into these issues typically require the expenditure of significant resources and generate negative publicity, which could harm our reputation and our business, financial condition, results of operations or prospects.

If any of our product candidates obtains regulatory approval and does not receive appropriate periods of non-patent exclusivity, competitors could enter the market with generic versions of such products more quickly than we expect, which may result in a material decline in sales of our products.

Under the Drug Price Competition and Patent Term Restoration Act of 1984, or the Hatch-Waxman Amendments to the Federal Food, Drug, and Cosmetic Act, or the FDCA, a company may file an abbreviated new drug application, or ANDA, seeking approval of a generic version of an approved innovator product. Under the Hatch-Waxman Amendments, a company may also submit an NDA under section 505(b)(2) of the FDCA that references the FDA's prior approval of the innovator product. A 505(b)(2) NDA product may be for a new or

improved version of the original innovator product. The Hatch-Waxman Amendments also provide for certain periods of regulatory exclusivity, which preclude FDA approval (or in some circumstances, FDA filing and review) of an ANDA or 505(b)(2) NDA.

In the United States, once an NDA is approved, the product covered thereby becomes a "reference listed drug" in the FDA's publication, "*Approved Drug Products with Therapeutic Equivalence Evaluations*," or the Orange Book. Manufacturers may seek approval of generic versions of reference listed drugs through submission of abbreviated new drug applications, or ANDAs, in the United States. In support of an ANDA, a generic manufacturer generally must show that its product has the same active ingredient(s), dosage form, strength, route of administration, and adequate labeling as the reference listed drug and that the generic version is bioequivalent to the reference listed drug, meaning, in part, that it is absorbed in the body at the same rate and to the same extent. Generic products may be significantly less costly to bring to market than the reference listed drug and companies that produce generic products are generally able to offer them at lower prices. Moreover, many states allow or require substitution of therapeutically equivalent generic drugs at the pharmacy level even if the branded drug is prescribed. Thus, following the introduction of a generic drug, a significant percentage of the sales of any branded product or reference listed drug may be lost to the generic product.

The FDA may not finally approve an ANDA for a generic product until any applicable period of non-patent exclusivity for the reference listed drug has expired. The FDCA provides a period of five years of non-patent exclusivity for a new drug containing a new chemical entity, or NCE. For the purposes of this provision, an NCE is a drug that contains no active moiety that has previously been approved by the FDA in any other NDA. An active moiety is the molecule or ion responsible for the physiological or pharmacological action of the drug substance. Specifically, in cases where such exclusivity has been granted, an ANDA may not be filed with the FDA until the expiration of five years unless the submission is accompanied by a patent certification that a patent covering the listed drug is invalid unenforceable or will not be infringed by the generic product. In that case, the applicant may submit its application four years following approval of the listed drug and seek to launch its generic product even if we still have patent protection for our product unless an infringement suit is timely filed by the NDA or patent holder in which case the FDA cannot approve the ANDA for 30 months unless a court decision in favor of the generic manufacturer is issued earlier.

Three-year exclusivity is given to a drug if it contains an active moiety that has previously been approved, and the NDA includes reports of one or more new clinical investigations, other than bioavailability or bioequivalence studies, that were conducted by or for the applicant and are essential to the approval of the NDA. This form of marketing exclusivity is known as New Clinical Investigation, or NCI, exclusivity. If our product candidates are approved with only NCI exclusivity, generic manufacturers may file their ANDAs any time following approval of our product candidates and seek to launch their generic products following the expiration of the three year market exclusivity period, even if we still have patent protection for our product unless an infringement suit is timely filed triggering a 30 month stay on approval of the generic product (subject to the disposition of the patent litigation).

While we believe that our product candidates may be new chemical entities in the U.S., the FDA may determine, however, that they are not eligible for NCE exclusivity but receive three years of NCI exclusivity instead, if and when FDA approves an NDA for the product. If any product we develop does not receive five years of NCE exclusivity, the FDA may approve generic versions of such product three years after its date of approval, subject to any patents exclusivity we may have. If an ANDA applicant certifies to the invalidity or non-infringement of listed patents and an infringement suit is timely filed by the NDA or patent holder, the FDA cannot finally approve the ANDA for 30 months unless a court decision in favor of the generic manufacturer is issued earlier.

Accordingly, if any of our product candidates is approved, competitors could file ANDAs for generic versions of these products or 505(b)(2) NDAs that reference our product candidates. If there are patents listed for our product candidates in the Orange Book, any ANDA and 505(b)(2) NDA applicants would be required to

include a certification as to each listed patent indicating whether the ANDA applicant does or does not intend to challenge the patent. Because we remain early in the research and preclinical development of our product candidates, we cannot predict which, if any, patents in our current portfolio or patents we may obtain in the future will be eligible for listing in the Orange Book, how any generic competitor would address such patents, whether we would sue on any such patents or the outcome of any such suit.

We may not be successful in securing or maintaining proprietary patent protection for products and technologies we develop or license, despite expending a significant amount of resources that could have been focused on other areas of our business. Moreover, if any of our owned or in-licensed patents that are listed in the Orange Book are successfully challenged by way of a patent certification and subsequent litigation, the affected product could immediately face generic competition and its sales would likely decline rapidly and materially.

Risks Related to Commercialization

We face substantial competition, which may result in others discovering, developing or commercializing products before us or more successfully than we do.

The development and commercialization of new drug products is highly competitive. We face competition with respect to our product candidates from major pharmaceutical companies, specialty pharmaceutical companies and biotechnology companies worldwide. There are a number of large pharmaceutical and biotechnology companies that currently market and sell products or are pursuing the development of products for the treatment of many of the disorders for which we are conducting research programs. Some of these competitive products and therapies are based on scientific approaches that are the same as or similar to our approach, and others are based on entirely different approaches. Potential competitors also include academic institutions, government agencies and other public and private research organizations that conduct research, seek patent protection and establish collaborative arrangements for research, development, manufacturing and commercialization.

Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than our product candidates or that would render our product candidates obsolete or non-competitive. Our competitors also may obtain FDA, EMA or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market. Additionally, technologies developed by our competitors may render our potential product candidates uneconomical or obsolete, and we may not be successful in marketing our product candidates against competitors.

We expect to face competition from existing products and product candidates in development for each of our programs. 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., or PTC. People with DMD also use prednisone or prednisolone off-label. In addition, there are four FDA-approved exon skipping drugs: EXONDYS 51 (Eteplirsen), VYONDYS 53 (Golodirsen) and AMONDYS 45 (Casimersen), which are naked phosphorodiamidate morpholino oligonucleotides, or PMOs, approved for the treatment of DMD patients amenable to exon 51, exon 53 and exon 45 skipping, respectively, and are marketed by Sarepta Therapeutics, Inc., or Sarepta, VILTEPSO (Viltolarsen), a naked PMO approved for the treatment of DMD patients amenable to exon 53 skipping, which is marketed in the United States by NS Pharma. Companies focused on developing treatments for DMD that target dystrophin, as our DMD program does, 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, Dyne Therapeutics with DYN-251, an antibody-conjugated PMO that targets exon 51 skipping, BioMarin Pharmaceutical Inc. with BMN-351, a phosphorothioate oligonucleotide that targets exon 51 skipping, Wave Life Sciences Ltd. with WVE-N531, a stereopure oligonucleotide in Phase 1/2 clinical development for patients amenable to exon 53 skipping, Daiichi Sankyo with DS-5141b, an exon

skipping approach for exon 45 in clinical development, PTC with ataluren, a small molecule targeting nonsense mutations in a Phase 3 clinical trial, Nippon Shinyaku with NS-089/NCNP-02, an oligonucleotide that targets exon 44 skipping that is currently in clinical development, Avidity Biosciences, Inc., which is in preclinical development with AOC 1044, an antibody oligonucleotide conjugate that targets exon 44 skipping, and Entrada Therapeutics, Inc., which is in preclinical development with ENTR-601-44, a peptide oligonucleotide conjugate that targets exon 44 skipping. In addition, several companies are developing gene therapies to treat DMD, including Pfizer Inc. (PF-06939926), which is currently being assessed in a Phase 3 clinical trial, Sarepta (SRP-9001 and Galgt2 gene therapy program), the former of which is currently being assessed in a Phase 3 clinical trial, Solid Biosciences Inc. (SGT-001), currently in Phase 2 clinical development and REGENXBIO Inc (RGX-202), currently in Phase 1 clinical development. Astellas Gene Therapies is using AAV gene therapy approaches to skip exons in the dystrophin gene. Gene editing treatments that are in preclinical development are also being pursued by Vertex, Sarepta and Eli Lilly. We are also aware of several companies targeting non-dystrophin mechanisms for the treatment of DMD, including Edgewise Therapeutics with EDG-5506, a muscle stabilizer that is currently in clinical development.

There are currently no approved therapies to treat the underlying cause of DM1. Product 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 candidate in preclinical development by Astellas Gene Therapies; AOC 1001, an antibody linked siRNA in Phase 1/2 clinical development by Avidity Biosciences, Inc.; DYN-101, an antibody conjugated antisense oligonucleotide in preclinical development by Dyne Therapeutics; a microRNA small molecule approach by Arthex Biotech; an antisense peptide nucleic acid approach by NeuBase Therapeutics currently in preclinical development; gene editing treatments in preclinical development by Vertex Pharmaceuticals, Inc., or Vertex; an artificial site-specific RNA endonuclease gene therapy being developed by Enzerna Biosciences; an RNA-targeting gene therapy in preclinical development by Locana, Inc.; an approach by Design Therapeutics to prevent formation of CUG hairpins; an approach utilizing the interaction of small molecules with RNA in preclinical development by Expansion Therapeutics, Inc.; a peptide-conjugated PMO in preclinical development by Entrada Therapeutics; and therapeutics based on biomolecular condensate biology in preclinical development by Dewpoint Therapeutics, Inc.

We will also compete more generally with other companies developing alternative scientific and technological approaches, including other companies working to develop conjugates with oligonucleotides for extra-hepatic delivery, including Alnylam Pharmaceuticals, Aro Biotherapeutics, Arrowhead Therapeutics, Avidity Biosciences, Dicerna Pharmaceuticals, Inc., Dyne Therapeutics, Entrada Therapeutics, Ionis Pharmaceuticals, NeuBase Therapeutics, Inc., PYC Therapeutics and Sarepta, as well as gene therapy and gene editing approaches.

Many of the companies against which we compete or against which we may compete in the future have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals and marketing approved products than we do. Accordingly, our competitors may be more successful than us in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining approval for treatments and achieving widespread market acceptance, rendering our treatments obsolete or non-competitive.

Additionally, mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller and other early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These third parties compete with us in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs.

If we successfully obtain approval for any product candidate, we will face competition based on many different factors, including the safety and effectiveness of our products, the ease with which our products 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 of our products, if approved. Competitive products or technological approaches may make any products we develop, or our EDO platform, obsolete or noncompetitive before we recover the expense of developing and commercializing our product candidates. If we are unable to compete effectively, our opportunity to generate revenue from the sale of our products, if approved, could be adversely affected.

Even if one or more of our product candidates receives marketing approval, it may fail to achieve the degree of market acceptance by physicians, patients, third-party payors and others in the medical community necessary for commercial success.

If any of our product candidates progresses successfully through clinical development and receives marketing approval, it may nonetheless fail to gain sufficient market acceptance by physicians, patients, third-party payors and others in the medical community. Sales of medical products depend in part on the willingness of physicians to prescribe the treatment, which is likely to be based on a determination by these physicians that the products are safe, therapeutically effective and cost-effective. In addition, the inclusion or exclusion of products from treatment guidelines established by various physician groups and the viewpoints of influential physicians can affect the willingness of other physicians to prescribe the treatment. We cannot predict whether physicians, physicians' organizations, hospitals, other healthcare providers, government agencies or private insurers will determine that our product is safe, therapeutically effective and cost-effective as compared with competing treatments. Efforts to educate the medical community and third-party payors on the benefits of our product candidates may require significant resources and may not be successful. If our product candidates do not achieve an adequate level of acceptance, we may not generate significant product revenues and we may not become profitable. The degree of market acceptance of our product candidates, if approved for commercial sale, will depend on a number of factors, including:

- the efficacy and safety of such product candidates as demonstrated in clinical trials;
- the potential advantages and limitations compared to alternative treatments;
- the effectiveness of sales and marketing efforts;
- the cost of treatment in relation to alternative treatments;
- the clinical indications for which the product is approved;
- the convenience and ease of administration compared to alternative treatments;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the strength of marketing and distribution support;
- the timing of market introduction of competitive products;
- the availability of third-party coverage and adequate reimbursement;
- the prevalence and severity of any side effects; and
- any restrictions on the use of our products, if approved, together with other medications.

If the market opportunities for any product candidates we develop are smaller than we believe they are, our revenue may be adversely affected, and our business may suffer. Because the target patient populations of our programs are small, and the addressable patient population even smaller, we must be able to successfully identify patients and capture a significant market share to achieve profitability and growth.

We focus our research and product development on treatments for rare diseases. Given the small number of patients who have the diseases that we are targeting, it is critical to our ability to grow and become profitable that we continue to successfully identify patients with these rare diseases. Our projections of both the number of people who have these diseases, as well as the subset of people with these diseases who have the potential to benefit from treatment with our product candidates, are based on our beliefs and estimates. These estimates have been derived from a variety of sources, including the scientific literature, surveys of clinics, patient foundations or market research that we conducted, and may prove to be incorrect or contain errors. New studies may change the estimated incidence or prevalence of these diseases. The number of patients may turn out to be lower than expected. The effort to identify patients with diseases we seek to treat is in early stages, and we cannot accurately predict the number of patients for whom treatment might be possible. Additionally, the potentially addressable patient population for each of our product candidates may be limited or may not be amenable to treatment with our product candidates, and new patients may become increasingly difficult to identify or gain access to, which would adversely affect our results of operations and our business. Further, even if we obtain significant market share for our product candidates, because the potential target populations are very small, we may never achieve profitability despite obtaining such significant market share.

Our target patient populations are relatively small, and as a result, the pricing and reimbursement of our product candidates, if approved, is uncertain, but must be adequate to support commercial infrastructure. If we are unable to obtain adequate levels of reimbursement, our ability to successfully market and sell product candidates will be adversely affected.

The estimates of market opportunity and forecasts of market growth included in this prospectus may prove to be inaccurate, and even if the markets in which we compete achieve the forecasted growth, our business may not grow at similar rates, or at all.

Market opportunity estimates and growth forecasts included in this prospectus are subject to significant uncertainty and are based on assumptions and estimates which may not prove to be accurate. The estimates and forecasts included in this prospectus relating to size and expected growth of our target market may prove to be inaccurate. Even if the markets in which we compete meet the size estimates and growth forecasts included in this prospectus, our business may not grow at similar rates, or at all. Our growth is subject to many factors, including our success in implementing our business strategy, which is subject to many risks and uncertainties.

The pricing and third-party payor coverage and reimbursement status of newly approved products are uncertain. Failure to obtain or maintain adequate coverage and reimbursement for our future product candidates, if approved, could limit our ability to market those products and decrease our ability to generate product revenue.

In the United States 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. Our ability to successfully commercialize our product candidates will depend in part on the extent to which coverage and adequate reimbursement for these products and related treatments will be available from government health administration authorities, private health insurers and other organizations. For products administered under the supervision of a physician, obtaining coverage and adequate reimbursement may be particularly difficult because of the higher prices often associated with such drugs. 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.

Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which medications they will pay for and establish reimbursement levels. There is significant uncertainty related to the insurance coverage and reimbursement of newly approved products. In the United States, the decisions about coverage and reimbursement for new products under the Medicare program are made by the Centers for Medicare & Medicaid Services, or CMS. Private payors tend to follow CMS to a substantial degree. However, one payor's determination to provide coverage for a product does not assure that other payors will also provide coverage for the drug product. Further, a payor's decision to provide coverage for a drug product does not imply that an adequate reimbursement rate will be approved. Reimbursement agencies in the European Union may be more conservative than CMS. Factors payors consider in determining coverage 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.

Additionally, 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 product 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, or 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.

Outside the United States, international operations are generally subject to extensive governmental price controls and other market regulations, and we believe the increasing emphasis on cost-containment initiatives in Europe, Canada and other countries has and will continue to put pressure on the pricing and usage of therapeutics such as our product candidates. In many countries, particularly the countries of the European Union, the prices of medical products are subject to varying price control mechanisms as part of national health systems. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a product. As a result, we might obtain marketing approval for a product in a particular country, but then be subject to price regulations that delay or might even prevent our commercial launch of the product, possibly for lengthy periods of time. To obtain reimbursement or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost-effectiveness of our product candidate to other available therapies. In general, the prices of products under such systems are substantially lower than in the United States. Other countries allow companies to fix their own prices for products but monitor and control company profits. Additional foreign price controls or other changes in pricing regulation could restrict the amount that we are able to charge for product candidates. Accordingly, in markets outside the United States, the reimbursement for our product candidates may be reduced compared with the United States and may be insufficient to generate commercially reasonable revenues and profits.

If we are unable to establish sales, marketing and distribution capabilities or enter into sales, marketing and distribution agreements with third parties, we may not be successful in commercializing our product candidates if any are approved.

We do not have a sales or marketing infrastructure and have no experience in the sale, marketing or distribution of pharmaceutical products. To achieve commercial success for any product for which we have obtained marketing approval, we will need to establish a sales, marketing and distribution organization, either ourselves or through collaborations or other arrangements with third parties.

In the future, we may build a sales and marketing infrastructure to market certain of our product candidates if they receive marketing approval. There are risks involved with establishing our own sales, marketing and distribution capabilities. For example, recruiting and training a sales force is expensive and time-consuming and could delay any product launch. If the commercial launch of a product candidate for which we recruit a sales force and establish marketing capabilities is delayed or does not occur for any reason, we would have prematurely or unnecessarily incurred these commercialization expenses. These efforts may be costly, and our investment would be lost if we cannot retain or reposition our sales and marketing personnel.

Factors that may inhibit our efforts to commercialize our products on our own include:

- our inability to recruit, train and retain adequate numbers of effective sales, marketing, coverage or reimbursement, customer service, medical affairs and other support personnel;
- the inability of sales personnel to educate adequate numbers of physicians on the benefits of any future products;
- the inability of reimbursement professionals to negotiate arrangements for formulary access, reimbursement and other acceptance by payors;
- the inability to price our products at a sufficient price point to ensure an adequate and attractive level of profitability;
- restricted or closed distribution channels that make it difficult to distribute our products to segments of the patient population;
- the lack of complementary products to be offered by sales personnel, which may put us at a competitive disadvantage relative to companies with more extensive product lines; and
- unforeseen costs and expenses associated with creating an independent sales and marketing organization.

If we are unable to establish our own sales, marketing and distribution capabilities and we enter into arrangements with third parties to perform these services, our product revenues and our profitability, if any, are likely to be lower than if we were to market, sell and distribute any products that we develop ourselves. In addition, we may not be successful in entering into arrangements with third parties to sell, market and distribute our product candidates or may be unable to do so on terms that are acceptable to us. We likely will have little control over such third parties, and any of them may fail to devote the necessary resources and attention to sell and market our products effectively. If we do not establish sales, marketing and distribution capabilities successfully, either on our own or in collaboration with third parties, we will not be successful in commercializing our product candidates.

Risks Related to Our Intellectual Property

If we or our licensors are unable to obtain, maintain and defend patent and other intellectual property protection for any product candidates or technology, or if the scope of the patent or other intellectual property 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 develop and commercialize our product candidates or our technology may be adversely affected due to such competition.

Our success depends in large part on our and our licensors' ability to obtain and maintain patent and other intellectual property protection in the United States and other jurisdictions. We and our licensors have sought, and will seek, to protect our proprietary position by filing additional patent applications in the United States and abroad related to certain technologies and our platform that are important to our business. However, our patent portfolio is at an early stage; except for one issued patent and four applications currently under examination, which we in-licensed from Oxford University and the Medical Research Council of United Kingdom Research and Innovation, substantive examination of the currently pending patent applications we own or license has yet to begin. In addition, there can be no assurance as to whether or when our patent applications will issue as granted patents. Our ability to stop third parties from making, using, selling, marketing, offering to sell, importing and commercializing our product candidates and our technology is dependent upon the extent to which we have rights under valid and enforceable patents and other intellectual property that cover our platform and technology. If we are unable to secure, maintain, defend and enforce patents and other intellectual property with respect to our product candidates and our technology, it would have a material adverse effect on our business, financial condition, results of operations and prospects.

Our pending Patent Cooperation Treaty, or PCT, patent applications are not eligible to become issued patents until, among other things, we file a national stage patent application within 30 to 32 months, depending on the jurisdiction, from such application's priority date in the jurisdictions in which we are seeking patent protection. Similarly, our pending provisional patent applications are not eligible to become issued patents until, among other things, we file a non-provisional patent application within 12 months of such provisional patent application's filing date. If we do not timely file such national stage patent applications or non-provisional patent applications, we may lose our priority date with respect to such PCT or provisional patent applications, respectively, and any patent protection on the inventions disclosed in such PCT or provisional patent applications, respectively. While we and our licensors intend to timely file national stage and non-provisional patent applications relating to our PCT and provisional patent applications, respectively, we cannot predict whether any such patent applications will result in the issuance of patents. If we or our licensors do not successfully obtain issued patents, or, if the scope of any patent protection we or our licensors obtain is not sufficiently broad, we will be unable to prevent others from using our product candidates or our technology or from developing or commercializing technology and products similar or identical to ours or other competing products and technologies. Any failure to obtain or maintain patent protection with respect to our product candidates or our EDO platform would have a material adverse effect on our business, financial condition, results of operations and prospects.

The patent prosecution process is expensive, time-consuming and complex, and we and our licensors may not be able to file, prosecute, maintain, defend, enforce or license all necessary or desirable patent applications at a reasonable cost or in a timely manner. We and our licensors may not be able to obtain, maintain or defend patents and patent applications due to the subject matter claimed in such patents and patent applications being in the public domain. It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late 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, contract manufacturers, consultants, advisors and other third parties, any of these parties may breach these agreements and disclose such output before a patent application is filed, thereby jeopardizing our ability to seek patent protection. Consequently, we would not be able to prevent any third party from using any of our technology that is in the public domain to compete with our product candidates.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain, involves complex legal and factual questions and has, in recent years, been the subject of much litigation. As a result, the issuance, scope, validity, enforceability and commercial value of patent rights are highly uncertain. Our pending and future owned and licensed patent applications may not result in patents being issued which protect our technology or product candidates, effectively prevent others from commercializing competitive technologies and product or otherwise provide any competitive advantage. In fact, patent applications may not issue as patents at all, and even if such patent applications do issue as patents, they may not issue in a form, or with a scope of claims, that will provide us with any meaningful protection, prevent others from competing with us or otherwise provide us with any competitive advantage. In addition, the scope of claims of an issued patent can be reinterpreted after issuance, and changes in either the patent laws or interpretation of the patent laws in the United States and other jurisdictions may diminish the value of our patent rights or narrow the scope of our patent protection. Furthermore, our competitors or other third parties may be able to circumvent our patents by developing similar or alternative technologies or products in a non-infringing manner.

Third parties have developed technologies that may be related or competitive to our own technologies and product candidates and may have filed or may file patent applications, or may have obtained issued patents, claiming inventions that may overlap or conflict with those claimed in our owned or licensed patent applications or issued patents. We may not be aware of all third-party intellectual property rights potentially relating to our current and future product candidates and technology. Publications of discoveries in the scientific literature often lag 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 know for certain whether the inventors of our owned or licensed patents and patent applications were the first to make the inventions claimed in any owned or licensed patents or pending patent applications, or that we were the first to file for patent protection of such inventions. If a third party can establish that we or our licensors were not the first to make or the first to file for patent protection of such inventions, our owned or licensed patent applications may not issue as patents and even if issued, may be challenged and invalidated or ruled unenforceable.

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our owned and licensed patents may be challenged in the courts or patent offices in the United States and other jurisdictions. For example, we may be subject to a third-party submission of prior art to the United States Patent and Trademark Office, or USPTO, challenging the validity of one or more claims of our owned or licensed patents. Such submissions may also be made prior to a patent's issuance, precluding the granting of a patent based on one of our owned or licensed pending patent applications. We may become involved in opposition, derivation, re-examination, *inter partes* review, post-grant review or interference proceedings and similar proceedings in foreign jurisdictions (for example, opposition proceedings) challenging our owned or licensed patent rights. In addition, a third party may claim that our owned or licensed patent rights are invalid or unenforceable in a litigation. An adverse result in any litigation or patent office proceeding could put one or more of our owned or licensed patents at risk of being invalidated, ruled unenforceable or interpreted narrowly and could allow third parties to commercialize products identical or similar to our product candidates and compete directly with us, without payment to us. Moreover, we, or one of our licensors, may have to participate in interference proceedings declared by the USPTO to determine priority of invention or in post-grant challenge proceedings, such as oppositions in a foreign patent office, that challenge priority of invention or other features of patentability. Such challenges and proceedings may result in loss of patent rights, exclusivity or in patent claims being narrowed, invalidated or held unenforceable, which could limit our ability to stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our technology and our product candidates. Such challenges and proceedings may also result in substantial cost and require significant time from our scientists and management, even if the eventual outcome is favorable to us. Moreover, there could be public announcements of the results of hearings, motions or other interim proceedings or developments related to such challenges and proceedings. 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.

Furthermore, patents have a limited lifespan. In the United States, the expiration of a patent is generally 20 years from the earliest date of filing of the first non-provisional patent application to which the patent claims priority. Patent term adjustments and extensions may be available; however, the overall term of a patent, and the protection it affords, is limited. Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such product candidates might expire before or shortly after such product candidates are commercialized. As a result, our owned and licensed patent and other intellectual property rights may not provide us with sufficient rights to exclude others from commercializing products similar or identical to our technology and our product candidates. Any of the foregoing could have a material adverse effect on our competitive position, business, financial condition, results of operations and prospects.

Our rights to develop and commercialize any product 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 technology and product candidates. For example, we rely on a license from Oxford University Innovation Limited, or OUI, and the Medical Research Council of United Kingdom Research and Innovation, or MRC, to certain patent rights and know-how of OUI and MRC, or the OUI/MRC License. The OUI/MRC License imposes, and we expect that any future license agreement will impose, specified diligence, milestone payment, fee 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. See the section titled "Business—Intellectual property—License agreement with Oxford University Innovation Limited and the Medical Research Council of United Kingdom Research and Innovation" appearing elsewhere in this prospectus for more information about the terms of the OUI/MRC License.

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 product candidates and technology, lose patent protection, experience significant delays in the development and commercialization of our product 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 product 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 our product candidates 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 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, product 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, the OUI/MRC License is, and future license agreements 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 license agreements on commercially acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates and technology. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

While the OUI/MRC License grants certain exclusive patent and technology rights to us, 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 our product candidates.

Moreover, some of our in-licensed patent and other intellectual property rights are, and 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 product 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. 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. or foreign 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.

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 our product candidates 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 product 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 our product candidates 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 our product candidates 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 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 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.

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

Competitors may infringe our patents or other intellectual property or the intellectual property of our licensors. To cease such infringement or unauthorized use, we may be required to file patent infringement claims, which can be expensive and time-consuming and divert the time and attention of our management and scientific personnel. Our pending patent applications cannot be enforced against third parties practicing the technology claimed in such applications unless and until a patent issues from such applications. In addition, in an infringement proceeding or a declaratory judgment action, a court may decide that one or more of our patents is not valid or is unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation or defense proceeding could put one or more of our patents at risk of being invalidated, held unenforceable, or interpreted narrowly and could put our patent applications at risk of not issuing. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business.

Even if we establish infringement, the court may decide not to grant an injunction against further infringing activity and instead award only monetary damages, which may or may not be an adequate remedy. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments. 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.

Changes in patent law in the United States or worldwide could diminish the value of patents in general, thereby impairing our ability to protect our product candidates 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, or 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 product candidates or (ii) invent any of the inventions claimed in our or our licensor's patents or patent applications.

The America Invents 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 America Invents 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 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 our product candidates 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.

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/or patent 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 patent rights. We rely on our outside counsel and other professionals or our licensing partners to pay these fees due to the USPTO and non-U.S. government patent agencies. The USPTO and various non-U.S. government patent agencies also require compliance with several procedural, documentary and other similar provisions during the patent application process. We rely on our outside counsel and other professionals to help us comply and 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 many 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, loss of priority or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, potential competitors might be able to enter the market and this circumstance could have a material adverse effect on our competitive position, business, financial condition, results of operations and prospects.

We may not be successful in obtaining necessary rights to our product candidates through acquisitions and in-licenses.

We currently have rights to certain intellectual property through the OUI/MRC License. Because our programs may require the use of additional intellectual property rights held by third parties, the growth of our business likely will depend, in part, on our ability to acquire, in-license or use these intellectual property rights. In addition, with respect to any patent or other intellectual property rights that we co-own with third parties, we may require exclusive licenses to such co-owners' interest in such patent or other intellectual property rights. However, we may be unable to secure such licenses or otherwise acquire or in-license any intellectual property rights related to compositions, methods of use, processes or other components from third parties that we identify as necessary for our product candidates and our technology on commercially reasonable terms, or at all. Even if we are able to in-license any such necessary intellectual property, it could be on non-exclusive terms, thereby giving our competitors and other third parties access to the same intellectual property licensed to us, and the applicable licensors could require us to make substantial licensing and royalty payments. 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.

We sometimes collaborate with non-profit and academic institutions to accelerate our preclinical research or development under written agreements with these institutions. Typically, these institutions provide us with an option to negotiate a license to any of the institution's rights in technology resulting from the collaboration. Regardless of such option, we may be unable to negotiate a license 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 third parties, potentially blocking our ability to pursue our research program and develop and commercialize our product candidates.

If we are unable to successfully obtain rights to required third-party intellectual property rights or maintain the existing intellectual property rights we have licensed, we may be required to expend significant time and resources to redesign our product 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 product candidates, which could have a material adverse effect on our business, financial condition, results of operations and prospects.

Issued patents covering our product candidates 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 product 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 our product candidates or our technology, the defendant could counterclaim that the patent covering the product 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 our product candidates or our technology or prevent third parties from competing with our product candidates or our technology. The outcome following legal assertions of invalidity and unenforceability is unpredictable. 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 product 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.

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

In addition to the protection afforded by patents, we rely on trade secret protection and confidentiality agreements to protect proprietary know-how that is not patentable or that we elect not to patent, processes for which patents are difficult to enforce and any other elements of our product candidate discovery and development processes that involve proprietary know-how, information or technology that is not covered by patents. However, trade secrets can be difficult to protect and some courts inside and outside the United States are less willing or unwilling to protect trade secrets. We seek to protect our proprietary technology and processes, in part, by entering into confidentiality agreements with our employees, consultants, scientific advisors, contractors and other parties who have access to such technology and processes. However, we may not be able to prevent the unauthorized disclosure or use of our technical know-how or other trade secrets by the parties to these agreements. Monitoring unauthorized uses and disclosures is difficult, and we do not know whether the steps we have taken to protect our proprietary technologies will be effective. If any of the collaborators, scientific advisors, employees and consultants who are parties to these agreements breach or violate the terms of any of these agreements, we may not have adequate remedies for any such breach or violation. As a result, we could lose our trade secrets and third parties could use our trade secrets to compete with our product candidates and our technology. Additionally, we cannot guarantee that we have entered into such agreements with each party that may have or has had access to our trade secrets or proprietary technology and processes.

We also seek to preserve the integrity and confidentiality of our data and trade secrets by maintaining physical security of our premises and physical and electronic security of our information technology systems; however, such systems and security measures may be breached, and we may not have adequate remedies for any breach.

In addition, our trade secrets may otherwise become known or be independently discovered by competitors or other third parties. Competitors or third parties could purchase our product candidates or our technology and attempt to replicate some or all of the competitive advantages we derive from our development efforts, willfully infringe our intellectual property rights, design around our intellectual property rights or develop their own competitive technologies that fall outside the scope of our intellectual property rights. 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, or those to whom they communicate such trade secrets, from using that technology or information to compete with us. If our trade secrets are not adequately protected so as to protect our market against competitors' products, our business, financial condition, results of operations and prospects could be materially and adversely affected.

Third parties may initiate legal proceedings alleging that we are infringing, misappropriating or otherwise violating their intellectual property rights, the outcome of which would be uncertain and could harm our business.

Our commercial success depends upon our ability and the ability of our collaborators, if any, to develop, manufacture, market and sell our product candidates and use our proprietary technologies without infringing, misappropriating or otherwise violating the intellectual property rights of third parties. The biotechnology and pharmaceutical industries are characterized by extensive and complex litigation regarding patents and other intellectual property rights. We may become party to, or be threatened with, adversarial proceedings or litigation in which third parties may assert infringement, misappropriation or other violation claims against us, alleging that our product candidates, manufacturing methods, formulations or administration methods are covered by their patents. Given the vast number of patents and other intellectual property in our field of technology, we cannot be certain or guarantee that we do not infringe, misappropriate or otherwise violate patents or other intellectual property. Other companies and institutions have filed, and continue to file, patent applications that may be related to our technology and, more broadly, to gene therapy and related manufacturing methods. Some of these patent applications have already been allowed or issued and others may issue in the future. Since this area is competitive and of strong interest to pharmaceutical and biotechnology companies, there will likely be additional patent applications filed and additional patents granted in the future, as well as additional research and development programs expected in the future. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we are pursuing development candidates. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that we may be subject to claims of infringement of the patent rights of third parties. If a patent holder believes the manufacture, use, sale or importation of our product candidates or our technology infringes its patent, the patent holder may sue us even if we have licensed other patent rights for our technology.

We are aware of certain patents in the United States and other jurisdictions owned by third parties that claim subject matter that relates to our product candidates and the EDO platform. Such third parties may assert these patents against us in litigation in the United States or other jurisdictions. The outcome of any such litigation is uncertain and, even if we prevail, the costs of such litigation could have a material adverse effect on our financial position, result in disclosure of our trade secrets, distract key personnel from the continued development of our business, and adversely affect our ability to enter or maintain commercial relationships with collaborators, clients or customers. If we are unsuccessful in such litigation, we could be prevented from commercializing products or could be required to take licenses from such third parties which may not be available on commercially reasonable terms, if at all.

It is also possible that we have failed to identify relevant third-party patents or applications. Because patent applications can take many years to issue, may be confidential for 18 months or more after filing and can be revised before issuance, there may be applications now pending which may later result in issued patents that may be infringed by the manufacture, use, sale or importation of our product candidates or our technology and we may not be aware of such patents. Furthermore, applications filed before November 29, 2000 and certain applications filed after that date that will not be filed outside the United States may remain confidential until a patent issues. Moreover, it is difficult for industry participants, including us, to identify all third-party patent rights that may be relevant to our product candidates and our technologies because patent searching is imperfect due to differences in terminology among patents, incomplete databases and the difficulty in assessing the meaning of patent claims. We may fail to identify relevant patents or patent applications or may identify pending patent applications of potential interest but incorrectly predict the likelihood that such patent applications may issue with claims of relevance to our technology. In addition, we may incorrectly conclude that a third-party patent is invalid, unenforceable or not infringed by our activities. Additionally, pending patent applications that have been published can, subject to certain limitations, be later amended in a manner that could cover our technologies, our product candidates or the use of our product candidates.

Third parties may assert infringement claims against us based on existing patents or patents that may be granted in the future, regardless of their merit. There is a risk that third parties may choose to engage in litigation

with us to enforce or to otherwise assert their patent rights against us. Even if we believe such claims are without merit, a court of competent jurisdiction could hold that these third-party patents are valid, enforceable and infringed, which could adversely affect our ability to commercialize our product candidates or technologies covered by the asserted third-party patents. In order to successfully challenge the validity of any such U.S. patent in federal court, we would need to overcome a presumption of validity. As this burden is a high one requiring us to present clear and convincing evidence as to the invalidity of any such U.S. patent claim, there is no assurance that a court of competent jurisdiction would invalidate the claims of any such U.S. patent. If we are found to infringe a third party's valid and enforceable intellectual property rights, we could be required to obtain a license from such third party to continue developing, manufacturing and marketing our product candidates and our technology. 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 a license, it could be non-exclusive, thereby giving our competitors and other third parties access to the same technologies licensed to us, and it could require us to make substantial licensing and royalty payments. We could be forced, including by court order, to cease developing, manufacturing and commercializing the infringing technology or product candidates. In addition, we could be found liable for monetary damages, including treble damages and attorneys' fees, if we are found to have willfully infringed a patent or other intellectual property right. A finding of infringement could prevent us from manufacturing and commercializing our product candidates or force us to cease some of our business operations, which could harm our business. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative impact on our business, financial condition, results of operations and prospects.

Intellectual property litigation or other proceedings could cause us to spend substantial resources and distract our personnel from their normal responsibilities.

Competitors may challenge the validity and enforceability of our patent rights or those of our licensing partners, infringe, misappropriate or otherwise violate our or our licensors' patent and other intellectual property rights, or we may be required to defend against claims of infringement, misappropriation or other violation. Litigation and other proceedings in connection with any of the foregoing claims can be unpredictable, expensive and time consuming. Even if resolved in our favor, litigation or other proceedings relating to intellectual property claims may cause us to incur significant expenses and could distract our scientific, 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 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 adequately conduct such litigation or proceedings. Some of our competitors or other third parties 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 adversely affect our ability to compete in the marketplace and could have a material adverse effect on our business, financial condition, results of operations and prospects.

We may be subject to claims asserting 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.

Many of our employees, consultants or 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 these individuals or we 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 be required to obtain licenses to such intellectual property rights, which may not be available on commercially reasonable terms or at all. An inability to incorporate such intellectual property rights would harm our business and may prevent us from successfully commercializing our product candidates. In addition, we may lose personnel as a result of such claims and any such litigation or the threat thereof may adversely affect our ability to hire employees or contract with independent contractors. A loss of key personnel or their work product could hamper or prevent our ability to commercialize our product candidates and our technology, which would have a material adverse effect on our business, results of operations, financial condition and prospects. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to our scientific and management personnel.

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. Moreover, even when we obtain agreements assigning intellectual property to us, 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. Furthermore, individuals executing agreements with us may have pre-existing or competing obligations to a third party, such as an academic institution, and thus an agreement with us may be ineffective in perfecting ownership of inventions developed by that individual. Disputes about the ownership of intellectual property that we own may have a material adverse effect on our business, financial condition, results of operations and prospects.

In addition, we or our licensors may in the future be subject to claims by former employees, consultants or other third parties asserting an ownership right in our owned or licensed patent rights. An adverse determination in any such submission or proceeding may result in loss of exclusivity or freedom to operate or in patent claims being narrowed, invalidated or held unenforceable, in whole or in part, which could limit our ability to stop others from using or commercializing similar technology and therapeutics, without payment to us, or could limit the duration of the patent protection covering our technology and our product candidates. Such challenges may also result in our inability to develop, manufacture or commercialize our technology and product candidates without infringing third-party patent rights. In addition, if the breadth or strength of protection provided by our owned or licensed patent rights are threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future technology and product candidates. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

If we do not obtain patent term extension for our product candidates, our business may be harmed.

Under the Drug Price Competition and Patent Term Restoration Act of 1984, or the Hatch-Waxman Amendments to the Federal Food, Drug, and Cosmetic Act, or the FDCA, a company may file an abbreviated new drug application, or ANDA, seeking approval of a generic version of an approved innovator product. Depending upon the timing, duration and specifics of any FDA marketing approval of our product candidates 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. 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 product 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 our product candidates 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 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 current and future trademark applications in the United States and other foreign jurisdictions may not be allowed or may be subsequently opposed. Once filed and registered, our trademarks or trade names may be challenged, infringed, circumvented or declared generic or determined to be infringing on other marks. As a means to enforce our trademark rights and prevent infringement, we may be required to file trademark claims against third parties or initiate trademark opposition proceedings. This can be expensive and time-consuming, particularly for a company of our size. 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, 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. 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 secrets, domain names, copyrights or other intellectual property may be ineffective and could result in substantial costs and diversion of resources. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations or 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 product candidates but that are not covered by the intellectual property, including the claims of the patents, that we own or license currently or in the future;

- we, or our license partners or current or future collaborators, might not have been the first to make the inventions covered by the issued patent or pending patent application that we own or license currently or in the future;
- we, or our license partners or current or future collaborators, might not have been the first to file patent applications covering certain of our or their inventions;
- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing, misappropriating or otherwise violating our owned or licensed intellectual property rights;
- it is possible that our or our licensors' current or future pending patent applications will not lead to issued patents;
- issued patents that we hold rights to may be held invalid or unenforceable, including as a result of legal challenges by third parties;
- third parties might conduct research and development activities in jurisdictions where we do not have patent or other intellectual property 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 or other intellectual property rights of others may have an adverse effect on our business; and
- we may choose not to file a patent for certain trade secrets or know-how, and a third party may subsequently file a patent covering such intellectual property.

Should any of these events occur, they could significantly harm 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 product candidates and to perform quality testing, and because we may need to collaborate with various third parties for the advancement of our product candidates and technology, we may be required to, 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, collaboration agreements, services agreements, consulting agreements and other similar agreements prior to beginning research or disclosing any proprietary information to such third parties. 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. 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. We may need to share our proprietary information, including trade secrets, with future business partners, collaborators, contractors and others located in countries at heightened risk of theft of trade secrets, including through direct intrusion by

private parties or foreign actors, and those affiliated with or controlled by state actors. Further, 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. 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.

Risks Related to Employee Matters, Managing Growth and Other Operational Matters

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

We are highly dependent on the research and development, clinical, financial, operational and other business expertise of our executive officers, as well as the other principal members of our management, scientific and clinical teams. Although we have entered into employment offer letters with our executive officers, each of them may terminate their employment with us at any time. We do not maintain "key person" insurance for any of our executives or other employees. Recruiting and retaining qualified scientific, clinical, manufacturing, accounting, legal and sales and marketing personnel will also be critical to our success.

The loss of the services of our executive officers or other key employees could impede the achievement of our research, development and commercialization objectives and seriously harm our ability to successfully implement our business strategy. Furthermore, replacing executive officers and key employees may be difficult and may take an extended period of time because of the limited number of individuals in our industry with the breadth of skills and experience required to successfully develop, gain regulatory approval of and commercialize products. Competition to hire from this limited pool is intense, and we may be unable to hire, train, retain or motivate these key personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific and clinical personnel from universities and research institutions. 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 as a public company also depends on implementing and maintaining internal controls and the accuracy and timeliness of our financial reporting. If we are unable to continue to attract and retain high quality personnel, our ability to pursue our growth strategy will be limited.

We expect to expand our headcount to support our development and regulatory capabilities and potentially implement sales, marketing and distribution capabilities, and as a result, we may encounter difficulties in managing our growth, which could disrupt our operations.

As of March 31, 2022, we had 31 full-time employees. As our development progresses, we expect to experience significant growth in the number of our employees and the scope of our operations, particularly in the areas of drug development, clinical, regulatory affairs and, if any product candidate receives marketing approval, sales, marketing, distribution and coverage and reimbursement capabilities. To manage our anticipated future growth, we must continue to implement and improve our managerial, operational and financial systems, expand our facilities and continue to recruit and train additional qualified personnel. Due to our limited financial resources and the limited experience of our management team in managing a company with such anticipated growth, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. The expansion of our operations may lead to significant costs and may divert our management and business development resources. Any inability to manage growth could delay the execution of our business plans or disrupt our operations.

As a growing biotechnology company, we are actively pursuing new platforms and product candidates in many therapeutic areas and across a wide range of diseases. Successfully developing product candidates for, and fully understanding the regulatory and manufacturing pathways to, all of these therapeutic areas and disease states requires a significant depth of talent, resources and corporate processes in order to allow simultaneous execution across multiple areas. Due to our limited resources, we may not be able to effectively manage this simultaneous execution and the expansion of our operations or recruit and train additional qualified personnel. This may result in weaknesses in our infrastructure, give rise to operational mistakes, legal or regulatory compliance failures, loss of business opportunities, loss of employees and reduced productivity among remaining employees. The physical expansion of our operations may lead to significant costs and may divert financial resources from other projects, such as the development of our product candidates. If our management is unable to effectively manage our expected development and expansion, our expenses may increase more than expected, our ability to generate or increase our revenue could be reduced and we may not be able to implement our business strategy. Our future financial performance and our ability to compete effectively and commercialize our product candidates, if approved, will depend in part on our ability to effectively manage the future development and expansion of our company.

Our international operations subject us to various risks, and our failure to manage these risks could adversely affect our results of operations.

We face significant operational risks as a result of doing business internationally, such as:

- fluctuations in foreign currency exchange rates;
- differing payor reimbursement regimes, governmental payors or patient self-pay systems and price controls
- potentially adverse and/or unexpected tax consequences, including penalties due to the challenge by tax authorities on our tax position;
- potential changes to the accounting standards, which may influence our financial situation and results;
- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;
- becoming subject to the different, complex and changing laws, regulations and court systems of multiple jurisdictions and compliance with a wide variety of foreign laws, treaties;
- reduced protection of, or significant difficulties in enforcing, intellectual property rights in certain countries;
- difficulties in attracting and retaining qualified personnel;
- restrictions imposed by local labor practices and laws on our business and operations, including unilateral cancellation or modification of contracts;
- rapid changes in global government, economic and political policies and conditions, political or civil unrest or instability, terrorism or epidemics and other similar outbreaks or events, and potential failure in confidence of our suppliers or customers due to such changes or events; and
- tariffs, trade protection measures, import or export licensing requirements, trade embargoes and other trade barriers.

Future acquisitions or strategic alliances could disrupt our business and harm our financial condition and results of operations.

We may acquire additional businesses, technologies or assets, form strategic alliances or create joint ventures with third parties that we believe will complement or augment our existing business. If we acquire businesses with promising markets or technologies, we may not be able to realize the benefit of acquiring such businesses if we are unable to successfully integrate them with our existing operations and company culture. We may encounter numerous difficulties in developing, manufacturing and marketing any new products or product candidates resulting from a strategic alliance or acquisition that delay or prevent us from realizing their expected benefits or enhancing our business. We cannot assure you that, following any such acquisition, we will achieve the expected synergies to justify the transaction. The risks we face in connection with acquisitions, include:

- diversion of management time and focus from operating our business to addressing acquisition integration challenges;
- coordination of research and development efforts;
- retention of key employees from the acquired company;
- changes in relationships with collaborators as a result of product acquisitions or strategic positioning resulting from the acquisition;
- cultural challenges associated with integrating employees from the acquired company into our organization;
- the need to implement or improve controls, procedures and policies at a business that prior to the acquisition may have lacked sufficiently effective controls, procedures and policies;
- liability for activities of the acquired company before the acquisition, including intellectual property infringement claims, violation of laws, commercial disputes, tax liabilities and other known liabilities;
- unanticipated write-offs or charges; and
- litigation or other claims in connection with the acquired company, including claims from terminated employees, customers, former stockholders or other third parties.

Our failure to address these risks or other problems encountered in connection with our past or future acquisitions or strategic alliances could cause us to fail to realize the anticipated benefits of these transactions, cause us to incur unanticipated liabilities and harm the business generally. There is also a risk that future acquisitions will result in the incurrence of debt, contingent liabilities, amortization expenses or incremental operating expenses, any of which could harm our financial condition or results of operations.

Our internal information technology systems, or those of our vendors, collaborators or other contractors or consultants, may fail or suffer security breaches, loss or leakage of data and other disruptions or compromise, which could result in a material disruption of our product development programs, compromise sensitive information related to our business or prevent us from accessing critical information, or trigger contractual and legal obligations, potentially exposing us to liability, reputational harm or otherwise adversely affecting our business and financial results.

We are increasingly dependent upon information technology systems and infrastructure 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, our vendors, collaborators and other contractors or consultants, do so in a secure manner to maintain the availability, security, confidentiality, privacy and integrity of such confidential information.

Despite the implementation of security measures, given the size and complexity of our internal information technology systems and those of our current and future vendors, collaborators and other contractors or consultants, and the increasing amounts of confidential information that we and our affiliated third parties maintain, such information technology systems are still vulnerable to damage or interruption from computer viruses, computer hackers, malicious code, employee error, theft or misuse, denial-of-service attacks, sophisticated nation-state and nation-state-supported actors, unauthorized access, natural disasters, terrorism, war, telecommunication and electrical failures or other compromise. 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. As a result of the ongoing COVID-19 pandemic, we may also face increased cybersecurity risks due to our reliance on internet technology and the number of our employees who are working remotely, which may create additional opportunities for cybercriminals to exploit vulnerabilities. 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. As such, we may experience security breaches that may remain undetected for an extended period. We may be unable to anticipate all types of security threats, or implement preventive measures effective against all such security threats. Even if identified, we may be unable to adequately investigate or remediate incidents or breaches due to attackers increasingly using tools and techniques that are designed to circumvent controls, to avoid detection and to remove or obfuscate forensic evidence.

We and certain of our service providers are from time to time subject to cyberattacks and security incidents. While we do not believe that we have experienced any significant system failure, accident or security breach to date, if such an event were to occur, it could result in a disruption of our development programs and our business operations, whether due to a loss of our trade secrets or other proprietary or confidential information or other disruptions. For example, the loss of clinical trial data from clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. If we were to experience a significant cybersecurity breach of our information systems or data, the costs associated with the investigation, remediation and potential notification of the breach to counterparties, data subjects, regulators or others could be material. In addition, our remediation efforts may not be successful. Moreover, if the information technology systems of our vendors, collaborators 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. If we do not allocate and effectively manage the resources necessary to build and sustain the proper technology and cybersecurity infrastructure, we could suffer significant business disruption, including transaction errors, supply chain or manufacturing interruptions, processing inefficiencies, data loss or the loss of or damage to intellectual property or other proprietary information.

To the extent that any disruption or security breach were to result in a loss of, or damage to, our or our vendors', collaborators' or other contractors' or consultants' data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability, including litigation exposure and penalties and fines. Any such event that leads to unauthorized access, use, or disclosure of personal information, including personal information regarding our customers or employees, could harm our reputation, 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. We could become the subject of regulatory action or investigation, and our competitive position and reputation could be harmed and the further development and commercialization of our product candidates could be delayed. As a result of such an event, we may also be in breach of our contractual

obligations. Any of the above could have a material adverse effect on our business, financial condition, results of operations or prospects.

The financial exposure from the events referenced above could either not be insured against or not be fully covered through any insurance that we maintain. In addition, we cannot be sure that our existing insurance coverage will continue to be available on acceptable terms or that our insurers will not deny coverage as to any future claim. There can be no assurance that the limitations of liability in our contracts would be enforceable or adequate or would otherwise protect us from liabilities or damages as a result of the events referenced above.

Our operations or those of the third parties upon whom we depend might be affected by the occurrence of a natural disaster, pandemic or other catastrophic event.

We depend on our employees, consultants, CMOs and CROs, as well as regulatory agencies and other parties, for the continued operation of our business. While we maintain disaster recovery plans, they might not adequately protect us. Despite any precautions we take for natural disasters or other catastrophic events, these events, including terrorist attack, pandemics, hurricanes, fire, floods and ice and snowstorms, could result in significant disruptions to our research and development, preclinical studies, clinical trials, and, ultimately, commercialization of our products. Long-term disruptions in the infrastructure caused by events, such as natural disasters, the outbreak of war, the escalation of hostilities and acts of terrorism or other ‘‘acts of God,’’ particularly involving cities in which we have offices, manufacturing or clinical trial sites, could adversely affect our businesses. Although we carry business interruption insurance policies and typically have provisions in our contracts that protect us in certain events, our coverage might not respond or be adequate to compensate us for all losses that may occur. Any natural disaster or catastrophic event affecting us, our CMOs, CROs, regulatory agencies or other parties with which we are engaged could have a significant negative impact on our operations and financial performance.

The ongoing COVID-19 pandemic may affect our ability to initiate and complete preclinical studies and current or future clinical trials, disrupt regulatory activities, or have other adverse effects on our business and operations. In addition, this pandemic has caused substantial disruption in the financial markets and may adversely impact economies worldwide, which could negatively impact our operations and our ability to raise additional capital following this offering.

The ongoing COVID-19 pandemic and identification of new variants of the virus 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 ongoing COVID-19 pandemic on our business, financial condition and results of operations is highly uncertain and will depend on continued developments, including any new variants, 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 and current or planned clinical trials, disrupt regulatory activities or have other adverse effects on our business, results of operations, financial condition and prospects. In addition, the ongoing 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.

The future progression of the pandemic and its effects on our business and operations are uncertain. We and our CMOs and CROs have experienced a reduction in the capacity to undertake research-scale production and to execute some preclinical studies, and we may face disruptions that affect our ability to initiate and complete preclinical studies, and disruptions in procuring items that are essential for our research and development activities, such as raw materials used in the manufacture of any product candidates, laboratory supplies used in our preclinical studies, or animals that are used for preclinical testing for which there are shortages because of ongoing efforts to address the pandemic. Further, since the beginning of the COVID-19 pandemic, three vaccines received Emergency Use Authorizations and two of those later received marketing approval. Additional vaccines may be authorized or approved 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. We and our CROs and CMOs may face disruptions related to our future IND- or CTA-enabling studies and clinical trials arising from delays in preclinical studies, manufacturing disruptions, and the ability to obtain necessary IRB, IBC or other necessary site approvals, as well as other delays at clinical trial sites.

The response to the ongoing COVID-19 pandemic may also redirect resources with respect to regulatory and intellectual property matters in a way that would adversely impact our ability to progress regulatory approvals and protect our intellectual property. In addition, we may face impediments to regulatory meetings and approvals due to measures intended to limit in-person interactions. The pandemic has already caused significant disruptions in worldwide financial markets, and may continue to cause such disruptions, which could impact our ability to raise additional funds through public offerings and may also impact the volatility of our stock price and trading in our stock. We cannot be certain what the overall impact of the ongoing COVID-19 pandemic will be on our business, although for the reasons described above it has the potential to adversely affect our financial condition, results of operations and prospects.

Risks Related to This Offering, Ownership of Our Common Stock and Our Status as a Public Company

There has been no prior public market for our common stock, the stock price of our common stock may be volatile or may decline regardless of our operating performance, and you may not be able to resell your shares at or above the initial public offering price.

Prior to this offering, there has been no public market for shares of our common stock. You may not be able to sell your shares quickly or at the market price if trading in shares of our common stock is not active. The initial public offering price for our common stock will be determined through negotiations with the underwriters, and the negotiated price may not be indicative of the market price of the common stock after the offering. An active or liquid market in our common stock may not develop upon the completion of this offering or, if it does develop, it may not be sustainable. As a result of these and other factors, you may be unable to resell your shares of our common stock at or above the initial public offering price.

Further, 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 or products by using our shares of common stock as consideration.

If you purchase shares of common stock in this offering, you will suffer immediate dilution of your investment.

The initial public offering price of our common stock will be substantially higher than the as adjusted net tangible book value per share of our common stock after this offering. Therefore, if you purchase shares of our common stock in this offering, you will pay a price per share that substantially exceeds our as adjusted net tangible book value per share after this offering. Based on our net tangible book value as of December 31, 2021 and an assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover of this prospectus, you will experience immediate dilution of $ per share, representing the difference between our as adjusted net tangible book value per share after this offering and the initial public offering price. In addition, as of December 31, 2021, we had outstanding stock options to purchase an aggregate of shares of common stock at a weighted average exercise price of $ per share. To the extent these outstanding options are exercised, you will incur further dilution.

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

Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through a combination of equity offerings, debt financings, collaborations, strategic alliances and/or

licensing arrangements. We do not have any committed external source of funds. 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 debt financing or 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.

If we raise additional funds through collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or grant licenses on terms that may not be favorable to us. 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 may be required to delay, limit, reduce or eliminate some or all of our research and development programs, pipeline expansion or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

If securities analysts do not publish research or reports about our business or if they publish negative evaluations of our stock, the price of our stock could decline.

The trading market for our common stock will rely, in part, on the research and reports that industry or financial analysts publish about us or our business. We do not currently have and may never obtain research coverage by industry or financial analysts. There can be no assurance that analysts will cover us. There is also no assurance that any covering analysts will provide favorable coverage. Even if we do obtain analyst coverage, if one or more of the analysts covering our business downgrade their evaluations of our stock or publish inaccurate or unfavorable research about our business, or provide more favorable relative recommendations about our competitors, the price of our stock could decline.

The price of our common stock may be volatile and fluctuate substantially, which could result in substantial losses for purchasers of our common stock in this offering.

Prior to this offering, our stock was not publicly traded on any stock exchange or over-the-counter quotation system. In connection with this offering, we intend to apply to list our common stock for trading on the Nasdaq Global Market. Even if admitted for trading, our stock price is likely to be volatile. The stock market in general, and the market for smaller biopharmaceutical companies in particular, have experienced extreme price volatility and volume fluctuations that have often been unrelated to the operating performance of particular companies. As a result of this volatility, you may not be able to sell your common stock at or above the initial public offering price. The market price for our common stock may be influenced by many factors, including:

- timing and results of, or developments in, preclinical studies and clinical trials of our product candidates or those of our competitors or potential collaborators;
- adverse regulatory decisions, including failure to receive marketing approvals for our product candidates;
- our success in commercializing any product candidates that may be approved;
- the success of competitive products or technologies;
- regulatory or legal developments in the United States and other countries;
- developments or disputes concerning patent applications, issued patents or other intellectual property or proprietary rights;

- the recruitment or departure of key personnel;
- the level of expenses related to our product candidates;
- the results of our efforts to discover, develop, acquire or in-license products, product candidates, technologies or data referencing rights, the costs of commercializing any such products and the costs of development of any such product candidates or technologies;
- actual or anticipated changes in estimates as to our financial results, development timelines or recommendations by securities analysts;
- variations in our financial results or the financial results of companies that are perceived to be similar to us;
- sales of our common stock by us, our executive officers, directors or principal stockholders or others;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors;
- general economic, industry, political and market conditions, including conditions resulting from the effects of the ongoing COVID-19 pandemic; and
- the other factors described in this "Risk factors" section.

Any of the factors listed above could materially adversely affect your investment in our common stock, and our common stock may trade at prices significantly below the initial public offering price, which could contribute to a loss of all or part of your investment. In such circumstances the trading price of our common stock may not recover and may experience a further decline.

In the past, following periods of volatility in the market price of a company's securities, securities class-action litigation has often been instituted against that company. Any lawsuit to which we are a party, with or without merit, may result in an unfavorable judgment. We also may decide to settle lawsuits on unfavorable terms. Any such negative outcome could result in payments of substantial damages or fines, damage to our reputation or adverse changes to our offerings or business practices. Such litigation may also cause us to incur other substantial costs to defend such claims and divert management's attention and resources.

Unfavorable global economic conditions could adversely affect our business, financial condition, stock price and results of operations.

Our results of operations could be adversely affected by general conditions in the global economy and in the global financial markets. For example, the 2008 global financial crisis caused extreme volatility and disruptions in the capital and credit markets. A severe or prolonged economic downturn resulting from the ongoing COVID-19 pandemic could result in a variety of risks to our business, including weakened demand for our product candidates and our ability to raise additional capital when needed on acceptable terms, if at all. In addition, the current military conflict between Russia and Ukraine could disrupt or otherwise adversely impact our operations and those of third parties upon which we rely. Related sanctions, export controls or other actions that have been or may be initiated by nations, including the United States or the European Union, or actions taken by Russia (e.g., potential cyberattacks, disruption of energy flows, etc.) could adversely affect our business and/or our supply chain, our CROs, CMOs and other third parties with which we conduct business. A weak or declining economy could also strain our suppliers, possibly resulting in supply disruption. If the current equity and credit markets deteriorate, 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

impair our ability to achieve our growth strategy, could harm our financial performance and stock price and could require us to delay or abandon clinical development plans. In addition, there is a risk that our current or future service providers, manufacturers or other collaborators may not survive such difficult economic times, which could directly affect our ability to attain our operating goals on schedule and on budget. We cannot anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact our business.

After this offering, our executive officers, directors and their affiliates, if they choose to act together, will continue to have the ability to significantly influence all matters submitted to stockholders for approval.

Upon the closing of this offering, based on the number of shares outstanding as of , and giving effect to the issuance of shares of our common stock in this offering, assuming no exercise by the underwriters of their option to purchase additional shares of our common stock, our executive officers and directors and their affiliates will, in the aggregate, beneficially own shares representing approximately % of our outstanding common stock. As a result, if these stockholders were to choose to act together, they would be able to significantly influence all matters submitted to our stockholders for approval, as well as our management and affairs, even though some of these persons or entities may have interests different than yours. For example, these stockholders, if they choose to act together, could significantly influence the election of directors and approval of any merger, consolidation or sale of all or substantially all of our assets.

This concentration of ownership may:

- delay, defer or prevent a merger, consolidation or sale of all or substantially all of our assets that may be desired by other stockholders;
- delay, defer or prevent a change in control transaction involving us that other stockholders may desire; or
- entrench our management and board of directors.

We 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 could spend the proceeds in ways that do not improve our results of operations or enhance the value of our common stock. You will not have the opportunity to influence our decisions on how to use our net proceeds from this offering. The failure by our management to apply these funds effectively could result in financial losses that could cause the price of our common stock to decline and delay the development of our product candidates. Pending their use, we may invest the net proceeds from this offering in a manner that does not produce income or that loses value.

Because we do not anticipate paying any cash dividends on our capital stock in the foreseeable future, capital appreciation, if any, will be your sole source of gain.

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future.

A significant portion of our total outstanding shares is restricted from immediate resale but may be sold into the market in the near future, which could cause the market price of our common stock to drop significantly, even if our business is doing well.

Sales of a substantial number of shares of our common stock in the public market, 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, impair our ability to raise capital through the sale of additional equity securities, and make it more difficult for you to sell your common stock at a time and price that you deem appropriate. After this

offering, we will have shares of common stock outstanding based on the number of shares outstanding as of . This includes the shares that we are selling in this offering, which may be resold in the public market immediately without restriction, unless purchased by our affiliates. As of the date of this prospectus, shares of our common stock are restricted as a result of securities laws or lock-up agreements entered into in connection with this offering but will become eligible to be sold at various times after the offering as described below and in the section of this prospectus titled "Shares eligible for future sale."

Following the expiration of the lock-up agreements described above, an aggregate of shares of common stock will become eligible for sale in the public market, subject to applicable securities laws. The representatives of the underwriters, in their sole discretion, may release some or all of the securities subject to these lock-up agreements at any time, which would allow for earlier sales of shares in the public market. All other outstanding shares of our common stock may be freely sold in the public market at any time, subject to applicable securities laws, as described in the section of this prospectus titled "Shares eligible for future sale."

Moreover, holders of an aggregate of shares of our common stock will have rights, subject to specified 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 file a registration statement on Form S-8 to register all of the shares of common stock that we are able to issue under our equity compensation plans. Shares registered under these registration statements on Form S-8 can be freely sold in the public market upon issuance, subject to volume limitations applicable to affiliates, vesting arrangements, exercise of options and the lock-up agreements.

We are an "emerging growth company" and a "smaller reporting company," and the reduced disclosure requirements applicable to emerging growth companies and smaller reporting companies may make our common stock less attractive to investors.

We are an "emerging growth company," or EGC, as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. We may remain an EGC until December 31, 2026, although if the market value of our common stock that is held by non-affiliates exceeds $700.0 million as of any June 30 before that time or if we have annual gross revenues of $1.07 billion or more in any fiscal year, we would cease to be an EGC as of December 31 of the applicable year. We also would cease to be an EGC if we issue more than $1.0 billion of non-convertible debt over a three-year period. For so long as we remain an EGC, we are permitted and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not EGCs. These exemptions include:

- not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting;
- 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; and
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

Even after we no longer qualify as an EGC, we may continue to qualify as a smaller reporting company, which would allow us to take advantage of many of the same exemptions from disclosure requirements, including reduced disclosure obligations regarding executive compensation. In addition, if we are a smaller reporting company with less than $100 million in annual revenue, we would not be required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, or Section 404. In reliance on

these exemptions, we have taken advantage of reduced reporting obligations in this prospectus. In particular, in this prospectus, we have provided only two years of audited financial statements and have not included all of the executive compensation related information that would be required if we were not an EGC or a smaller reporting company.

We cannot predict whether investors will find our common stock less attractive if we 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.

In addition, the JOBS Act permits an EGC to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies until those standards would otherwise apply to private companies. We have elected to take advantage of such extended transition period, which means that when a standard is issued or revised and it has different application dates for public or private companies, we will adopt the new or revised standard at the time private companies adopt the new or revised standard and will do so until such time that we either irrevocably elect to "opt out" of such extended transition period or no longer qualify as an EGC. We may choose to early adopt any new or revised accounting standards whenever such early adoption is permitted for private companies.

We will incur increased costs as a result of operating as a public company, and our management will be required to devote substantial time to new compliance initiatives and corporate governance practices.

As a public company, and particularly after we are no longer an EGC or a smaller reporting company, we will incur significant legal, accounting and other expenses that we did not previously incur as a private company. The Sarbanes-Oxley Act of 2002, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of the Nasdaq Global Market and other applicable securities rules and regulations impose various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel devote and will need to continue to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations will increase our legal and financial compliance costs, particularly as we hire additional financial and accounting employees to meet public company internal control and financial reporting requirements and will make some activities more time-consuming and costly compared to when we were a private company. For example, we expect that these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance, and we might be forced to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. The impact of these events could also make it more difficult for us to attract and retain qualified members of our board of directors.

We are evaluating these rules and regulations and cannot predict or estimate the amount of additional costs we may incur or the timing of such costs. These rules and regulations are often subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices. We intend to invest resources to comply with evolving laws, regulations and standards, and this investment may result in increased general and administrative expenses and a diversion of management's time and attention from revenue-generating activities to compliance activities. If notwithstanding our efforts to comply with new laws, regulations and standards, we fail to comply, regulatory authorities may initiate legal proceedings against us and our business may be harmed.

Pursuant to Section 404, we will be required to furnish a report by our management on our internal control over financial reporting beginning with our second filing of our Annual Report on Form 10-K with the SEC. However, while we remain an EGC or a smaller reporting company with less than $100 million in annual revenue, we will not 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 are

engaged 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, including through hiring additional financial and accounting personnel, potentially engage outside consultants and adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented and implement a continuous reporting and improvement process for internal control over financial reporting. Despite our efforts, there is a risk that we will not be able to conclude, within the prescribed timeframe or at all, that our internal control over financial reporting is effective as required by Section 404. If we identify one or more material weaknesses in our internal control over financial reporting, it could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements.

If we fail to maintain an effective system of internal control over financial reporting, we may not be able to accurately report our financial results or prevent fraud. As a result, stockholders could lose confidence in our financial and other public reporting, which would harm our business and the trading price of our common stock.

Effective internal control over financial reporting is necessary for us to provide reliable financial reports and, together with adequate disclosure controls and procedures, is designed to prevent fraud. Any failure to implement required new or improved controls, or difficulties encountered in their implementation could cause us to fail to meet our reporting obligations. In addition, any testing by us conducted in connection with Section 404, or any subsequent testing by our independent registered public accounting firm, may reveal deficiencies in our internal control over financial reporting that are deemed to be material weaknesses or that may require prospective or retroactive changes to our financial statements or identify other areas for further attention or improvement. Inferior internal controls could also cause investors to lose confidence in our reported financial information, which could harm our business and have a negative effect on the trading price of our stock.

We are required to disclose changes made in our internal controls and procedures on a quarterly basis and our management is required to assess the effectiveness of these controls annually. However, for as long as we are an EGC under the JOBS Act or a smaller reporting company with less than $100 million in annual revenue, our independent registered public accounting firm will not be required to attest to the effectiveness of our internal control over financial reporting pursuant to Section 404. We could be an EGC for up to five years. An independent assessment of the effectiveness of our internal control over financial reporting could detect problems that our management's assessment might not. Undetected material weaknesses in our internal control over financial reporting could lead to financial statement restatements and require us to incur the expense of remediation, which could have a negative effect on the trading price of our stock.

Anti-takeover provisions in our corporate charter documents and under Delaware law could make an acquisition of our company, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current directors and members of management.

Anti-takeover provisions in our amended and restated certificate of incorporation and our amended and restated bylaws to be effective upon the completion of this offering may discourage, delay or prevent a merger, acquisition or other change in control of our company that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. In addition, because our board of directors is responsible for appointing the members of our management team, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. Among other things, these provisions:

- establish a classified board of directors such that only one of three classes of directors is elected each year;

- allow the authorized number of our directors to be changed only by resolution of our board of directors;
- limit the manner in which stockholders can remove directors from our board of directors;
- establish advance notice requirements for stockholder proposals that can be acted on at stockholder meetings and nominations to our board of directors;
- require that stockholder actions must be effected at a duly called stockholder meeting and prohibit actions by our stockholders by written consent;
- limit who may call stockholder meetings;
- authorize our board of directors to issue preferred stock without stockholder approval, which could be used to institute a "poison pill" that would work to dilute the stock ownership of a potential hostile acquirer, effectively preventing acquisitions that have not been approved by our board of directors; and
- require the approval of the holders of at least 66.7% of the votes that all our stockholders would be entitled to cast to amend or repeal specified provisions of our certificate of incorporation or bylaws.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, or the DGCL, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner.

Our amended and restated bylaws to be effective upon the completion of this offering will designate the Court of Chancery of the State of Delaware and the federal district courts of the United States of America 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 and employees.

Our amended and restated bylaws provide that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware (or, if the Court of Chancery of the State of Delaware does not have jurisdiction, the federal district court for the District of Delaware) will be the sole and exclusive forum for the following types of actions or proceedings under Delaware statutory or common law:

- any derivative action or proceeding brought on our behalf;
- any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, employees or stockholders to our company or our stockholders;
- any action asserting a claim arising pursuant to any provision of the DGCL or as to which the DGCL confers jurisdiction on the Court of Chancery of the State of Delaware; or
- any action asserting a claim arising pursuant to any provision of our certificate of incorporation or bylaws (in each case, as they may be amended from time to time) or governed by the internal affairs doctrine.

These choice of forum provisions will not apply to suits brought to enforce a duty or liability created by the Exchange Act. Furthermore, Section 22 of the Securities Act creates concurrent jurisdiction for federal and

state courts over all such Securities Act actions. Accordingly, both state and federal courts have jurisdiction to entertain such claims. To prevent having to litigate claims in multiple jurisdictions and the threat of inconsistent or contrary rulings by different courts, among other considerations, our amended and bylaws provide that, unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States of America shall, to the fullest extent permitted by law, be the sole and exclusive forum for the resolution of any claims arising under the Securities Act. While the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive forum provisions. In such instance, we would expect to vigorously assert the validity and enforceability of the exclusive forum provisions of our amended and restated bylaws. This may require significant additional costs associated with resolving such action in other jurisdictions and there can be no assurance that the provisions will be enforced by a court in those other jurisdictions.

These exclusive forum provisions may limit the ability of our stockholders to bring a claim in a judicial forum that such stockholders 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. If a court were to find the either exclusive forum provision contained in our amended and restated bylaws to be inapplicable or unenforceable in an action, we may incur further significant additional costs associated with resolving such action in other jurisdictions, all of which could materially adversely affect our business, financial condition and operating results.

We may not be able to satisfy listing requirements of the Nasdaq Global Market or obtain or maintain a listing of our common stock on the Nasdaq Global Market.

If our common stock is listed on the Nasdaq Global Market, we must meet certain financial and liquidity criteria to maintain such listing. If we violate or fail to meet any of the Nasdaq Global Market‘s listing standards, our common stock may be delisted. In addition, our board of directors may determine that the cost of maintaining our listing on a national securities exchange outweighs the benefits of such listing. A delisting of our common stock from the Nasdaq Global Market may materially impair our stockholders’ ability to buy and sell our common stock and could have an adverse effect on the market price of, and the efficiency of the trading market for, our common stock. The delisting of our common stock could significantly impair our ability to raise capital and the value of your investment.

General Risk Factors

Changes in tax laws or regulations or in their implementation or interpretation may adversely affect our business and financial condition.

New income, sales, use or other tax laws, statutes, rules, regulations or ordinances could be enacted at any time, which could adversely affect our business or financial condition. Further, existing tax laws, statutes, rules, regulations or ordinances could be interpreted, changed, modified or applied adversely to us. A number of other factors could materially adversely affect our business and financial condition including: tax policy initiatives and reforms under consideration (such as those related to the Organization for Economic Co-Operation and Development’s, or OECD, Base Erosion and Profit Shifting, or BEPS, Project, the European Commission’s state aid investigations and other initiatives), the practices of tax authorities in jurisdictions in which we operate; the resolution of issues arising from tax audits or examinations and any related interest or penalties. Such changes may include (but are not limited to) the taxation of operating income, investment income, dividends received or (in the specific context of withholding tax) dividends paid.

The U.S. government may enact significant new changes to the taxation of business entities including, among others, an increase in the corporate income tax rate. Furthermore, 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 such changes have been made and changes are likely to continue to occur in the future. Future changes in tax laws could have a material adverse effect on our business, cash flow, financial condition or results of operations. 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.

We are unable to predict what tax reform may be proposed or enacted in the future or what effect such changes would have on our business, but such changes, to the extent they are brought into tax legislation, regulations, policies or practices in jurisdictions in which we operate, could increase the estimated tax liability that we have expensed to date and paid or accrued on our balance sheets, and otherwise affect our financial position, future results of operations, cash flows in a particular period and overall or effective tax rates in the future in countries where we have operations, reduce post-tax returns to our shareholders and increase the complexity, burden and cost of tax compliance.

Tax authorities may disagree with our positions and conclusions regarding certain tax positions, or may apply existing rules in an unforeseen manner, resulting in unanticipated costs, taxes or non-realization of expected benefits.

A tax authority may disagree with tax positions that we take, which could result in increased tax liabilities. For example, Her Majesty's Revenue & Customs, the IRS or another tax authority could challenge our allocation of income by tax jurisdiction and the amounts paid between our affiliated companies pursuant to our intercompany arrangements and transfer pricing policies, including amounts paid with respect to our intellectual property development. Similarly, a tax authority could assert that we are subject to tax in a jurisdiction where we believe we have not established a taxable connection, often referred to as a "permanent establishment" under international tax treaties, and such an assertion, if successful, could increase our expected tax liability in one or more jurisdictions.

A tax authority may take the position that material income tax liabilities, interest and penalties are payable by us, in which case we expect that we might contest such assessment. Contesting such an assessment may be lengthy and costly and if we were unsuccessful in disputing the assessment, the implications could increase our anticipated effective tax rate, where applicable.

Our ability to utilize our net operating loss carryforwards and certain other tax attributes may be subject to limitations.

We have a history of cumulative losses and anticipate that we will continue to incur significant losses in the foreseeable future; thus, we do not know whether or when we will generate taxable income necessary to utilize our net operating losses, or NOLs, or research and development tax credit carryforwards. As of December 31, 2021, we had federal NOL carryforwards of $3.5 million, state NOL carryforwards of $1.8 million, and had generated UK NOLs of $11.9 million, which, in the case of UK NOLs, are subject to utilization criteria and restrictions (including those that limit the percentage of profits that can be reduced by carried forward losses and those that can restrict the use of carried forward losses where there is a change of ownership of more than half the ordinary shares of the company and a major change in the nature, conduct or scale of the trade), and which, subject to the above restrictions and potential future changes in law, and to any potential restructuring or changes in the nature of our operations, may be eligible for carry forward against future operating profits and/or other taxable profits or gains.

As a company that carries out extensive research and development activities, we seek to benefit from the U.K. research and development tax relief programs, being the Small and Medium-sized Enterprises R&D tax relief program, or SME Program, and, to the extent that our projects are grant funded or relate to work subcontracted to the company by third parties, the Research and Development Expenditure Credit program, or RDEC Program. Under the SME Program, we may be able to surrender the trading losses that arise from our

qualifying research and development activities for a cash rebate of approximately 33.4% of the surrenderable losses. The majority of our research and development activities are eligible for inclusion within these tax credit cash rebate claims. We may not be able to continue to claim payable research and development tax credits in the future if we cease to qualify as an SME, based on size criteria concerning employee headcount, turnover and gross assets or if we no longer conduct qualifying research and development activities through our wholly-owned subsidiary PepGen Limited. The U.K. Finance Act of 2021 introduced a cap on payable credit claims under the SME Program in excess of £20,000 with effect from April 2021 by reference to, broadly, three times the total PAYE and NICs liability of the company, subject to an exception which prevents the cap from applying. That exception requires the company to be creating, taking steps to create or managing intellectual property, as well as having qualifying research and development expenditure in respect of connected parties which does not exceed 15% of the total qualifying expenditure. If such exception does not apply, this could restrict the amount of credit that we are able to claim.

For U.S. federal income tax purposes, in general, under Sections 382 and 383 of the U.S. Internal Revenue Code of 1986, as amended, or the Code, and corresponding provisions of state law, a corporation that undergoes an "ownership change," generally defined as a greater than 50 percentage point change (by value) in its equity ownership by certain stockholders over a three-year period, is subject to limitations on its ability to utilize its pre-change NOLs and pre-change research and development tax credit carryforwards to offset post-change income or taxes. We have not conducted a study to assess whether any such ownership changes have occurred. We may experience such ownership changes in the future. As a result, if, and to the extent that, we earn net taxable income, our ability to use our NOL carryforwards and research and development tax credit carryforwards to offset such taxable income may be subject to limitations.

Additionally, the use of the UK NOL carryforwards could be restricted, under Part 14 of the Corporation Tax Act 2010, if a "change in ownership" of either PepGen Inc. or PepGen Limited were to occur and certain other conditions are met. A "change in ownership" is defined, broadly, as the acquisition by one or more persons of more than half of the ordinary share capital of a company. The use of the UK NOL carryforwards could be restricted if, within a certain period of a change in ownership, there is a major change in the conduct of PepGen Limited's trade, PepGen Limited's trading activities become small or negligible, or if certain other conditions are met.

Any restructuring or change in the nature of our operations of our company may give rise to tax liabilities and/or restrictions in the amount and/or availability of tax attributes.

We are undergoing, and may in the future undertake, changes in the nature or conduct of our operations. For example, pursuant to an asset transfer agreement effective as of January 1, 2022, we effected a novation of all intellectual property assets of our wholly-owned UK subsidiary PepGen Limited to PepGen Inc. Going forward, operational updates may include additional transferring of assets of our UK subsidiary to PepGen Inc. or migrating functions undertaken by and/or employees engaged by our UK subsidiary to PepGen Inc. Any such action could give rise to tax liabilities for us and/or to the erosion of our tax attributes (such as net operating losses).

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

We are subject to certain reporting requirements of the Securities Exchange Act of 1934, as amended, or the Exchange Act. Our disclosure controls and procedures are designed to reasonably assure that information required to be disclosed by us in reports we file or submit under the Exchange Act is accumulated and communicated to management, recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. We believe that any disclosure controls and procedures or internal controls and procedures, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. 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 or insufficient disclosures due to error or fraud may occur and not be detected.

After the completion of this offering, we may be at an increased risk of securities class action litigation.

Historically, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because biotechnology and pharmaceutical companies have experienced significant stock price volatility in recent years. If we were to be sued, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business.

We may be exposed to significant foreign exchange risk.

We incur portions of our expenses, and may in the future derive revenues, in a variety of currencies. As a result, we are exposed to foreign currency exchange risk as our results of operations and cash flows are subject to fluctuations in foreign currency exchange rates. Fluctuations in currency exchange rates have had, and will continue to have, an impact on our results as expressed in U.S. dollars. We currently do not engage in hedging transactions to protect against uncertainty in future exchange rates between particular foreign currencies and the euro. We cannot predict the impact of foreign currency fluctuations, and foreign currency fluctuations in the future may adversely affect our financial condition, results of operations and cash flows.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the sections titled "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 cost of our research and development programs and our current and future preclinical studies and 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 research and development programs;
- our ability to efficiently develop our existing product candidates and discover new product candidates;
- our ability to successfully manufacture our drug substances and product candidates for preclinical use, for clinical trials and on a larger scale for commercial use, if approved;
- our ability to obtain funding for our operations necessary to complete further development and commercialization of our product candidates;
- our ability to obtain and maintain regulatory approval of our product candidates;
- our ability to commercialize our products, if approved;
- the pricing and reimbursement of our product candidates, if approved;
- the implementation of our business model, and strategic plans for our business and product candidates;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our product candidates;
- estimates of our future expenses, revenues, capital requirements, and our needs for additional financing;
- the size and growth potential of the markets for our product candidates, and our ability to serve those markets;
- our financial performance;
- the rate and degree of market acceptance of our product 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 produce our products or product candidates with advantages in turnaround times or manufacturing cost;
- the success of competing therapies that are or may become available;
- our ability to attract and retain key scientific or management personnel;
- the impact of laws and regulations;
- our use of the proceeds from this offering;
- developments relating to our competitors and our industry;
- the effect of the ongoing 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 clinical trials and any future studies or trials; and
- other risks and uncertainties, including those listed under the caption "Risk Factors."

In some cases, you can identify forward-looking statements 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, and are subject to change due to 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 titled "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. Moreover, we operate in an evolving environment. New risk factors and uncertainties may emerge from time to time, and it is not possible for management to predict all risk factors and uncertainties. You should read this prospectus and the documents that we reference in this prospectus and have filed with the Securities and Exchange Commission as exhibits to the registration statement, of which this prospectus forms 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.

In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this prospectus, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain.

This prospectus also contains estimates, projections and other information concerning our industry, our business and the markets for our programs and product candidates. Information that is based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances that are assumed in this information. Unless

otherwise expressly stated, we obtained this industry, business, market, and other data from our own internal estimates and research as well as from reports, research surveys, studies, and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data and similar sources. 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 titled “Risk Factors” and elsewhere in this prospectus.

USE OF PROCEEDS

We estimate that the 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, which is 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, which is 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. A 1.0 million share increase (decrease) 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. This information is illustrative only and will depend on the actual initial public offering price and other terms of this offering determined at pricing. We do not expect that a change in the initial price to the public or the number of shares by these amounts would have a material effect on uses of the proceeds from this offering, although a decrease in the initial offering price without a corresponding increase in the number of shares offered may accelerate the time at which we will need to seek additional capital.

We currently expect to use our net proceeds from this offering, together with our existing cash and cash equivalents, as follows:

- approximately $ to further develop our PGN-EDO51 program, including to ;
- approximately $ to further develop our PGN-EDODM1 program, including to ;
- approximately $ to further develop our PGN-EDO53 program, including to ;
- approximately $ to further develop our PGN-EDO45 and PGN-EDO44 programs, including to ;
- approximately $ to further develop our pipeline and platform, including to ; and
- the remaining proceeds for 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.

Based on our current plans, we believe that our existing cash and cash equivalents, together with the anticipated net proceeds from this offering, will enable us to fund our operating expenses and capital expenditure requirements into . The expected net proceeds from this offering will not be sufficient for us to fund any of our product candidates through regulatory approval, and we will need to raise substantial additional capital to complete the development and commercialization of our product candidates.

Due to the many inherent uncertainties in the development of our programs and product 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 of patient enrollment and evolving regulatory requirements, the timing and success of preclinical studies, our ongoing clinical trials or clinical trials we may commence in the future, the timing of regulatory submissions, any strategic alliances that we may enter into with third parties for our product candidates or strategic opportunities that become available to us, and any unforeseen cash needs.

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 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 have never declared or paid any cash dividends on our capital stock. 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, general business conditions, and other factors that our board of directors may deem relevant. Investors should not purchase our common stock with the expectation of receiving cash dividends.

CAPITALIZATION

The following table sets forth our cash and cash equivalents and our capitalization as of December 31, 2021:

- on an actual basis;
- on a pro forma basis to give effect to (i) the automatic conversion of all outstanding shares of our convertible preferred stock into an aggregate of 12,546,805 shares of our common stock as if such conversion had occurred as of December 31, 2021, and (ii) the filing and effectiveness of our amended and restated certificate of incorporation in connection with the completion of this offering; and
- on a pro forma as adjusted basis to give effect to the pro forma adjustments described above, and the issuance and sale 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.

You should read this information together with our financial statements and related notes appearing elsewhere in this prospectus and the information set forth in the sections titled "Selected Financial Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations."

	As of December 31, 2021		
	Actual	Pro Forma	Pro Forma As Adjusted(1)
	(unaudited, in thousands)		
Cash and cash equivalents	$132,895	$	$
Preferred stock warrant liability	$ 226	$	$
Series A-1 convertible preferred stock, $0.0001 par value; 1,372,970 shares authorized, issued and outstanding, actual; no shares authorized, issued, and, outstanding, pro forma and pro forma as adjusted	8,454		
Series A-2 convertible preferred stock, $0.0001 par value; 3,974,598 shares authorized; 3,939,069 shares issued and outstanding, actual; no shares authorized, issued or outstanding, pro forma and pro forma as adjusted	44,639		
Series B convertible preferred stock, $0.0001 par value; 7,234,766 shares authorized, issued and outstanding, actual; no shares authorized, issued or outstanding, pro forma and pro forma as adjusted	112,083		
Stockholders' (deficit) equity:			
Common stock, $0.0001 par value; no shares authorized, issued or outstanding, actual; shares authorized, shares issued and outstanding, pro forma; shares authorized, shares issued and outstanding , pro forma as adjusted	—		
Class A common stock(2), $0.0001 par value; 16,000,000 shares authorized, 1,051,720 shares issued and outstanding (including 70,780 that are restricted and subject to repurchase), actual; shares authorized, shares issued and outstanding, pro forma; shares authorized, shares issued and outstanding, pro forma as adjusted	—		
Additional paid-in capital	1,653		
Accumulated other comprehensive income	17		
Accumulated deficit	(33,752)		
Total stockholders' (deficit) equity	(32,082)		
Total capitalization	$133,320	$	$

(1) Each $1.00 increase or 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 or decrease, as applicable, each of pro forma as adjusted cash and cash equivalents, additional paid-in capital, total stockholders' (deficit)

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. We may also increase or decrease the number of shares we are offering. Each increase or decrease of 1.0 million shares in the number of shares we are offering would increase or decrease, as applicable, each of pro forma as adjusted cash and cash equivalents, additional paid-in capital, total stockholders' (deficit) equity, and total capitalization by approximately $ million, assuming the assumed initial public offering price per share, as set forth on the cover page of this prospectus, remains the same. The pro forma as adjusted information is illustrative only, and we will adjust this information based on the actual initial public offering price and other terms of this offering determined at pricing.

(2) In connection with this offering, we intend to re-designate all shares of Class A common stock as shares of common stock. Other than with respect to their names, the terms of common stock and Class A common stock will be identical.

The number of shares of common stock issued and outstanding pro forma and pro forma as adjusted in the table above is based on 1,051,720 shares of our common stock outstanding as of December 31, 2021, of which 70,780 were shares of unvested restricted common stock, and 12,546,805 shares of our common stock issuable upon the automatic conversion of all outstanding shares of our convertible preferred stock immediately prior to the completion of this offering, and excludes:

- 35,529 shares of Series A-2 convertible preferred stock issuable upon the exercise of outstanding preferred stock warrants as of December 31, 2021, at an exercise price of $11.42 per share, which will convert into 35,529 shares of our common stock;
- 1,932,273 shares of common stock issuable upon the exercise of stock options outstanding as of December 31, 2021, at a weighted average exercise price of $7.33 per share;
- 464,609 shares of our common stock reserved for future issuance under our existing equity incentive plans as of December 31, 2021, which will no longer be available following the effectiveness of our 2022 Plan described below;
- shares of our common stock reserved for future issuance under the 2022 Plan, which will adopted in connection with this offering; and
- shares of our common stock reserved for future issuance under the ESPP, which will be adopted in connection with this offering.

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 after this offering.

Our historical net tangible book value (deficit) as of December 31, 2021 was $(32.1) million, or $(30.50) 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 are not included within stockholders' (deficit). Historical net tangible book value (deficit) per share represents our historical net tangible book value (deficit) divided by the 1,051,720 shares of our common stock outstanding as of December 31, 2021.

Our pro forma net tangible book value as of December 31, 2021 was $, or $ per share of our common stock. Pro forma net tangible book value 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 preferred stock into an aggregate of shares of 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 outstanding as of December 31, 2021, after giving effect to the automatic conversion of all outstanding shares of our preferred stock into common stock immediately prior to the completion of this offering.

After giving further effect to our issuance and sale 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, and 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 December 31, 2021 would have been $ million, or $ 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 $ in pro forma as adjusted net tangible book value per share to new investors purchasing common stock in this offering. Dilution per share to new investors 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 new investors. The following table illustrates this dilution on a per share basis:

Assumed initial public offering price per share		$
Historical net tangible book value per share as of December 31, 2021	$(30.50)	
Pro forma increase in net tangible book value per share as of December 31, 2021		
Pro forma net tangible book value per share as of December 31, 2021, before giving effect to this offering		
Increase in pro forma net tangible book value per share attributable to investors purchasing shares in this offering		
Pro forma as adjusted net tangible book value per share immediately after this offering		
Dilution in pro forma as adjusted net tangible book value per share to new investors purchasing shares 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 by $ million, our pro forma as adjusted net tangible book value per share after this offering by $ and dilution per share to new investors purchasing shares 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. A 1.0 million share increase in the number of shares offered by us, as set forth on the

cover page of this prospectus, would increase the pro forma as adjusted net tangible book value per share after this offering by $ and decrease the dilution per share to new investors participating 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. A 1.0 million share decrease in the number of shares offered by us, as set forth on the cover page of this prospectus, would decrease the pro forma as adjusted net tangible book value per share after this offering by $ and increase the dilution per share to new investors participating 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 exercise their option to purchase additional shares in full, our pro forma as adjusted net tangible book value per share after this offering would be $ per share, representing an immediate increase in pro forma as adjusted net tangible book value per share of $ to existing stockholders and immediate dilution in pro forma as adjusted net tangible book value per share of $ to new investors purchasing common stock in this offering, assuming an initial public offering price of $ per share, which is 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. If any shares are issued upon exercise of outstanding options or warrants, you will experience further dilution.

The following table summarizes, on the pro forma as adjusted basis described above, the differences between the number of shares of common stock purchased from us, the total consideration paid to us and the average price per share paid by existing stockholders and by new investors purchasing shares of common stock in this offering. The calculation below is based on an assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, before deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us:

	Shares Purchased		Total Consideration		Average Price Per Share
	Number	Percent	Amount	Percent	
Existing stockholders		%	$	%	$
New investors					$
Total		100.0%	$	100.0%	

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 exercised in full, 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 new investors participating in the offering would be increased to % of the total number of shares of our common stock outstanding after this offering.

The foregoing tables and calculations (other than the historical net tangible book value (deficit) calculations) are based on 1,051,720 shares of our common stock outstanding as of December 31, 2021, of which 70,780 were shares of unvested restricted common stock, and 12,546,805 shares of our common stock issuable upon the automatic conversion of all outstanding shares of our convertible preferred stock immediately prior to the completion of this offering, and excludes:

- 35,529 shares of Series A-2 convertible preferred stock issuable upon the exercise of outstanding preferred stock warrants as of December 31, 2021, at an exercise price of $11.42 per share, which will convert into 35,529 shares of our common stock;
- 1,932,273 shares of common stock issuable upon the exercise of stock options outstanding as of December 31, 2021, at a weighted average exercise price of $7.33 per share;

- 464,609 shares of our common stock reserved for future issuance under our existing equity incentive plans as of December 31, 2021, which will no longer be available following the effectiveness of our 2022 Plan described below;

- shares of our common stock reserved for future issuance under the 2022 Plan, which will adopted in connection with this offering; and

- shares of our common stock reserved for future issuance under the ESPP, which will be adopted in connection with this offering.

To the extent that outstanding options are exercised or shares are issued under our 2022 Plan, you will experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities may result in further dilution to our stockholders.

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 our financial statements and the related notes included 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, strategies, objectives, expectations and intentions for our business and related financing, 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 these forward-looking statements. Please also see the section titled "Special Note Regarding Forward-Looking Statements."

Overview

We are a clinical-stage biotechnology company advancing the next generation of oligonucleotide therapeutics with the goal of transforming the treatment of severe neuromuscular and neurologic diseases. Our Enhanced Delivery Oligonucleotide, or EDO, platform is founded on over a decade of research and development and leverages cell-penetrating peptides to improve the uptake and activity of conjugated oligonucleotide therapeutics. This technology was initially developed through a collaboration between researchers at the University of Oxford and the Medical Research Council of United Kingdom Research and Innovation. We have in-licensed an extensive patent portfolio from these institutions to support the further advancement and potential commercialization of our EDO platform. Our EDO peptides are engineered to optimize tissue penetration, cellular uptake and nuclear delivery, and in preclinical studies we have observed their ability to transport oligonucleotides into a broad range of target tissues, including smooth, skeletal, and cardiac muscle and the central nervous system, or CNS. Furthermore, the high levels of pharmacological activity observed in preclinical studies support our belief that our EDO platform technology has the potential to deliver therapeutic agents to the cell nucleus. Using these EDO peptides, we are generating a pipeline of oligonucleotide therapeutic candidates that target the root cause of serious diseases.

We are currently in clinical-stage development, with our product candidate, PGN-EDO51, having entered the clinic in the second quarter of 2022. We are developing PGN-EDO51, to treat individuals with Duchenne muscular dystrophy, or DMD, whose mutations are amenable to an exon 51-skipping therapeutic approach. An exon is a segment of a gene that – together with other exons – contains the code that is translated into a protein. Exon skipping is a therapeutic modality that enables mutations in the gene to be bypassed, thereby repairing this code and enabling production of a truncated, yet functional version of the target protein. In non-human primate, or NHP, studies, PGN-EDO51 at a dose of 30 mg/kg achieved over 70% exon 51 skipping in skeletal muscle, including diaphragm. Based on a head-to-head comparison with the most clinically-advanced peptide-conjugated oligonucleotide therapeutic, and on cross-trial comparisons with publicly-available data for other preclinical approaches, we believe this to be the highest rate of exon 51 skipping reported for any approved therapeutic or known development candidate at tolerable dose levels. Following the review of our preclinical dataset by Health Canada and subsequent authorization of our Clinical Trial Application, or CTA, we have initiated a Phase 1 clinical trial of PGN-EDO51 in healthy normal volunteers, or HNV, and we anticipate receiving topline data from this trial by the end of 2022. We are also developing PGN-EDODM1 for the treatment of myotonic dystrophy type 1, or DM1, for which we anticipate submitting an investigational new drug, or IND, application in the first half of 2023, and PGN-EDO53 for the treatment of DMD patients whose mutations are amenable to an exon 53- skipping therapeutic approach, for which we anticipate reporting exon skipping data in NHPs in the second half of 2022. Alongside these therapeutic candidates, we have initiated research efforts on EDO therapeutics for further DMD exon skipping populations, including exon 45- and exon 44- skipping amenable patients, and for additional indications, including neuromuscular diseases and neurologic disorders. We anticipate advancing additional programs into CTA and IND-enabling studies in 2024.

Since our inception, we have not generated any revenue from product sales or other sources and have incurred significant operating losses and negative cash flows from our operations. Our primary uses of cash to

date have been to fund our research and development activities, business planning, establishing and maintaining our intellectual property portfolio, acquiring and developing product and technology rights, hiring personnel, leasing premises and associated capital expenditures, raising capital, and providing general and administrative support for these operations. To date, we have funded our operations primarily through private placements of our convertible preferred stock. As of December 31, 2021, we had received aggregate gross proceeds of $163.9 million from these private placements and had cash and cash equivalents of $132.9 million. In July 2021, we raised gross proceeds of $21.0 million from the final milestone closing of our Series A-2 convertible preferred stock and additionally, in July 2021, we raised aggregate gross proceeds of $112.5 million from the private placement of our Series B convertible preferred stock.

We have incurred operating losses in each year since our inception. Our net losses were $1.9 million and $27.3 million for the years ended December 31, 2020 and 2021, respectively. As of December 31, 2021, we had an accumulated deficit of $33.8 million. We expect our expenses and operating losses will increase substantially as we conduct our ongoing preclinical studies and current and planned clinical trials, continue our research and development activities, utilize third parties to manufacture our product candidates and related raw materials, hire additional personnel, protect our intellectual property and incur additional costs associated with being a public company, including audit, legal, regulatory, and tax-related services associated with maintaining compliance with an exchange listing and SEC requirements, director and officer insurance premiums, and investor relations costs. In addition, we have several development, regulatory and commercial milestone payment obligations under our licensing arrangements. Our net losses may fluctuate significantly from quarter-to-quarter and year-to-year, depending on the timing of our preclinical studies and current and planned clinical trials and our expenditures on other research and development activities.

Based upon our current operating plans, we believe that the estimated net proceeds from this offering, together with our existing cash and cash equivalents, will be sufficient to fund our operations into . See "Use of Proceeds." We do not expect to generate any revenues from product sales unless and until we successfully complete development and obtain regulatory approval for one or more of our product candidates, which will not be for at least the next several years, if ever. If we obtain regulatory approval for any of our product candidates, we expect to incur significant commercialization expenses related to product sales, marketing, manufacturing and distribution. Accordingly, until such time as we can generate significant revenue from sales of our product candidates, if ever, we expect to finance our cash needs through equity offerings, debt financings or other capital sources, including potential collaborations, licenses and other similar arrangements. However, we may be unable to raise additional funds or enter into such other arrangements when needed on favorable terms or at all. Our failure to raise capital or enter into such other arrangements when needed would have a negative impact on our financial condition and could force us to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Impact of COVID-19 on our Business

The global coronavirus disease 2019, or COVID-19, pandemic continues to evolve, and we will continue to monitor the COVID-19 situation. The extent of the impact of the ongoing COVID-19 pandemic on our business, operations and clinical development timelines and plans remains uncertain, and will depend on certain developments, including the duration and spread of the pandemic and its impact on contract research organizations, or CROs, third-party manufacturers, and other third parties with whom we do business, as well as its impact on regulatory authorities and our key scientific and management personnel. The ultimate impact of the ongoing COVID-19 pandemic or a similar health epidemic is highly uncertain and subject to change. To the extent possible, we are conducting business as usual, with only advisable modifications to employee travel. We will continue to actively monitor the rapidly evolving situation related to COVID-19 and may take further actions that alter our operations, including those that may be required by federal, state or local authorities, or that we determine are in the best interests of our employees and other third parties with whom we do business. At this point, the extent to which the ongoing COVID-19 pandemic may affect our business, operations and clinical

development timelines and plans, including the resulting impact on our expenditures and capital needs, remains uncertain and is subject to change.

Corporate Reorganization

We were initially formed as PepGen Limited on January 25, 2018, in the United Kingdom. On November 9, 2020, PepGen Limited initiated a corporate reorganization, or the Reorganization. As part of the Reorganization, PepGen Limited formed PepGen Inc., a Delaware corporation with nominal assets and liabilities, for the purpose of consummating the Reorganization. In connection with the Reorganization, the existing shareholders of PepGen Limited exchanged each of their classes of shares of PepGen Limited for the same number and class of common stock of PepGen Inc. on a one-to-one basis. The newly issued stock of PepGen Inc. had substantially identical rights to the exchanged shares of PepGen Limited. As a result of the exchange, PepGen Inc. became the sole shareholder of PepGen Limited. Upon the completion of the Reorganization on November 23, 2020, the historical financial statements of PepGen Limited became the historical financial statements of PepGen Inc., as the Reorganization was deemed to be between entities under common control.

After the Reorganization was completed, PepGen Limited began the process of transferring certain operations, including financial management functions, to PepGen Inc. pursuant to an intercompany services agreement, effective as of April 2021, and certain assets, including a novation of all intellectual property assets, pursuant to an asset transfer agreement, effective as of January 1, 2022. We expect that PepGen Limited will continue to transfer additional operations and assets to PepGen Inc. in 2022.

Components of Results of Operations

Revenue

We currently have no products approved for sale, and we have not generated any revenue to date. In the future, we may generate revenue from collaboration or license agreements we may enter into with respect to our drug candidates, as well as product sales from any approved product, which approval we do not expect to occur for at least the next several years, if ever. Our ability to generate product revenue will depend on the successful development and eventual commercialization of the drug candidates we pursue. If we fail to complete preclinical and clinical development of product candidates or obtain regulatory approval for them, our ability to generate future revenues, and our results of operations and financial position would be adversely affected.

Operating Expenses

Research and Development

To date, our research and development expenses have primarily consisted of external and internal costs associated with our research and development activities, including our discovery and research efforts, including the development of our proprietary EDO platform, and the preclinical and clinical development of our product candidates. Our research and development expenses include:

- external expenses, including expenses incurred under arrangements with third parties, such as contract research organizations, or CROs, contract manufacturers or CMOs, consultants and our scientific advisors;
- personnel-related costs, including salaries, cash incentive compensation, payroll taxes, employee benefits, and stock-based compensation;
- costs for laboratory supplies and materials and reagents for chemical synthesis of product candidates; and

- facility costs, depreciation, and other expenses, which include direct and allocated expenses for rent and maintenance of facilities, insurance, and other supplies.

Research and development expenses are recognized as incurred and payments made prior to the receipt of goods or services to be used in research and development activities are capitalized as prepaid expenses until the goods or services are received. Research and development expenses are presented net of reimbursement received related to a U.K. grant and refundable research and development tax credits from the U.K government. We do not expect our research and development tax credits from the U.K. government to be material in future years as the intellectual property has been transferred from our wholly-owned U.K. subsidiary, PepGen Limited, to the parent Company, PepGen Inc. in January 2022.

The following table summarizes our research and development expenses for the years ended December 31, 2020 and 2021. The direct external development program expenses reflect external costs attributable to our clinical development candidates and preclinical candidates selected for further development. Our internal resources, personnel and infrastructure are not directly tied to any one research or drug discovery program and are typically deployed across multiple programs. As such, we do not track internal expenses on a specific program basis.

	Year Ended December 31,	
	2020	2021
External expenses:		
PGN-EDO51	$ 550	$ 12,888
PGN-EDODM1	107	1,691
PGN-EDO53	—	45
Other programs and unallocated expenses	46	202
Total external expense	703	14,826
Internal expenses:		
Personnel-related (including stock-based compensation)	194	2,960
Other	127	1,213
Total research and development expenses	$ 1,024	$ 18,999

We plan to substantially increase our research and development expenses for the foreseeable future as we continue to conduct our ongoing research and development activities, advance our preclinical research programs toward clinical development, including conducting IND- and CTA-enabling studies, and conducting clinical trials. The process of conducting preclinical studies and clinical trials necessary to obtain regulatory approval is costly and time consuming. We may never succeed in achieving marketing approval for any of our product candidates.

The timelines and costs associated with research and development activities are uncertain and can vary significantly for each product candidate and development program due to the inherently unpredictable nature of preclinical and clinical development. We anticipate we will make determinations as to which programs to pursue and how much funding to direct to each program on an ongoing basis in response to preclinical and clinical results, regulatory developments, and ongoing assessments as to each program's commercial potential. We will need to raise substantial additional capital in the future.

Our future development costs may vary significantly based on factors such as:

- animal and other preclinical studies and IND- or CTA-enabling studies;
- per patient trial costs;
- the number of trials required for approval;
- the number of sites included in the trials;

- the countries in which the trials are conducted;
- the length of time required to enroll eligible patients;
- the number of patients that participate in the trials;
- the number of doses that patients receive;
- the drop-out or discontinuation rates of patients;
- the duration of patient participation in the trials and follow-up;
- the cost and timing of manufacturing our product candidates;
- the efficacy and safety profile of our product candidates; and
- maintaining a continued acceptable safety profile of our products if any receive regulatory approval.

General and Administrative

General and administrative expenses consist primarily of personnel-related costs, including salaries, cash incentive compensation, payroll taxes, employee benefits, and stock-based compensation charges for those individuals in executive, finance, facility operations, and other administrative functions. Other significant costs include legal fees relating to intellectual property and corporate matters, professional fees for accounting and consulting services, and insurance costs.

We anticipate that our general and administrative expenses will increase for the foreseeable future to support our continued research and development activities. We also anticipate increased expenses related to audit, legal, regulatory, and tax-related services associated with maintaining compliance with our exchange listing and SEC requirements, director and officer insurance premiums, and investor relations costs associated with operating as a public company.

Other Income (Expense), Net

Interest income

Interest income consists primarily of interest earned on our cash deposits.

Other income (expense)

We classify our outstanding warrants to purchase shares of our Series A-2 convertible preferred stock as liabilities on our consolidated balance sheets at their estimated fair value as the underlying convertible preferred stock is classified as temporary equity. At the end of each reporting period, changes in the estimated fair value during the period are recorded as a component of other income (expense), net. We will continue to recognize changes in the fair value of our warrant liability until the warrants are exercised, expire, or qualify for equity classification. The warrants provide that, unless earlier exercised by the holders thereof, they will automatically be exercised on a net basis in connection with an initial public offering.

In connection with this offering we will be required to pay Oxford University Innovation Limited, or OUI, an exit fee not to exceed £5.0 million (or $6.8 million as of December 31, 2021). As of December 31, 2021, we concluded the exit event was not probable and therefore no obligation was recorded. In connection with this offering, we have agreed to pay the amount of £ (or $ million as of December 31, 2021) in

satisfaction of these obligations. As a result, we anticipate that upon the closing of this offering, a liability in such amount will be recorded.

Income Taxes

We have not recorded a provision for federal or state income taxes as we have had cumulative net operating losses since inception.

Results of Operations

Comparison of the Years Ended December 31, 2020 and 2021

The following table summarizes our results of operations for the years ended December 31, 2020 and 2021 (in thousands):

	Year Ended December 31,		Period-to-Period Change	Period-to-Period Percentage Change
	2020	2021		
Operating expenses:				
Research and development (including related party amounts of $152 and $945, respectively)	$ 1,024	$ 18,999	$ 17,975	1755%
General and administrative	853	8,110	7,257	851%
Total operating expenses	1,877	27,109	25,232	1344%
Operating loss	(1,877)	(27,109)	(25,232)	1344%
Other income (expense), net				
Interest income	8	—	(8)	-100%
Other income (expense), net	(20)	(172)	(152)	760%
Total other income (expense), net	(12)	(172)	(160)	1333%
Net loss	$ (1,889)	$ (27,281)	$ (25,392)	1344%

Research and Development Expenses

Research and development expenses increased by $18.0 million from $1.0 million for the year ended December 31, 2020, to $19.0 million for the year ended December 31, 2021. This increase was attributable to increased research and development activities related to the advancement of our pipeline programs, including a $14.1 million increase in preclinical and manufacturing costs and a $2.8 million increase in personnel-related costs due to increased headcount, including an increase of $0.4 million in stock-based compensation expense.

General and Administrative Expenses

General and administrative expenses increased by $7.3 million from $0.9 million for the year ended December 31, 2020, to $8.1 million for the year ended December 31, 2021. The increase was primarily driven by an increase of $4.8 million in legal fees, accounting services and consulting, and an increase of $2.6 million in personnel-related costs due to increased headcount, including $1.1 million in stock-based compensation expense.

Other Income (Expense), Net

Other expense, net was $20,000 for the year ended December 31, 2020 compared to other expense, net of $0.2 million for the year ended December 31, 2021. The increase was primarily attributable to the increase in fair value of warrants to purchase shares of our Series A-2 convertible preferred stock.

Liquidity and Capital Resources

Sources of Liquidity

From our inception in January 2018 through December 31, 2021, we have received aggregate gross proceeds of $163.9 million from the sale of our common stock and convertible preferred stock.

Future Funding Requirements

As of December 31, 2021, we had cash and cash equivalents in the amount of $132.9 million. Based on our current operating plans, we believe that our existing cash and cash equivalents, together with the estimated net proceeds from this offering, will be sufficient to fund our operations into . However, our forecast of the period of time through which our financial resources will be adequate to support our operations is a forward-looking statement that involves risks and uncertainties, and actual results could vary materially. We have based this estimate on assumptions that may prove to be wrong, and we could deplete our capital resources sooner than we expect. Additionally, the process of conducting preclinical studies and testing product candidates in clinical trials is costly, and the timing of progress and expenses in these studies and trials is uncertain.

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, discovery, preclinical studies and clinical trials of our product candidates which we are pursuing or may choose to pursue in the future;
- the costs and timing of manufacturing for our product candidates and commercial manufacturing if any product candidate is approved;
- the costs, timing, and outcome of regulatory review of our product candidates;
- the terms and timing of establishing and maintaining licenses and other similar arrangements;
- the legal 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;
- the costs associated with hiring additional personnel and consultants as our preclinical and clinical activities increase;
- the costs and timing of establishing or securing sales and marketing capabilities if any product candidate is approved;
- 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; and
- costs associated with any products or technologies that we may in-license or acquire.

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 equity offerings, debt financings, or other capital sources, potentially including collaborations, licenses, and other similar arrangements. However, we may be unable to raise additional funds or enter into such other arrangements when needed on favorable terms or at all. To the extent

that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our stockholders will be or 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 drug candidates or grant licenses on terms that may not be favorable to us and/or may reduce the value of our common stock. Our failure to raise capital or enter into such other arrangements when needed could have a negative impact on our financial condition and on our ability to pursue our business plans and strategies. If we are unable to raise additional funds through equity or debt financings 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 drug candidates even if we would otherwise prefer to develop and market such drug candidates ourselves.

Cash Flows

The following table sets forth a summary of the net cash flow activity for the years ended December 31, 2020 and 2021 (in thousands):

	Year Ended December 31,	
	2020	2021
Net cash (used in) provided by:		
Operating activities	$ (1,652)	$ (22,599)
Investing activities	(8)	(500)
Financing activities	7,952	147,656
Effect of exchange rate changes on cash	(5)	33
Net increase in cash, cash equivalents and restricted cash	$ 6,287	$ 124,590

Operating Activities

For the year ended December 31, 2020, net cash used in operating activities was $1.7 million resulting from our net loss of $1.9 million partially offset by non-cash charges of $0.2 million. There were no net changes in our operating assets and liabilities as increases in accounts payable, were offset by decreases in other current assets. The non-cash charges included $0.1 million of depreciation expense and $0.1 million of stock-based compensation expense.

For the year ended December 31, 2021, net cash used in operating activities was $22.6 million resulting from our net loss of $27.3 million partially offset by cash provided by changes in our operating assets and liabilities of $2.8 million and non-cash charges of $1.9 million. The net changes in our operating assets and liabilities were primarily due to increases in accrued expenses and accounts payable of $9.3 million, partially offset by increases in other receivables and prepaids and other current and non-current assets of $6.6 million. The non-cash charges included $1.5 million of stock-based compensation, $0.2 million of depreciation expense and $0.2 million from the change in the fair value of preferred stock warrant liability.

Investing Activities

Net cash used in investing activities was $8,000 during the year ended December 31, 2020 as compared to $0.5 million during the year ended December 31, 2021. The increase in net cash used in investing activities was due to an increase in purchases of property and equipment.

Financing Activities

Net cash provided by financing activities was $8.0 million during the year ended December 31, 2020 as compared to $147.7 million during the year ended December 31, 2021. The increase in net cash provided by financing activities was primarily due to the proceeds of $37.0 million raised from the sale of our Series A-2 convertible preferred stock and the proceeds of $112.1 million from the sale of our Series B convertible preferred stock, compared to proceeds of $8.0 million raised from the sale of our Series A-2 convertible preferred stock in the comparable period.

Contractual Obligations and Commitments

As of December 31, 2021, we did not have any long-term debt obligations, capital lease obligations, purchase obligations or long-term liabilities. We have four short term operating leases. We have two operating leases for office and laboratory space located in Cambridge, Massachusetts, which are both cancelable within 30 days of a written notice and require monthly payments totaling approximately $55,000; one operating lease for a one year term for laboratory space in Newton, Massachusetts with monthly payments totaling approximately $35,000; and one operating lease for laboratory space in Oxford, United Kingdom with a one year annual renewal, which may be cancelled on a one-month rolling notice basis and expires in September 2022, with monthly payments totaling approximately £11,000 (approximately $15,000 as of December 31, 2021). In December 2021, we entered a lease for 31,668 square feet of office space at 321 Harrison Street, Boston, Massachusetts 02118. The current term of the lease is 110 months, beginning on the lease commencement date, which is expected to occur in the second half of 2022. Rental payments begin when the lease commences, and are approximately $2.9 million annually, with a 3% escalation per year.

We enter into contracts in the normal course of business for contract research services, contract manufacturing services, professional services and other services and products for operating purposes. These contracts generally provide for termination after a notice period, and, therefore, are considered cancelable contracts.

We have also entered into a license agreement with Oxford University Innovation Limited, or OUI, and the Medical Research Council of United Kingdom Research and Innovation, or MRC, under which we are obligated to make specified milestone and royalty payments. We paid a completion fee of £50,000 upon signing and upfront fees in an aggregate amount of £30,000, and are obligated to pay to OUI low, single-digit royalties, on net sales in excess of a threshold amount between £20 million and £30 million of any OUI/MRC Licensed Products that are commercialized by us or our sublicensees, subject to certain adjustments. The payment obligations under this license agreement are contingent upon future events, such as our achievement of specified development, regulatory and commercial milestones, or generating product sales. We are unable to estimate the timing or likelihood of achieving these milestones or generating future product sales.

In connection with this offering, we will also be required to pay OUI an exit fee between 0.5% to 2% of the value determined in this offering, not to exceed £5.0 million (or $6.8 million as of December 31, 2021). In lieu of paying the exit fee, we have the option to pay a buy out fee, which can be paid at any time to release us from our obligation to pay the exit fee. In connection with this offering, we have agreed to pay the amount of £ (or $ million as of December 31, 2021) in satisfaction of these obligations.

For more information about our license agreement with OUI and MRC, see “Business—Intellectual Property—License agreement with the Oxford University Innovation Limited and the Medical Research Council of United Kingdom Research and Innovation.”

Off-Balance Sheet Arrangements

We have not entered into any off-balance sheet arrangements as defined under rules and regulations of the SEC.

Critical Accounting Polices and Estimates

Our management's discussion and analysis of our financial condition and results of operations are based on our financial statements, which are prepared in accordance with generally accepted accounting principles in the United States, or GAAP. The preparation of our financial statements requires us to make estimates and management discussion assumptions that affect the reported amounts of assets, liabilities, costs, and expenses and the disclosure of contingent assets and liabilities in our financial statements and accompanying notes. We base our estimates and assumptions on historical experience and other factors that we believe to be reasonable under the circumstances. We evaluate our estimates and judgments on an ongoing basis. We base our estimates on historical experience, known trends and events, and on 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. Our actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are more fully described in Note 2, *"Summary of Significant Accounting Policies"* to our consolidated financial statements appearing elsewhere in this prospectus, we believe that the following accounting policies are the most critical for fully understanding and evaluating our financial condition and results of operations.

Research and Development Expenses and Accrued Research and Development Costs

We are required to estimate our expenses resulting from obligations under contracts with vendors, consultants, CMOs, and CROs, in connection with conducting research and development activities. The financial terms of these contracts are subject to negotiations, which vary from contract to contract and may result in payment flows that do not match the periods over which materials or services are provided under such contracts. We reflect research and development expenses in our financial statements by matching those expenses with the period in which services and efforts are expended. We account for these expenses according to the progress of the applicable preclinical or clinical study as measured by the timing of various aspects of the study or related activities. We determine accrual estimates through review of the underlying contracts along with preparation of financial models taking into account discussions with research and other key personnel as to the progress of studies, or other services being conducted. During the course of a study, we adjust our rate of expense recognition if actual results differ from our estimates.

Although we do not expect our estimates to be materially different from amounts actually incurred, if our estimates of the status and timing of services performed differ from the actual status and timing of services performed, it could result in us reporting amounts that are too high or too low in any particular period. To date, there have been no material differences between our estimates of such expenses and the amounts actually incurred.

Stock-Based Compensation

Stock-based compensation expense represents the cost of the grant date fair value of equity awards recognized over the requisite service period of the awards (usually the vesting period) on a straight-line or accelerated basis. We estimate the fair value of stock option awards using the Black-Scholes option pricing model and recognize forfeitures as they occur.

The Black-Scholes option pricing model requires the use of subjective assumptions, including the risk-free interest rate, the expected stock price volatility, the expected term of stock options, the expected dividend yield, and the fair value of the underlying common stock on the date of grant. Changes in the assumptions can materially affect the fair value and ultimately how much stock-based compensation expense is recognized. These inputs are subjective and generally require judgment to develop. See Note 10, *"Stock-Based Compensation"* to our consolidated financial statements included elsewhere in this prospectus for information concerning certain of the

specific assumptions we used in applying the Black-Scholes option pricing model to determine the estimated fair value of our stock options granted in the years ended December 31, 2020 and 2021. Stock-based compensation totaled $0.1 million and $1.5 million for the years ended December 31, 2020 and 2021, respectively.

As of December 31, 2021, the unrecognized stock-based compensation expense related to stock options was $8.5 million which is expected to be recognized as expense over a weighted-average period of approximately 3.6 years. The intrinsic value of all outstanding stock options as of December 31, 2021 was approximately $ million, based on the assumed public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, of which approximately $ million related to vested options and approximately $ million related to unvested options.

Common Stock Valuations and Stock Option Grants

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

Our determination of the value of our common stock was performed using methodologies, approaches, and assumptions consistent with the American Institute of Certified Public Accountants, or AICPA, Audit and Accounting Practice Aid Series: Valuation of Privately Held Company Equity Securities Issued as Compensation, or the AICPA Practice Aid. In addition, our board of directors considered various objective and subjective factors to determine the fair value of our common stock, including:

- valuations of our common stock performed with the assistance of independent third-party valuation specialists;
- our stage of development and business strategy, including the status of research and development efforts of our product candidates, and the material risks related to our business and industry;
- our results of operations and financial position, including our levels of available capital resources;
- the valuation of publicly traded companies in the life sciences and biotechnology sectors, as well as recently completed mergers and acquisitions of peer companies;
- the lack of marketability of our common stock as a private company;
- the prices of our convertible preferred stock sold to investors in arm's length transactions and the rights, preferences, and privileges of our convertible preferred stock relative to those of our common stock;
- the likelihood of achieving a liquidity event for the holders of our common stock, such as an initial public offering or a sale of our company, given prevailing market conditions;
- trends and developments in our industry; and
- external market conditions affecting the life sciences and biotechnology industry sectors.

The AICPA Practice Aid identifies various available methods for allocating enterprise value across classes and series of capital stock to determine the estimated fair value of common stock at each valuation date. In accordance with the Practice Aid, we considered the following methods:

Option Pricing Method, or OPM—Under the OPM, shares are valued by creating a series of call options with exercise prices based on the liquidation preferences and conversion terms of each equity class. The estimated fair values of the preferred and common stock are inferred by analyzing these options. This method is appropriate to use when the range of possible future outcomes is so difficult to predict that estimates would be highly speculative, and dissolution or liquidation is not imminent.

Probability—Weighted Expected Return Method, or PWERM - The PWERM is a scenario-based analysis that estimates value per share based on the probability-weighted present value of expected future investment returns, considering each of the possible outcomes available to us, as well as the economic and control rights of each share class.

Hybrid Method—The hybrid method is a PWERM where the equity value in one or more scenarios is calculated using an OPM.

Based on our early stage of development, the difficulty in predicting the range of specific outcomes (and their likelihood) and other relevant factors, we determined that an OPM was the most appropriate method for allocating our enterprise value to determine the estimated fair value of our common stock for valuation dates through 2020. In order to determine the fair value of our common stock on a marketable basis, we then applied a discount for lack of marketability which we derived based on inputs including a company-specific volatility rate, a term equal to the expected time to a future liquidity event and a risk-free rate equal to the yield on treasuries of similar duration.

In 2021, we incorporated the Hybrid Method into the valuation process as a result of our November 2020 Series A preferred stock financing and the likelihood of the occurrence of certain discrete events, such as an initial public offering, which is a result of improving market conditions and receptivity of the market to initial public offerings. In the PWERM, we established our enterprise value utilizing our recent financing rounds and a future enterprise vale based on precedent initial public offerings. The enterprise value determined under the PWERM and OPM was weighted according to management's estimate of the probability of the occurrence of a potential initial public offering as of the valuation date. The resulting equity value for our common stock was then determined by taking the per share value from each approach and applying their respective weightings to arrive at a per share value on a non-marketable basis. In order to determine the fair value of our common stock on a marketable basis, we then applied a discount for lack of marketability which we derived based on inputs including a company-specific volatility rate, a term equal to the expected time to a future liquidity event and a risk-free rate equal to the yield on treasuries of similar duration.

There are significant judgments and estimates inherent in the determination of the fair value of our common stock. These judgments and estimates include assumptions regarding our future operating performance, the time to completing an IPO or other liquidity event and the determination of the appropriate valuation methods. If we had made different assumptions, our stock-based compensation expense, net loss, and net loss per common share could have been significantly different.

The following table sets forth by grant date the number of shares subject to stock options granted from March 22, 2021, the date we first granted options in PepGen Inc., through the date of this prospectus, the per share exercise price of options, the fair value of common stock per share on each grant date, and the per share estimated fair value of options:

Grant Date	Number of Shares Subject to Options Granted	Per Share Exercise Price of Options(1)	Fair Value per Common Share on Grant Date(1)	Per Share Estimated Fair Value of Options(2)
March 22, 2021(3)	86,772	$ 0.00	$ 2.66	$ 2.66
March 22, 2021(4)	7,330	$ 4.87	$ 2.66	$ 1.28
March 22, 2021	459,774	$ 2.66	$ 2.66	$ 1.63
March 30, 2021	21,760	$ 2.66	$ 2.66	$ 1.63
April 21, 2021	49,328	$ 2.66	$ 2.66	$ 1.69
August 30, 2021	122,035	$ 8.80	$ 8.80	$ 5.99
September 3, 2021	158,537	$ 8.80	$ 8.80	$ 5.99
September 6, 2021	483,704	$ 8.80	$ 8.80	$ 5.99
September 27, 2021	34,658	$ 11.56	$ 11.56	$ 7.77
November 11, 2021	457,325	$ 10.68	$ 10.68	$ 7.39
December 17, 2021	134,700	$ 10.68	$ 10.68	$ 7.38
February 28, 2022	117,600	$ 11.03	$ 11.03	(5)
March 4, 2022	15,000	$ 11.03	$ 11.03	(5)
March 7, 2022	47,500	$ 11.03	$ 11.03	(5)
	2,196,073			

(1) The per share exercise price of options 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 per share estimated 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.

(3) These options were granted at par value.

(4) This option was granted based on a pre-determined price.

(5) We intend to determine our compensation expense relating to the February and March 2022 awards in connection with the preparation of our consolidated financial statements for the period ending March 31, 2022. Once determined, our estimate of the grant date fair value of these share-based awards will be reflected in the financial statements relating to such period.

Quantitative and Qualitative Disclosures About Market Risk

Interest Rate Risk

As of December 31, 2021, we had $132.9 million in cash cash equivalents and consisting of cash in a readily available checking account and U.S. treasury-backed money market funds. Our primary exposure to market risk is interest income sensitivity, which is affected by changes in the general level of U.S. interest rates. However, because of the short-term maturities of our investments, we believe a hypothetical 100 basis point increase or decrease in interest rates during any of the periods presented would not have had a material impact on our financial results.

Foreign Currency Exchange Risk

We are exposed to foreign exchange rate risk. Our headquarters is located in the United States, where the majority of our general and administrative expenses and research and development costs are incurred in U.S. dollars. A portion of our research and development and personnel costs are incurred by our subsidiary in the

United Kingdom, where we engage in transactions and whose functional currency is the British Pound. While we are subject to fluctuations in foreign currency rates in connection with these arrangements, to date, these fluctuations have not been significant. Based on our expected volumes with these vendors and employees in fiscal year 2021, a movement of 10% in the exchange rates would not have a material effect on our results of operations or financial condition.

Emerging Growth Company Status

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act, or JOBS Act, and may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies. We may take advantage of these exemptions until we are no longer an "emerging growth company." Section 107 of the JOBS Act provides that an "emerging growth company" can take advantage of the extended transition period afforded by the JOBS Act for the implementation of new or revised accounting standards. We have elected to use the extended transition period for complying with new or revised accounting standards and as a result of this election, our consolidated financial statements may not be comparable to companies that comply with public company effective dates. We may take advantage of these exemptions up until the last day of the fiscal year following the fifth anniversary of the completion of this offering or such earlier time that we are no longer an "emerging growth company."

Recent Accounting Pronouncements

A description of recently issued accounting pronouncements that may potentially impact our financial position and results of operations is disclosed in Note 2, "*Summary of Significant Accounting Policies*" to our consolidated financial statements included elsewhere in this prospectus.

BUSINESS

Overview

We are a clinical-stage biotechnology company advancing the next generation of oligonucleotide therapeutics with the goal of transforming the treatment of severe neuromuscular and neurologic diseases. Our Enhanced Delivery Oligonucleotide, or EDO, platform is founded on over a decade of research and development and leverages cell-penetrating peptides to improve the uptake and activity of conjugated oligonucleotide therapeutics. This technology was initially developed through a collaboration between researchers at the University of Oxford and the Medical Research Council of United Kingdom Research and Innovation. We have in-licensed an extensive patent portfolio from these institutions to support the further advancement and potential commercialization of our EDO platform. Our EDO peptides are engineered to optimize tissue penetration, cellular update and nuclear delivery, and in preclinical studies we have observed their ability to transport oligonucleotides into a broad range of target tissues, including smooth, skeletal, and cardiac muscle and the central nervous system, or CNS. Furthermore, the high levels of pharmacological activity observed in preclinical studies support our belief that our EDO platform technology has the potential to deliver therapeutic agents to the cell nucleus. Using these EDO peptides, we are generating a pipeline of oligonucleotide therapeutic candidates that target the root cause of serious diseases.

We are currently in clinical-stage development, with our lead product candidate, PGN-EDO51, having entered the clinic in the second quarter of 2022. We are developing PGN-EDO51 to treat individuals with Duchenne muscular dystrophy, or DMD, whose mutations are amenable to an exon 51-skipping therapeutic approach. An exon is a segment of a gene that – together with other exons – contains the code that is translated into a protein. Exon skipping is a therapeutic modality that enables mutations in the gene to be bypassed, thereby repairing this code and enabling production of a truncated, yet functional version of the target protein. In non-human primate, or NHP, studies, PGN-EDO51 at a dose of 30 mg/kg achieved over 70% exon 51 skipping in skeletal muscle, including diaphragm. Based on a head-to-head comparison with the most clinically-advanced peptide-conjugated oligonucleotide therapeutic, and on cross-trial comparisons with publicly-available data for other preclinical approaches, we believe this to be the highest rate of exon 51 skipping reported for any approved therapeutic or known development candidate at tolerable dose levels. Following the review of our preclinical dataset by Health Canada and subsequent authorization of our Clinical Trial Application, or CTA, we initiated a Phase 1 clinical trial of PGN-EDO51 in healthy normal volunteers, or HNV, and anticipate receiving topline data from this trial by the end of 2022. We are also developing PGN-EDODM1 for the treatment of myotonic dystrophy type 1, or DM1, for which we anticipate submitting an investigational new drug, or IND, in the first half of 2023, and PGN-EDO53 for the treatment of DMD patients whose mutations are amenable to an exon 53-skipping therapeutic approach, for which we anticipate reporting exon skipping data in NHPs in the second half of 2022. Alongside these therapeutic candidates, we have initiated research efforts on EDO therapeutics for further DMD exon skipping populations, including exon 45- and exon 44-skipping amenable patients, and for additional indications, including neuromuscular diseases and neurologic disorders. We anticipate advancing additional programs into CTA and IND-enabling studies in 2024.

The advent of oligonucleotide therapeutics represented a major advance in the history of the biopharmaceutical industry. Oligonucleotide therapeutics are a nucleic acid-based genetic medicine modality that are designed to target the root cause of many diseases through the modulation of RNA expression and processing. These therapeutics have demonstrated clinical benefit and been approved for the treatment of multiple diseases. The approved drugs within this category include antisense oligonucleotides, or ASOs, which are short, synthetic, single-stranded oligonucleotides designed to inhibit or modify expression of protein and RNA.

However, despite the considerable potential of oligonucleotides as a therapeutic class, the challenges associated with their delivery has limited the development of these therapies in certain disease areas. On their own, oligonucleotides therapeutics are not readily distributed to heart and skeletal muscle, the key tissues affected in neuromuscular diseases, and are not efficiently taken up into these cells.

Our EDO Platform

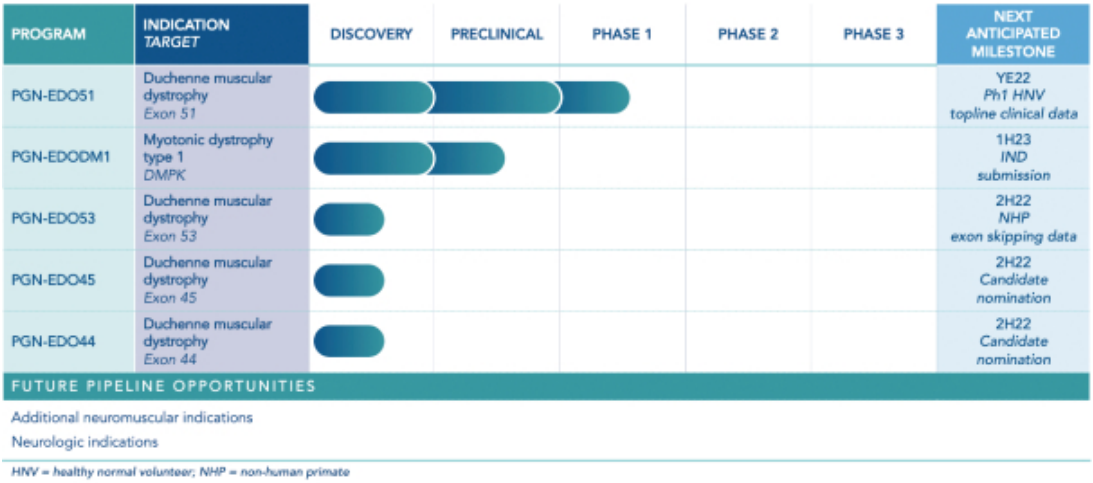
To address this challenge, we engineered our proprietary EDO technology to optimize tissue penetration, cellular uptake and nuclear delivery, which we believe may enhance the therapeutic activity of oligonucleotides and improve the tolerability of these genetic medicines. Our platform is based on novel cell-penetrating EDO peptides that were developed through an iterative process which selected simultaneously for high cellular uptake, biodistribution to key muscle targets, including cardiac tissue, and improved tolerability. We utilize phosphorodiamidate morpholino oligomers, or PMOs, a type of ASO chemistry that confers enhanced stability, in our approach, and these therapeutic cargos are conjugated to one of our optimized, proprietary, novel EDO peptides to generate our lead EDO product candidates. We are continuing to build and develop this platform technology as we expand into new therapeutic areas.

Using this novel, proprietary platform, we are developing a broad pipeline of disease-modifying EDO candidates to treat a variety of degenerative neuromuscular and neurologic diseases. Our platform is designed to offer the following advantages compared to existing oligonucleotide approaches:

- Enhanced delivery to skeletal muscle, including diaphragm, cardiac muscle and the CNS.
- Improved activity, which we have observed in NHPs with the greatest exon 51 skipping potency at tolerable target dose levels compared to any approved therapeutic or known developmental candidate.
- An enhanced balance between activity and tolerability, which is designed to afford our product candidates a wider therapeutic index.
- Robust, scalable and cost-efficient manufacturing that does not require cell-based processes.
- Accelerated and efficient pipeline development of therapeutic candidates enabled by use of the same EDO peptide across all our initial programs.

Our Portfolio

We are harnessing the power of our EDO platform to generate a pipeline of oligonucleotide therapeutic candidates. Our EDO conjugates have been engineered to successfully target the root cause of serious diseases and to exhibit a favorable tolerability profile. We are initially focused on addressing neuromuscular indications and are building a portfolio of therapeutic candidates to address the underlying genetic mutations found in DMD and DM1, with our current pipeline being comprised of five programs. We anticipate expanding this pipeline to include other neuromuscular targets as well as opportunities in neurologic indications and intend to leverage the modular, scalable nature of our EDO technology to support our rapid expansion into these new therapeutic areas. Our lead product candidates, PGN-EDO51 and PGN-EDODM1, target a large potential market opportunity, with approximately 135,000 DMD exon 51 and DM1 patients across the United States, Europe and Japan, and we own worldwide development and commercialization rights to all our programs.



PGN-EDO51

Our lead product candidate is PGN-EDO51, an EDO peptide conjugated to a PMO therapeutic cargo, which we are developing for the treatment of DMD patients with mutations amenable to an exon 51-skipping approach. DMD is a debilitating X-linked recessive muscle-wasting disease that predominantly affects boys, and arises due to the presence of mutations in the gene encoding dystrophin, a protein necessary for normal muscle function. It is one of the most prevalent rare genetic diseases globally, with up to 15,000 DMD patients in the United States, approximately 25,000 DMD patients in Europe and 5,000 in Japan. It is thought that 13% of patients with DMD have mutations that are amenable to treatment with an exon 51-skipping therapeutic approach, and thus the estimated exon 51 patient population is approximately 2,000 in the United States, 3,200 in Europe and 700 in Japan. DMD patients typically succumb to cardiac and respiratory failure in their late teens or early twenties. There is no cure for DMD and there are no treatments that have clinically demonstrated a meaningful impact on disease progression.

PGN-EDO51 is designed to splice out exon 51 of the dystrophin pre-mRNA, resulting in the restoration of the open reading frame of the dystrophin transcript and the production of a shortened, yet functional dystrophin protein. In wild-type NHP studies, at tolerable doses, we have observed the most potent exon 51 skipping based on a cross-trial comparisons with publicly-available data for any approved therapeutic or known developmental candidate across target tissues, including the heart and diaphragm. These cross-trial comparisons were conducted with data published by Sarepta Therapeutics for EXONDYS 51® (eteplirsen), and by Dyne Therapeutics for DYN-251. In addition, in our head-to-head NHP studies, we observed that PGN-EDO51 had greater activity than R_6G-PMO, which we believe is structurally equivalent to Sarepta's SRP-5051, the most clinically advanced peptide-ASO conjugate. At a dose of 10 mg/kg, PGN-EDO51 exhibited approximately as much exon skipping activity as a 3-fold higher dose, i.e., 30 mg/kg, of R_6G-PMO. Our preclinical work also indicated that PGN-EDO51 was generally well-tolerated at target dose levels. Following the review of our preclinical dataset by Health Canada and their its authorization of our CTA, we initiated a Phase 1 clinical trial of PGN-EDO51 in the second quarter of 2022, and anticipate delivering topline data from this trial by the end of 2022.

PGN-EDODM1

We are developing PGN-EDODM1, an EDO peptide-conjugated PMO, for the treatment of DM1. DM1 is a monogenic, autosomal dominant, progressive disorder that primarily affects skeletal, cardiac and smooth muscles as well as the CNS, resulting in significant physical, cognitive and behavioral impairments and disability. The burden of disease is significant, and many patients have a shortened lifespan. DM1 is caused by an abnormal trinucleotide repeat expansion in a region of the *DMPK* gene and is estimated to affect approximately

40,000 patients in the United States, 75,000 patients in Europe and 15,000 patients in Japan. There are currently no approved therapies for the treatment of DM1.

PGN-EDODM1 leverages the same EDO peptide as PGN-EDO51 to deliver a PMO into muscle cells that binds to the cytosine-uracil-guanine, or CUG, trinucleotide repeat expansion present in the *DMPK* mRNA, thus reducing the ability of these trinucleotide repeats to sequester MBNL1, a critical RNA processing protein. This steric blocking approach – which is not designed to knock down *DPMK* – directly addresses the underlying genetic defect of this disease, and in DM1 patient cells we observed that treatment with PGN-EDODM1 led to the robust correction of multiple downstream mis-spliced transcripts and a reduction in toxic nuclear foci. Furthermore, we observed in our *in vivo* preclinical studies that a single dose of PGN-EDODM1 corrected the molecular and functional phenotypes presented in the human skeletal actin – long repeat, or HSA^{LR}, mouse model of disease, reducing myotonia and normalizing mobility. We also observed that the molecular correction effected by PGN-EDODM1 in this preclinical mouse model exhibited a durability of effect that was in excess of six months. The ability of the EDO conjugate to cross the blood-brain barrier may also enable PGN-EDODM1 to address the CNS phenotypes that are evident in DM1 patients. We anticipate submitting an IND in the first half of 2023 to initiate a Phase 1/2 clinical trial of PGN-EDODM1 in DM1 patients.

PGN-EDO53

Our second EDO therapeutic candidate for the treatment of DMD, and third product candidate, PGN-EDO53, is an EDO peptide-conjugated PMO designed to skip exon 53 of the dystrophin transcript. It is estimated that 8% of DMD patients have mutations that would be amenable to treatments with an exon 53-skipping approach. PGN-EDO53 will utilize the same EDO cell penetrating peptide as our exon 51-skipping product candidate, PGN-EDO51, which we believe will allow us to leverage our drug development experience in this indication to rapidly drive our exon 53-skipping product candidate to the clinic. We are currently conducting an *in vitro* screen of candidate oligonucleotide sequences, and we anticipate that we will report exon skipping results from an NHP study in the second half of 2022.

Additional Discovery Programs

We have active discovery programs focused on expanding our pipeline in DMD and other neuromuscular diseases. We are screening oligonucleotides for the treatment of DMD patient populations with mutations that are amenable to exon skipping approaches other than exon 51 and exon 53. Our initial discovery work is focused on selection of oligonucleotides for exon 45 and exon 44 skipping, and we have commenced synthesis activities to support an *in vitro* screen in patient cells. We anticipate nominating candidates for our PGN-EDO45 and PGN-EDO44 programs in the second half of 2022.

Expanding the Applications and Scope of Our EDO Platform

New indications with PMO therapeutics

We intend to leverage our deep understanding of our EDO platform and oligonucleotide therapeutic candidates to develop additional product candidates for other indications. We believe the ability to deliver exon skipping therapeutics to muscle cells, including cardiac muscle cells, as well as the CNS is largely independent of the exact sequence of the PMO. As such, by leveraging our preclinical data and the plug-and-play nature of our EDO platform, and by investigating other routes of administration, including intrathecal, we believe that we are well positioned to develop additional product candidates with the potential to drive clinically relevant therapeutic outcomes in other neuromuscular diseases as well as neurologic indications.

New cargos

We believe that our EDO technology has the potential to facilitate the delivery of multiple classes of oligonucleotide therapeutics. To date, our efforts have primarily focused on the delivery of PMOs, but we are also actively pursuing the expansion of our cargo scope to other nucleic acid species.

New peptide technologies

We intend to further establish our expertise and competitive position in the field of oligonucleotide delivery through the ongoing research and development of new cell penetrating peptides. We will leverage our extensive experience in this field to design new peptides that target specific tissue types, and will seek to further optimize the tissue, cellular and nuclear delivery of our EDO platform technology.

Our Culture and Team

Our mission is to deliver transformative therapeutics to those in need, and we believe our innovative technology is well-positioned to effect this change for patients, families and the broader healthcare community. As a company, we value:

- **Research:** We are a data-driven scientific company at heart, and we approach our work with an evidence-based mindset;
- **Innovation:** We are always exploring new ways to learn, build and improve across all facets of our company;
- **Integrity:** We act ethically and honestly in both our scientific and business conduct; and
- **Responsibility:** As a therapeutic company, we appreciate the impact our work has on patients and their families.

In support of our mission, we have assembled a leadership team with deep experience in research and development, clinical translation, regulatory affairs and corporate development. Our Chief Executive Officer, James McArthur, Ph.D., brings over 25 years of industry experience to the company, including senior leadership and Board roles at Imara, Cydan and Nightstar Therapeutics, with a specific focus on rare disease therapeutics. Dr McArthur is ably supported by Noel Donnelly, our Chief Financial Officer, who has over 25 years of experience in financial planning and analysis, business analytics and portfolio management and has held roles at EIP Pharma, Takeda and Shire; Jaya Goyal, Ph.D., our Executive Vice President of Research and Preclinical Development, who has held roles at Wave Life Sciences and Biogen, and brings considerable experience in bioanalytical studies, biomarkers and pharmacology across a broad range of preclinical-, clinical- and commercial-stage programs; Michelle L. Mellion, M.D., our Senior Vice President, Clinical Development, who is double Board-certified in neurology and clinical neurophysiology and has held roles at Fulcrum, Vertex and Biogen; Niels Svenstrup, Ph.D., our Senior Vice President of Chemistry, Manufacturing and Control, who has extensive experience in the manufacturing and release of peptide drugs for late-stage clinical programs and has held roles at Ascendis Pharma, Cydan and Lundbeck, amongst others; and Sonia Bracegirdle, D.Phil, our Senior Vice President of Strategy and Operations, who has held roles at Syncona Limited, the Boston Consulting Group and McKinsey & Company, and was one of the founding members of the PepGen team. We have established a strong scientific advisory board, who bring a wealth of expertise from both the indication and therapeutic modality perspectives in their roles as academics, clinicians and drug development.

We were founded in 2018 with technology spun out from the University of Oxford and the Medical Research Council of United Kingdom Research and Innovation to further develop and commercialize this novel peptide delivery technology. This technology was created and refined over a decade by Michael Gait, Ph.D. and Professor Matthew Wood, M.D., Ph.D. We have exclusively licensed the patents, patent applications and know-how associated with this technology.

To date, we have raised $163.7 million in equity investment from a leading group of life sciences investors, including entities affiliated with RA Capital Management, Oxford Science Enterprises plc and KAVRA 16 LLC.

Our Strategy

Our goal is to become a leading biopharmaceutical company focused on the development and commercialization of oligonucleotide therapies to transform the lives of patients with severe neuromuscular and neurologic diseases. We aim to accomplish this goal by implementing the following strategies:

- **Advance our lead product candidate, PGN-EDO51, through clinical trials and regulatory approval**. We are developing PGN-EDO51 to treat individuals with DMD whose mutations are amenable to an exon 51-skipping therapeutic approach. There is no cure for DMD and there are no treatments that have demonstrated a significant impact on disease progression in the clinic. In wild-type NHP studies, we have observed robust levels of exon skipping and established that PGN-EDO51 had greater activity than R_6G-PMO at the same dose level. We believe that this comparator compound is structurally equivalent to Sarepta's SRP-5051, the most clinically advanced peptide-ASO conjugate. In our preclinical studies, we also observed that PGN-EDO51 was generally well-tolerated at target dose levels. Following the authorization of our CTA by Health Canada, we initiated a Phase 1 clinical trial of PGN-EDO51 in the second quarter of 2022, and anticipate receiving topline data from this trial by the end of 2022.

- **Advance PGN-EDODM1 through clinical trials and regulatory approval**. We are developing PGN-EDODM1 for the treatment of patients with DM1. In preclinical studies, we have observed that a single dose of PGN-EDODM1 restored aberrant splicing in a mouse model of DM1, completely restored the myotonic phenotype, improved mobility and showed correction of mis-splicing that was maintained for at least six months. We believe that PGN-EDODM1 has the potential to transform the treatment of DM1, and we anticipate submitting an IND for PGN-EDODM1 in the first half of 2023. Furthermore, we believe that the successful development of PGN-EDODM1 would further validate the EDO platform and demonstrate its potential to generate therapeutic candidates in neuromuscular indications beyond DMD.

- **Expand our pipeline of oligonucleotide therapeutic candidates for the treatment of additional DMD patient populations.** We aim to expand our portfolio by pursuing additional programs where our EDO technology could improve clinical activity relative to current therapeutic approaches. For example, approximately one third of the mutations that cause DMD could be treated by exon-skipping therapeutics directed against Exon 51, 53, 45 and 44. We are employing the same EDO technology used in PGN-EDO51 and PGN-EDODM1 to generate our next exon-skipping therapeutic candidate, PGN-EDO53, for the treatment of individuals with DMD whose mutations are amenable to an exon 53-skipping approach. We anticipate that we will report exon skipping results for PGN-EDO53 from a NHP study in the second half of 2022. In addition, we are screening oligonucleotides for the treatment of other DMD patient populations, with initial discovery work focused on selection of oligonucleotides for exon 45 and exon 44 skipping. We anticipate nominating candidates for our PGN-EDO45 and PGN-EDO44 programs in the second half of 2022.

- **Leverage the full potential of our EDO technology to expand into other neuromuscular, neurological and cardiac disease areas.** We have observed that our EDO technology has the potential to efficiently deliver nucleic acid payloads such as ASOs to muscle cells, including cardiac muscle cells, and into key regions of the brain in NHP. We are looking to develop disease-modifying peptide-conjugated oligonucleotide candidates for the potential treatment of a variety of other neuromuscular and neurological indications and will assess alternative routes of administration, including intrathecal, as part of this process.

- **Utilize the modular nature of our EDO platform to evaluate new cargos and peptide technologies**. We continue to optimize our EDO technology to increase our ability to drive the biodistribution of our conjugates to desired target tissues in the body. For example, we have

undertaken a program of work to further increase EDO delivery to the CNS. To accomplish this, we have built and continue to build our peptide chemistry and biology groups to further explore the structure-activity relationship of our existing EDO platform and to develop new delivery peptides. These next-generation peptides may allow us to develop disease-modifying therapeutic candidates for an expanded range of target indications. Furthermore, we believe that our EDO technology has the potential to facilitate the delivery of multiple classes of nucleic acid payloads, including other oligonucleotide therapeutics, and we will thus seek to expand the scope of the cargos that can be delivered our EDO platform as part of our ongoing platform development work.

- **Maximize the value of our pipeline and our EDO platform by selectively exploring strategic collaborations**. We have a disciplined strategy to maximize the value of our pipeline and currently have worldwide development and commercial rights to all of our product candidates. Given the potential of our EDO platform, we may opportunistically enter into strategic collaborations around certain geographies, targets or programs. We may seek to build such relationships where we believe the resources and expertise of a third-party pharmaceutical or biotechnology company could be beneficial to the development or commercialization of our product candidates, advance our programs to maximize their market potential or expand our platform capabilities.

Our EDO Platform

Overview

Our proprietary EDO platform is based on a novel, unique class of cell-penetrating peptides, or CPPs, designed to meaningfully enhance the tissue penetration, cellular uptake and nuclear delivery of oligonucleotide therapeutics. Our technology is founded on over a decade of research and development that focused on improving the therapeutic utility of CPPs, resulting in a library of EDO peptides that mitigate the tolerability challenges observed with earlier cell-penetrating peptides. Using these EDO peptides, we are generating a pipeline of peptide-conjugated oligonucleotide therapeutic candidates that are engineered to successfully target the root cause of serious diseases and to exhibit a favorable tolerability profile. We have observed from product candidates that leverage our EDO delivery platform robust exon-skipping activity and tolerability in NHP models. Furthermore, we have observed in preclinical settings that our product candidates exhibited superior skeletal and cardiac muscle penetrance to other peptide- and antigen binding fragment-conjugated approaches in development for the treatment of DMD patients amenable to an exon 51-skipping approach, thus allowing critical disease phenotypes to be addressed in neuromuscular indications like DMD and DM1. These comparisons were conducted both across different trials with publicly-available information, and with data obtained from head-to-head studies. Our peptides also enable delivery of oligonucleotides across the blood-brain barrier, a characteristic which could support the future development of EDO therapeutics for neurologic indications.

The Therapeutic Potential of Oligonucleotides

The central dogma of biology—the transcription of DNA into RNA, and the subsequent translation of RNA into proteins—describes the flow of genetic information within the cell. DNA plays a critical, fundamental role in all biological processes, and while there exists considerable variation in the genetic code across the human population, certain alterations, or mutations, in an individual's DNA sequence can lead to deleterious outcomes and disease pathologies. A genetic disease can be caused by a mutation in a single gene, known as a monogenic disorder, or by mutations in multiple genes, known as a multifactorial inheritance disorder. The term 'genetic medicine' encompasses disease-modifying therapeutic agents that are designed to alter and correct genetic mutations at the DNA or RNA level. These therapeutic agents can be divided into four categories – viral vector gene therapies, DNA/RNA editing approaches, small molecules and oligonucleotide therapeutics. Significant progress has been made in the field of genetic medicine over the last decade, and a number of genetic medicines have been approved or are in clinical development.

Oligonucleotide therapeutics are a nucleic acid-based genetic medicine modality that are designed to target the root cause of many diseases through the modulation of RNA expression and processing. The mechanisms of action of these medicines include interference with gene expression; degradation of toxic RNA species; alteration of gene translation; interference with interactions between RNA and other nucleic acids or proteins; endogenous human adenosine deaminase acting on RNA, or ADAR; site-directed RNA editing; and modulation of the splicing of genes, and each of these approaches can lead to profound biological effects.

The advent of oligonucleotide therapeutics represented a major advance in the history of the biopharmaceutical industry. Oligonucleotide therapeutics consist of strings of nucleotides, the building blocks of RNA and DNA, and mimic the structures of active nucleic acids in the body to reproduce or expand upon the typical activities of these species. The development of oligonucleotide therapeutics has increased the arsenal of potential therapeutic modalities and has enabled the targeting of a diverse set of diseases that have proven difficult to treat through other approaches. These therapeutic candidates are built around the sequences of their target RNA/DNA molecules, which offers them a high degree of specificity and affords them the ability to target pathogenic mutations and processes that cannot easily be addressed by conventional drugs. Oligonucleotide therapeutics have demonstrated clinical benefit and been approved for the treatment of multiple diseases, such as spinal muscular atrophy, familial hypercholesterolemia and hereditary transthyretin-mediated amyloidosis. These approved drugs span two classes – ASOs, which are short, synthetic, single-stranded oligonucleotides, and small interfering RNAs, or siRNAs, which are double-stranded oligonucleotides. ASOs and siRNAs both bind their target mRNAs or pre-mRNAs via complementary Watson-Crick base pairing, but differ in their respective modes of action. ASOs are designed to either (i) degrade target RNA species through an RNAse-H-mediated process, or (ii) modulate RNA-RNA and/or RNA-protein interactions through a steric blocking mechanism. In contrast, siRNAs are designed to silence a particular mRNA through the RNA interference, or RNAi, pathway. Across approved oligonucleotide therapeutics, in 2020, approximately $3.2 billion in sales were generated.

Therapeutic oligonucleotides are typically synthetic molecules that may contain modified nucleotide bases, sugars and phosphate linkages designed to overcome the historical limitations of unmodified oligonucleotides, including instability, immunogenicity and a poor pharmacological profile. Many approved oligonucleotides incorporate a modified oligonucleotide backbone in which the phosphate and ribose sugars are replaced by phosphorodiamidate morpholino groups. The resulting oligonucleotides – PMOs – are resistant to multiple hydrolases in serum, while their uncharged nature ensures that they do not interact strongly with proteins in a nonspecific way. PMOs have shown promising results in early-stage preclinical studies and have reached the clinic in a number of indications, including DMD. Sarepta's marketed drug EXONDYS 51® (eteplirsen) is a PMO that was approved in 2016 but has left much room for improvement given its relatively low tissue and cell penetration and minimal induction of dystrophin production. Despite these challenges, EXONDYS 51® generated approximately $454 million in sales in the United States and Israel in 2021.

The Challenge of Oligonucleotide Delivery

In order for oligonucleotide therapeutics to exert their intended effect, they must first gain access to the intracellular space where RNA processing and translation occurs. Historically, the delivery of oligonucleotides to the interior of the cell proved challenging due to their high molecular weight and the lack of a specific mechanism to facilitate their transport across the cell membrane and into the cytoplasm and nucleus. Several methods have been developed to increase the cellular uptake of oligonucleotides, the most clinically advanced of which is the covalent attachment of cell-penetrating peptides, or CPPs. CPPs are designed to facilitate the transport of oligonucleotides across the plasma membrane, thus allowing these cargo species to reach their intracellular site of action. We believe that these capabilities are critical in enabling oligonucleotides to exert their intended therapeutic effect within the cell. Early research into CPPs showed that simple peptides consisting primarily of multiple arginine residues could increase the cellular uptake of oligonucleotides and increase their activity in modulating RNA splicing. However, a considerable number of these early CPPs were found to be highly toxic in animal models, and in many instances there existed a direct correlation between toxicity and activity, which limited the clinical translation and development of these first-generation delivery vectors.

Our Approach: A Solution for the Oligonucleotide Delivery Challenge

We engineered our proprietary EDO technology to optimize tissue penetration, cellular uptake and nuclear delivery, which we believe may enhance the therapeutic activity and improve the tolerability of oligonucleotide therapeutics. Our platform is based on novel cell-penetrating peptide technology, and our delivery vectors possess four key structural characteristics:

- Two positively charged, arginine-rich regions, one at the N-terminus and the other at the C-terminus;
- The interspersion of a specifically selected non-natural amino acid within the arginine-rich regions – these residues provide stability in the physiological environment, and confer other beneficial properties;
- A central core rich in hydrophobic residues that separates the arginine-rich regions and plays a critical role in tissue and cell uptake;
- A proprietary linker that plays a key role in modulating the therapeutic index of the resulting EDO conjugate.

Our EDO peptides were developed through an iterative optimization process that selected simultaneously for biodistribution to key muscle targets, including cardiac tissue; high cellular uptake; endosomal escape, where the therapeutic agent is released from the endosome sub-cellular compartment in a functional form; delivery to the cell nucleus; and reduced toxicity. We utilize PMOs in our approach, and these therapeutic cargos are conjugated to one of our optimized, proprietary, novel EDO peptides to generate our lead EDO product candidates. We are continuing to build and develop this platform technology as we expand into new therapeutic areas.

We optimized EDOs for properties that we believe are essential for therapeutics.

Advantages of Our Approach

Using our novel EDO platform, we are developing a broad pipeline of disease-modifying peptide-conjugated oligonucleotide candidates to treat a variety of degenerative neuromuscular diseases. We believe that our therapeutic candidates may offer the following advantages with the goal of enabling the safe and efficient delivery of oligonucleotide cargos:

- **Enhanced delivery to skeletal muscle, including diaphragm, cardiac muscle and the CNS:** We have shown in preclinical studies that our peptides delivered their cargo oligonucleotide

therapeutics to key neuromuscular tissues, allowing us to address multiple disease pathologies in multi-systemic indications such as DMD and DM1. Furthermore, we believe our EDO peptides support the ability to promote endosomal escape and facilitate the robust delivery of cargo oligonucleotides to the cell nucleus. This differentiating feature of our EDO platform has been observed in mice and NHPs across multiple tissue types, including those critical to neuromuscular indications – skeletal, smooth and cardiac muscle. The ability of our EDO peptide to deliver oligonucleotides to the CNS could potentially address neurological phenotypes in these diseases as well.

- **Improved activity, which we have observed in NHPs, with the most potent exon 51 skipping observed at tolerable doses compared to any approved therapeutic or known developmental candidate:** Our EDO platform exhibited consistently robust activity and acceptable tolerability in preclinical testing of NHPs under both single and repeat dosing regimens. For example, in NHP studies, a dose of 30 mg/kg of PGN-EDO51 achieved over 70% exon 51 skipping in skeletal muscle, including diaphragm, which we believe is the highest rate of exon 51 skipping reported for any approved therapeutic or known development candidate.

- **An enhanced balance between activity and tolerability, which is designed to afford our platform a wider therapeutic index:** Our delivery peptides have been specifically engineered to achieve a wide therapeutic index, and we have observed robust activity and an improved tolerability profile in NHPs when compared to previous CPPs. This characteristic is a clear step-change over the narrow therapeutic index observed for previous generations of cell-penetrating peptides.

- **Robust, scalable and cost-efficient manufacturing that does not require cell-based processes:** We have developed a modular manufacturing process that is highly scalable, easily characterizable, and utilizes readily-available building blocks. This process is fully synthetic in nature and does not rely on microbial fermentation, thus substantially reducing the risk of introducing microbial DNA or protein into our product candidates.

- **Accelerated and efficient development of pipeline therapeutic candidates enabled by use of a single EDO peptide across all our initial programs:** We currently utilize the same EDO delivery peptide across all our programs, and we envisage that many of our future pipeline opportunities will also leverage our extensive experience with this CPP. We intend to apply our knowledge and learnings from our current lead programs in order to efficiently pursue our future programs, and we will additionally aim to take advantage of economies of scale in our manufacturing processes.

Foundation of Our EDO Platform

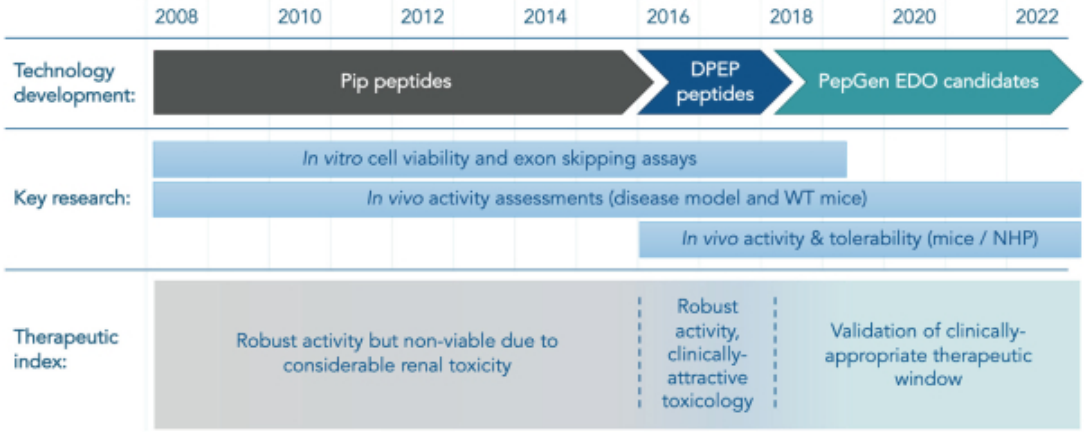
A platform built on intelligent design principles and a decade of science

Our EDO peptide platform is the result of over a decade of research conducted in the academic laboratories of our founders Michael Gait, Ph.D. at the Medical Research Council Laboratory of Molecular Biology in Cambridge, UK, and Professor Matthew Wood, M.D., Ph.D. at the University of Oxford. Their pioneering work brought significant advances in CPP technology, moving the field beyond a heavy reliance on arginine residues to drive cellular uptake of oligonucleotide cargos. Together, Gait and Wood developed a new generation of CPPs focused on oligonucleotide delivery, and optimized these peptides for tissue penetration, cellular uptake and nuclear delivery, along with improved tolerability in animal models.

The first generation of Gait and Wood cell-penetrating peptides were termed the ‘Pip’ series. As part of the ongoing collaboration between these two academic groups, a range of Pip-PMO conjugates were screened for their activity both *in vitro* and in the well-established *mdx* mouse model of Duchenne muscular dystrophy. While the Pips exhibited robust activity in preclinical models, they were ultimately determined to be non-viable as

therapeutic candidates due to their considerable renal toxicity. However, this early work did provide considerable insight into the structure-activity relationship of this class of molecules.

The poor tolerability profile of the Pips and other early cell-penetrating peptides established a clear need for a step-change in this field. Through an intelligent design process, multiple families of 'DPEP' peptides were created to address the limitations associated with previous generations of CPP technology. These novel, unique peptides have overcome the tolerability issues of their predecessors and yet retain the considerable activity of the Pip peptides – a profile that we believe renders the DPEPs well-positioned for therapeutic development. The DPEP peptides underpin our EDO platform, and it is from this portfolio that we have selected and validated the EDO peptide that drives the therapeutic potential of our clinical leads.

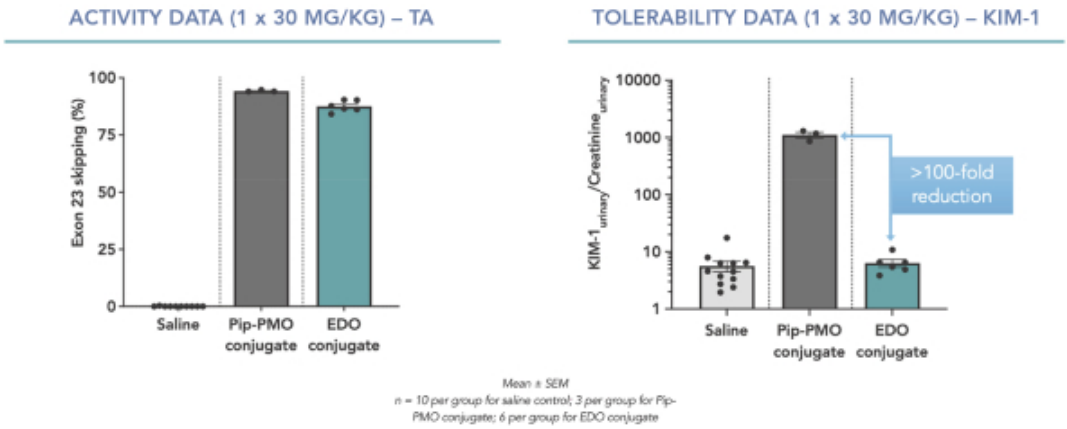


Our EDO technology was developed over more than a decade of research into CPPs.

Comparison with Precursor Technologies

In mouse models, we have observed that our delivery peptides retain the robust activity of previous generations of high arginine content CPPs, and yet possess an improved tolerability profile that we believe increases their likelihood of successful clinical translation. During our extensive preclinical assessments of these novel peptides in murine and NHP models, we have succeeded in efficiently delivering nucleic acid payloads to their targets, and have achieved meaningful levels of activity without the dose-limiting toxicities that have traditionally been associated with other peptides in this class of intracellular delivery agents.

In order to demonstrate that our EDO platform possesses an improved therapeutic index over precursor CPPs – in this instance the 'Pip' peptides previously developed by Gait and Wood – we assessed the exon skipping efficiency and tolerability of a number of CPP-PMO conjugates in wild-type mice by utilizing the well-established ASO sequence that skips exon 23 of the murine dystrophin mRNA. As seen in the figure below, we observed in this study that the EDO conjugates retained the high levels of activity seen with the Pip conjugates – over 75% exon skipping was observed in the tibialis anterior, or TA, when measured by RT-PCR following a single dose of 30 mg/kg – while the post-administration urinary levels of Kidney Injury Molecule-1, or KIM-1, a marker of renal toxicity, were reduced by a factor of over 100. Thus, we believe that our EDO technology has potential to display a wider therapeutic index than these precursor CPPs, which we believe supports the further development and clinical translation of our product candidates and platform.



Our EDO technology has a wider therapeutic index than precursor CPP-PMOs.

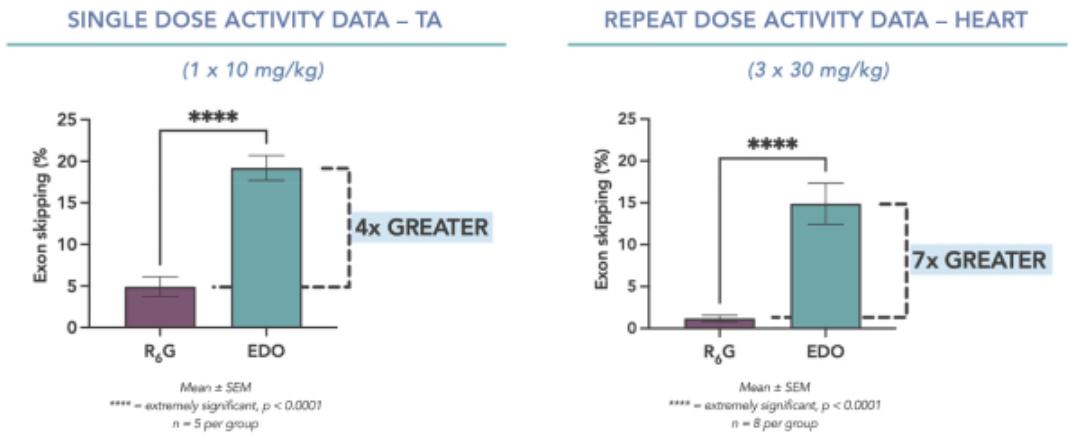
We believe that this finding represents a true step-change in the CPP field. While traditional CPPs traded activity for tolerability, often because they contained a high absolute number and concentration of arginine residues, our novel delivery peptides are designed to decouple this relationship. We believe the unique structural characteristics of the EDO peptides allow this class of CPPs to retain impressive cell penetration and oligonucleotide delivery while mitigating the unacceptable toxicities seen with earlier generations of CPPs, including the Pips. We seek to leverage these characteristics with the goal of developing a safe and effective portfolio of EDO therapeutics.

Comparison with Other Oligonucleotide Delivery Technologies in Development

Other CPP-PMO approaches

There are a number of other peptide-mediated approaches that are currently being developed for the delivery of oligonucleotide therapeutics. Of these, we have, through an extensive review of publicly available presentations and patent applications, hypothesized that the most clinically advanced peptide-based delivery approach for oligonucleotides leverages the cell-penetrating properties of a hexa-arginine sequence with an additional glycine residue. We refer to this CPP as R_6G herein, and have conducted extensive head-to-head preclinical studies to compare the biodistribution and activity of our model of this moiety with our novel EDO peptides.

We have observed robust *in vivo* activity of our EDO technology in a number of animal models, with this activity being significantly higher when compared to our model of the competing R_6G approach. In a head-to-head preclinical study conducted in wild-type mice using the established exon 23-skipping agent, a single 10 mg/kg intravenous dose of our EDO conjugate resulted in exon skipping levels in the TA that were four-fold higher than those induced by the R_6G conjugate at the same dose when measured by RT-PCR seven days after dosing. In a repeat-dose preclinical study, three 30 mg/kg intravenous doses of our EDO conjugate every two weeks resulted in exon skipping levels in the heart that were seven-fold higher than those of the R_6G conjugate, also dosed three times at 30 mg/kg, when measured by RT-PCR seven days after the last dose. We believe the higher level of exon skipping achieved in this study supports the ability of our EDO technology to successfully deliver oligonucleotides to cardiac tissue, which in turn provides us with an opportunity to address the primary cause of death in DMD patients.



In preclinical studies, single and multiple doses of our EDO conjugate led to increased exon skipping compared to the R_6G conjugate.

Antibody-oligonucleotide approaches

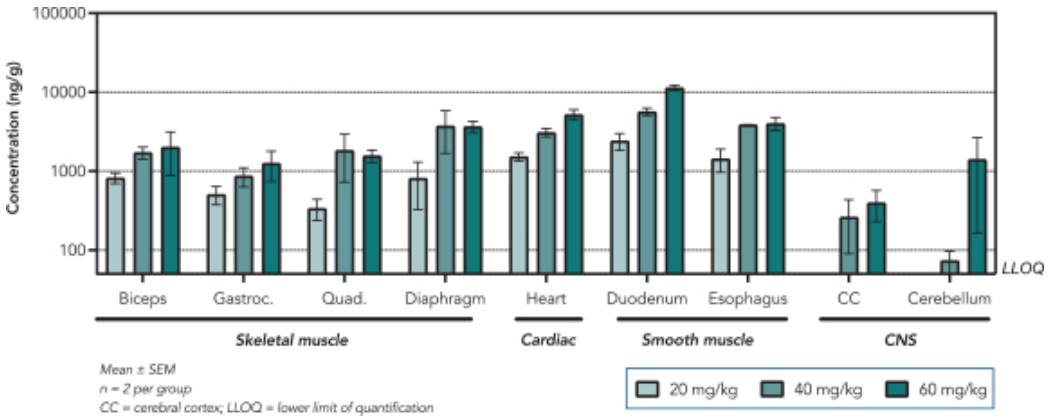
In addition to the CPP-PMO approaches described above, a number of groups are developing antibody-oligonucleotide conjugates with the aim of enhancing the delivery and activity of their cargo therapeutics. These groups utilize both antigen-binding fragments, or Fabs, and monoclonal antibodies, or mAbs, as delivery vectors, to target specific cell surface receptors. We believe our EDO platform offers significant potential benefits over such approaches, including:

- More efficient tissue penetration due to the small size of our EDO delivery peptides relative to an antibody or antibody fragment;
- The ability to deliver across the blood-brain barrier to the CNS;
- Limited immunogenicity or risk of complement activation due to the considerably lower protein load associated with our EDO peptides; and
- A scalable, facile, fully-synthetic manufacturing process with no cell-based steps that is supported by a readily-characterizable drug product.

We believe these benefits support the further development and clinical translation of our suite of EDO product candidates and underpin our robust competitive position in the neuromuscular and neurologic disease space.

Improved Biodistribution of the EDO platform

In addition to advantages over precursor CPPs and other delivery technologies in development, based on our observation in NHPs, we believe our EDO platform has the potential to achieve robust delivery of cargo therapeutics to a very broad range of target tissues. Following a single intravenous dose of PGN-EDO51 in NHPs, quantifiable levels of PMO were observed in muscle tissues throughout the body one week after administration, including in cardiac muscle, as well as in brain tissues such as cerebral cortex and cerebellum. We believe this broad biodistribution highlights the potential of our technology to deliver to critical yet difficult-to-reach tissue types like cardiac muscle, and robustly positions our EDO platform in the treatment of diseases with multi-systemic pathologies, like DMD and DM1.

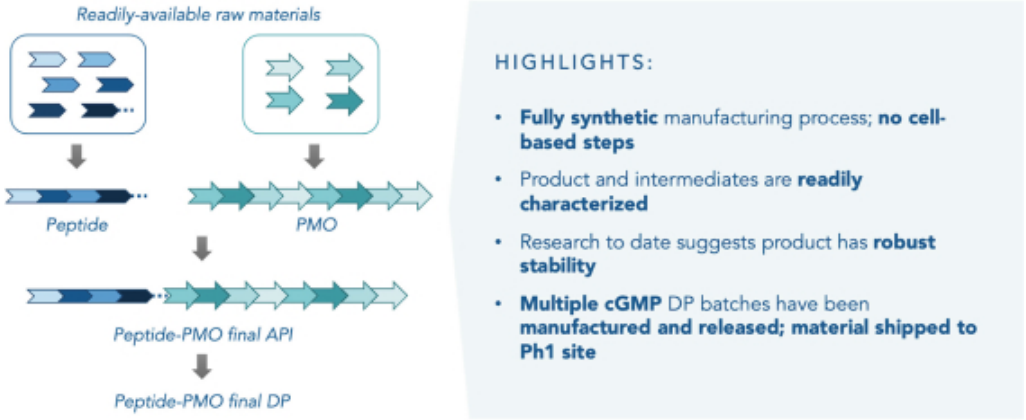


A single administration of PGN-EDO51 in NHPs led to tissue exposure of the cargo PMO therapeutic in muscle and brain tissue one week after dosing.

Furthermore, we are particularly excited by the potential of this technology to deliver therapeutic agents to the CNS with intravenous dosing. While the levels of the cargo PMO in the cerebral cortex and cerebellum are lower than for the other tissue types investigated, this biodistribution study provides robust evidence to suggest that our peptides are capable of delivering conjugated cargo moieties across the blood-brain barrier, a characteristic which may in turn allow us to address the CNS phenotypes that are evident in DM1 patients. In addition, we believe that this result supports the future development of EDO therapeutics for neurologic indications, and work is ongoing to further understand the ability of our EDO platform technology to deliver cargos to various regions of the brain and CNS via both intravenous administration and other routes, including intrathecal dosing.

Scalable Manufacturing Process

Our manufacturing process is modular in nature – the peptide and oligonucleotide components are assembled using readily available building blocks, and are subsequently conjugated using well-established methodologies. This process is fully synthetic and does not rely on microbial fermentation, thus substantially reducing the risk of introducing microbial DNA or protein into our product candidates. Furthermore, our manufacturing process is highly scalable and easily characterizable – attributes that we will seek to leverage to support the rapid development and clinical translation of our EDO conjugate therapeutics. We have produced, manufactured and released multiple cGMP batches, and have successfully delivered PGN-EDO51 to our Phase 1 site for use in our ongoing clinical trial.



We have developed a robust manufacturing process for our EDO product candidates.

Accelerated and Efficient Pipeline Development

Our initial preclinical programs leverage the same EDO peptide to enhance the delivery and cellular and nuclear uptake of oligonucleotide therapeutic candidates. We intend to apply our deep understanding of the EDO platform and current preclinical programs to support the rapid development of additional product candidates for other neuromuscular and neurologic indications. We believe that the ability of our EDO peptides to deliver exon skipping therapeutics to muscle cells, including cardiac muscle cells, is largely independent of the exact sequence of the ASO. Therefore, by leveraging our existing preclinical data and the plug-and-play nature of our EDO platform, we believe that we are well-positioned to rapidly develop additional product candidates with the potential to drive clinically relevant therapeutic outcomes across a wide variety of tissue types. We have observed the validity of this approach with one of our product candidates by moving from concept to NHP study initiation in less than a year.

Our Portfolio: An Initial Focus on Neuromuscular Diseases

We are harnessing the power of our EDO platform to generate a pipeline of oligonucleotide therapeutic candidates. Our EDO conjugates have been engineered to successfully target the root cause of serious diseases while maintaining a tolerability profile that is acceptable for clinical use. We are initially focused on addressing neuromuscular indications and are building a portfolio of therapeutic candidates to address the underlying genetic mutations found in DMD and DM1, with our current pipeline being comprised of five programs.

We anticipate expanding this pipeline to include other neuromuscular targets, along with opportunities in neurologic indications, and we will seek to leverage the modular, scalable nature of our EDO technology to support our rapid expansion into these new therapeutic areas. We have worldwide development and commercialization rights to all our programs.

PGN-EDO51

Overview

Our initial product candidate is PGN-EDO51, an EDO peptide conjugated to a PMO, that we are developing for the treatment of DMD patients with mutations amenable to an exon 51-skipping approach. PGN-EDO51 is designed to splice out exon 51 of the dystrophin pre-mRNA, resulting in the restoration of the open reading frame of the dystrophin transcript and production of an internally deleted, yet functional dystrophin protein. In head-to-head studies conducted in wild-type NHPs, we have observed robust levels of exon skipping, and found that PGN-EDO51 had greater activity than R_6G-PMO at the same dose level. We believe that this comparator compound is structurally equivalent to Sarepta's SRP-5051, the most clinically advanced peptide-ASO conjugate. In addition, in preclinical testing, PGN-EDO51 was generally well-tolerated at target dose levels. Following the review of our preclinical dataset by Health Canada and subsequent authorization of our CTA, we initiated a Phase 1 clinical trial of PGN-EDO51 in the second quarter of 2022, and anticipate receiving topline data from this trial by the end of 2022.

Disease background and prevalence

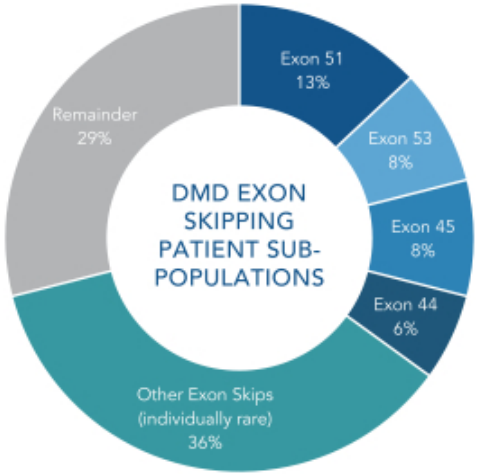
DMD is a debilitating X-linked recessive muscle-wasting disease that predominantly affects boys. It is one of the most prevalent rare genetic diseases globally, with an incidence of up to 1 in 3,500 live male births, and it is invariably fatal by young adulthood. There are up to 15,000 DMD patients in the United States, approximately 25,000 DMD patients in Europe and approximately 5,000 in Japan.

Early symptoms of disease include difficulty walking or jumping, loss of balance, and increased fatigue when compared to healthy peers. By their mid-teenage years, most DMD patients will need to use a wheelchair on a regular basis. As the disease progresses, life-threatening heart and respiratory conditions become common. Dilated cardiomyopathy – a condition where the cardiac muscle becomes weakened and the chambers of the heart are enlarged – often arises, and heart failure is a leading cause of death in DMD patients. Pulmonary function also becomes progressively impaired as the dystrophic process affects respiratory muscles, including the diaphragm, leading to significant morbidity and mortality. DMD patients ultimately succumb to cardiac and respiratory failure in their late teens or early twenties. The mean lifespan of patients with Duchenne muscular dystrophy is approximately 25 years.

DMD is a progressive disease caused by mutations in the gene encoding dystrophin, a protein necessary for normal muscle function. The primary role of dystrophin is as a shock absorber, and this protein allows muscle cells to retain their structural integrity while under mechanical stress. In the absence of dystrophin, muscle fibers are no longer protected from the mechanical forces of contraction, which leads to cell death, fibrotic tissue formation and muscle degeneration. Therefore, the restoration of dystrophin is a compelling therapeutic strategy, and a number of therapeutic modalities have been explored with this goal in mind. However, the nature of the *DMD* gene, the range of mutations implicated in DMD, and the large size of the dystrophin protein itself provide considerable obstacles to this approach.

The *DMD* gene, at 2.1 million base pairs and 79 exons, is one of the largest in the human genome. Over 6,000 mutations are known, and the gene has a relatively high natural mutation rate, with approximately 1 in 3 DMD cases arising due to a *de novo* mutation. There is no one mutation that is highly prevalent, and this factor provides a considerable challenge for therapeutics looking to target the root genetic cause of this debilitating disease.

That said, mutations in the dystrophin gene are not random, with hotspots of mutations existing between exons 45-53 and to a lesser extent between exons 2-20. It is thought that 13% of patients with DMD have mutations that are amenable to treatment with an exon 51-skipping therapeutic approach, and thus the estimated exon 51 patient population is approximately 2,000 in the United States, 3,200 in Europe and 700 in Japan.



Breakdown of DMD population by amenability to treatment with exon skipping therapeutics.

Current approaches and limitations

There is no cure for DMD and there are no treatments that have clinically demonstrated a meaningful impact on disease progression. Corticosteroids are the mainstay of pharmacologic treatment for DMD as they have been shown to temporarily improve muscle strength, prolong the period of ambulation and slow the progression of this disease. However, glucocorticoid use is associated with well-known adverse effects, such as weight gain, stunted growth, weakening of bone structure, high blood pressure, diabetes, psychological effects, skin thinning and an increased risk of infection.

Several approaches have been taken to address groups of mutations in the dystrophin gene. Ataluren is a small molecule that enables the dystrophin protein synthesis machinery to bypass nonsense mutations, where a stop codon is introduced into the dystrophin messenger RNA, or mRNA, thus preventing the synthesis of full-length dystrophin protein. This drug, marketed by PTC Therapeutics as Translarna, has received conditional approval in a number of countries outside of the United States, including across the European Economic Area. However, an approval has yet to be granted by the FDA.

An alternative approach is to alter the processing of the dystrophin mRNA. A number of DMD patients suffer from mutations that result in the disruption of the reading frame of the *DMD* transcript, which in turn leads to an absence of the dystrophin protein. Using an antisense oligonucleotide, or ASO, the mRNA splicing process in the nucleus can be altered to skip over a select exon, allowing the open reading frame to be restored. This exon skipping approach results in the subsequent generation of dystrophin protein isoform which, although internally deleted, retains much of its function and can thus protect muscle tissue against further contraction-induced damage.

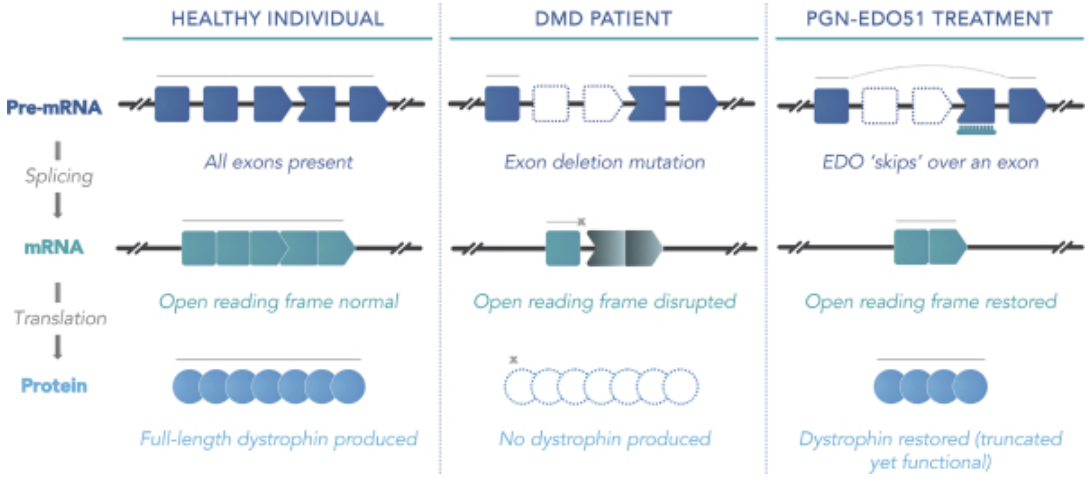
Several unconjugated, or ‘naked’ ASOs have been approved to treat DMD, including eteplirsen, marketed as EXONDYS 51® by Sarepta for the treatment of mutations amenable to an exon 51-skipping therapeutic approach. This drug received accelerated approval from the FDA on the basis of an increase of less than 1% in the expression of dystrophin, with this readout being considered a valid surrogate endpoint under the Accelerated Approval regulatory pathway. Published observational studies of small numbers of patients on EXONDYS 51® appear to show somewhat slower disease progression than historical controls. However, at this level of dystrophin, this therapeutic has yet to formally establish evidence of clinical benefit through rigorously powered and adequately controlled clinical trials with functional endpoints. EXONDYS 51® has not been approved in the EU or in Japan on the basis of this minimal degree of dystrophin restoration as a surrogate endpoint.

In addition to oligonucleotide therapeutics, gene therapy approaches are also in clinical development as potential treatments for DMD. Exon skipping does not face some of the inherent challenges associated with gene therapy modalities, including:

- Limited packaging size of AAV vectors, resulting in the need to employ truncated 'microdystrophin' genes with an unclear functional benefit, where >50% of the dystrophin gene is omitted, including regions that correspond to key structural and binding domains;
- Increased safety concerns with high-dose AAV-based gene therapies (e.g. complement activation);
- Immunogenicity of AAV, resulting in:
  - Up to half of all patients possessing antibodies against the most commonly used recombinant AAV vector serotypes, precluding their eligibility for treatment; and
  - Production of anti-AAV antibodies in treated patients, resulting in an inability to redose;
- Loss of gene copies over time as patients mature and their cells divide, reducing the durability of therapeutic effect; and
- Complexity and challenges inherent to manufacturing of AAV-based therapies.

Our approach

We are developing a portfolio of product candidates for the treatment of DMD in which exon skipping PMOs are conjugated to our EDO peptide in order to enhance their delivery to muscle cells. Our initial product candidate is PGN-EDO51, an investigational EDO peptide-conjugated exon 51-skipping ASO with a proposed mechanism of action we believe to be identical to that of eteplirsen.



PGN-EDO51 is designed to facilitate the skipping of exon 51, allowing the synthesis of a shortened, but functional, dystrophin.

The key differentiator between PGN-EDO51 and other exon 51-skipping approaches is the greater activity observed with PGN-EDO51 in preclinical models. We believe the higher levels of exon skipping obtained with PGN-EDO51 in NHPs in comparison to published and head-to-head data for other such therapies

is directly related to the ability of our EDO platform to drive the tissue penetration, cellular uptake and nuclear delivery of the PMO cargo therapeutic to the subcellular compartment where interaction with the mRNA takes place.

Our preclinical data

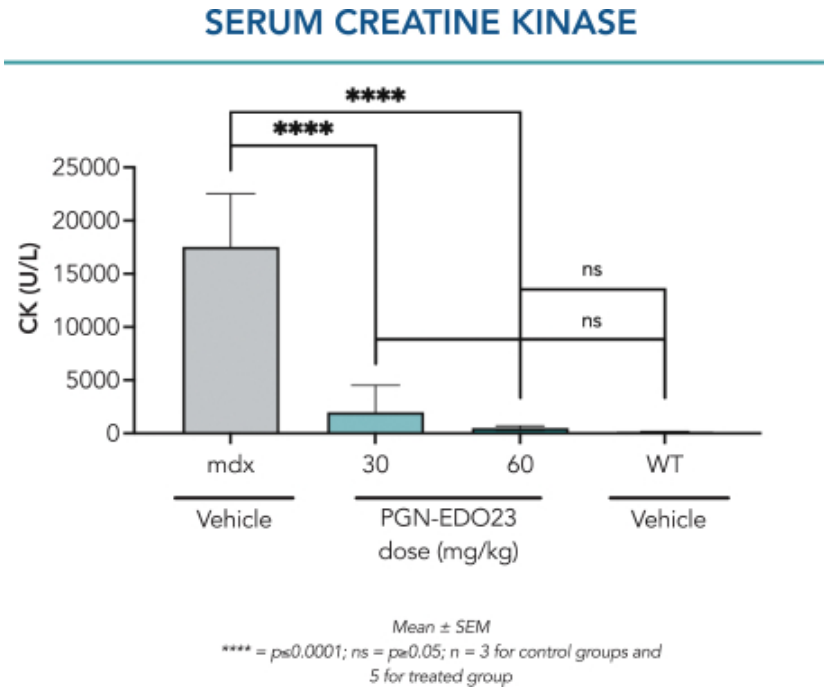
Activity data: Substantial improvements in exon skipping levels

We have evaluated the pharmacology of PGN-EDO51 in a number of *in vitro* and *in vivo* preclinical studies and have observed robust activity in each of the model systems evaluated. In DMD patient cells bearing a deletion of exon 52, where an exon 51-skipping modality restores the open reading frame and facilitates the production of dystrophin, treatment with PGN-EDO51 resulted in high levels of exon 51 skipping across a wide range of concentrations. These results suggest that our first product candidate has the potential to drive robust exon skipping activity in a highly relevant *in vitro* environment and thus support the advancement of this product candidate to further studies *in vivo* models.

The *mdx* mouse, a well-characterized model of DMD, has been widely employed in the field to assess the potential activity of therapeutic candidates for this indication. The pathologies evident in the mdx mouse model arise due to the presence of a point mutation in exon 23 of the murine dystrophin gene, leading to the production of a dystrophin transcript in which the open reading frame is disrupted. As in DMD patients, this disruption precludes production of a functional dystrophin protein, and as a result *mdx* mice exhibit extensive cell death, fibrosis and muscle tissue degeneration.

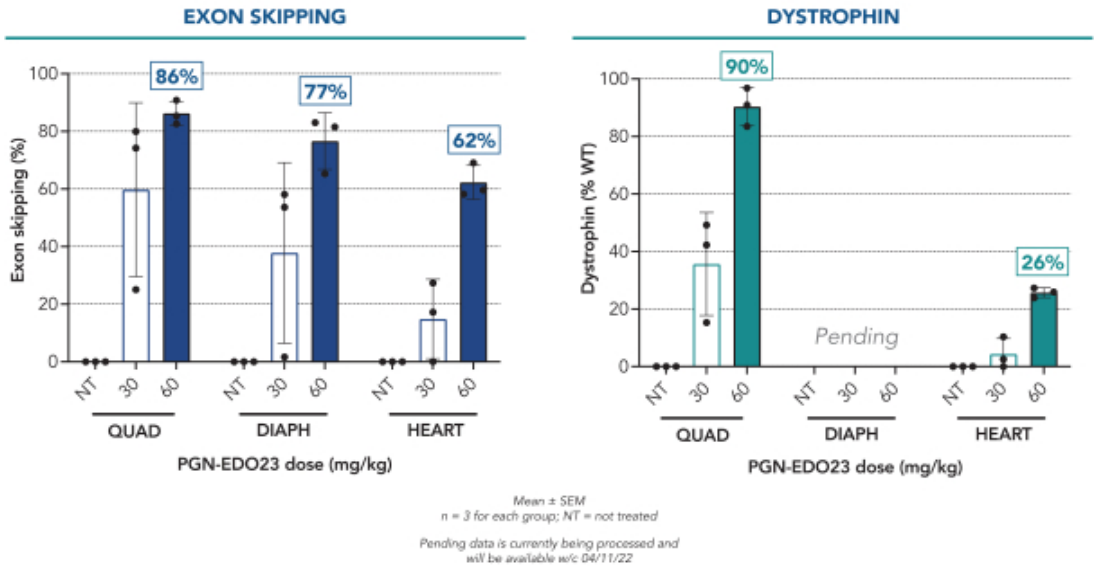
We have utilized PGN-EDO23, a murine analogue of PGN-EDO51, to assess the activity of our EDO platform in *mdx* mice. PGN-EDO23 consists of our lead EDO peptide conjugated to the well-established exon 23-skipping PMO, and thus the activity of this compound is highly applicable to PGN-EDO51, and our pipeline candidates PGN-EDO53, PGN-EDO45 and PGN-EDO44.

Creatine kinase, or CK, is a critical biomarker of muscle damage, with this enzyme being elevated in DMD patients from birth. In the absence of dystrophin, the structural integrity of the sarcolemma, or muscle cell membrane, is disrupted, leading to the release of CK into the blood. Following intravenous administration of a single, generally well-tolerated dose of 30 mg/kg or 60 mg/kg of PGN-EDO23, we observed normalization of serum CK to wild-type levels in *mdx* mice seven days post-dose. The normalization of CK levels observed in this study suggest that PGN-EDO23 may restore muscle cell integrity and prevent further damage in *mdx* mice under a single dose regimen, and we believe that this outcome supports the potential therapeutic utility of PGN-EDO51 in the treatment of DMD patients.



A single dose of PGN-EDO23, the murine analogue of PGN-EDO51, was observed to normalize creatine kinase, a marker of muscle damage in *mdx* mice.

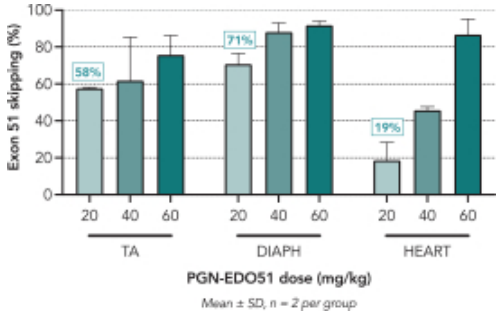
In addition to this significant reduction in CK, we also observed high levels of exon 23 skipping and dystrophin production in *mdx* mice when measured by RT-PCR and Western blot, respectively, seven days after a single dose of PGN-EDO23. In the quadriceps, a single, generally well-tolerated dose of 60 mg/kg yielded an exon skipping rate of 86% and dystrophin restoration to 90% of wild-type levels, while the same dose in the diaphragm afforded an exon skipping rate of 77%. In critical cardiac tissue, the exon skipping rate was observed to be 62%, with dystrophin restoration levels of 26%. Given the relevance of the *mdx* mouse as a preclinical model for DMD, we believe that these robust exon skipping and dystrophin readouts are supportive of the potential activity of the EDO platform in this disease and the potential clinical benefit we may deliver to patients with our lead candidate, if approved.



Robust exon skipping and dystrophin restoration was observed seven days after a single dose of PGN-EDO23 in *mdx* mice.

We have conducted a number of studies in NHPs and have observed the robust *in vivo* activity of PGN-EDO51 in this higher order animal model. There is complete homology of the oligonucleotide binding site between the *DMD* gene in humans and the *DMD* gene in NHPs for an exon 51-skipping therapeutic, thus allowing the activity of our clinical candidate to be assessed in this large animal model. We believe that the data obtained from NHP studies may offer a valuable insight into the potential tolerability, delivery and activity readouts that we could obtain for PGN-EDO51 in human clinical trials.

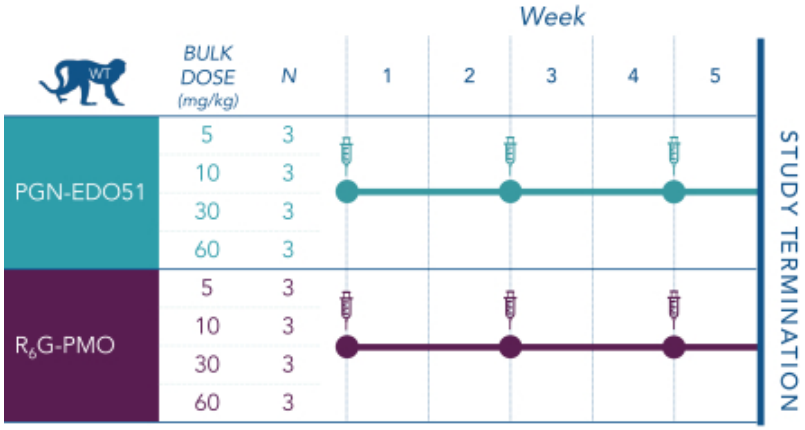
In a preclinical intravenous dose study, we observed that a single administration of PGN-EDO51 in NHPs led to high rates of exon 51 skipping in the TA, diaphragm and heart, with these tissues being harvested seven days post-dose and then assayed using a RT-PCR protocol. Of particular note are the results obtained for the heart, where exon skipping rates of 19%, 46% and 87% were obtained following single doses of 20, 40 and 60 mg/kg respectively. We believe these results for PGN-EDO51 represent the highest rate of exon 51 skipping in a primate following a single dose of any approved therapeutic or known development candidate.



Single doses of PGN-EDO51 led to high rates of exon 51 skipping in a preclinical NHP study.

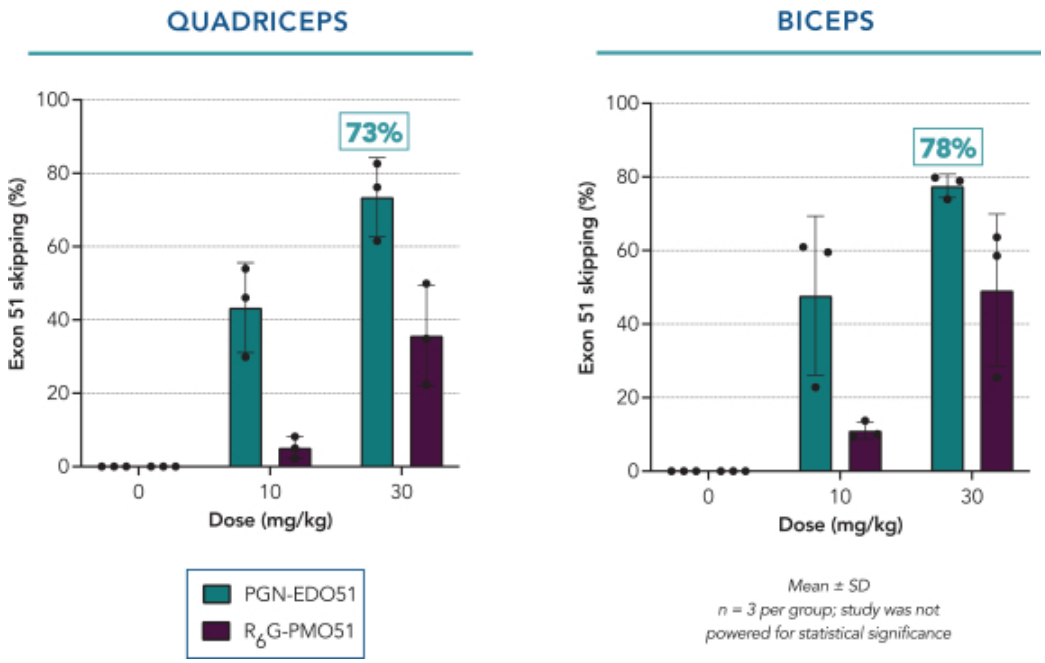
In order to benchmark the ability of our lead EDO peptide to improve the tissue penetration, cellular uptake and nuclear delivery of oligonucleotide therapeutics, we carried out a study comparing our EDO-

conjugated PMO to an R_6G peptide conjugated to the same PMO. We have conducted a considerable number of benchmarking studies of PGN-EDO51 against R_6G-PMO, and we believe – based on publicly-available information – that R_6G-PMO is structurally equivalent to SRP-5051, Sarepta's CPP-PMO product candidate that is currently in clinical development for the treatment of DMD patients who are amenable to an exon 51-skipping approach. In this preclinical study, NHPs were dosed intravenously with either PGN-EDO51, R_6G-PMO or a saline control three times with an interval of two weeks between doses. Biopsies of the biceps and quadriceps were collected seven days after the first and second dose, and tissues were harvested seven days after the final dose.



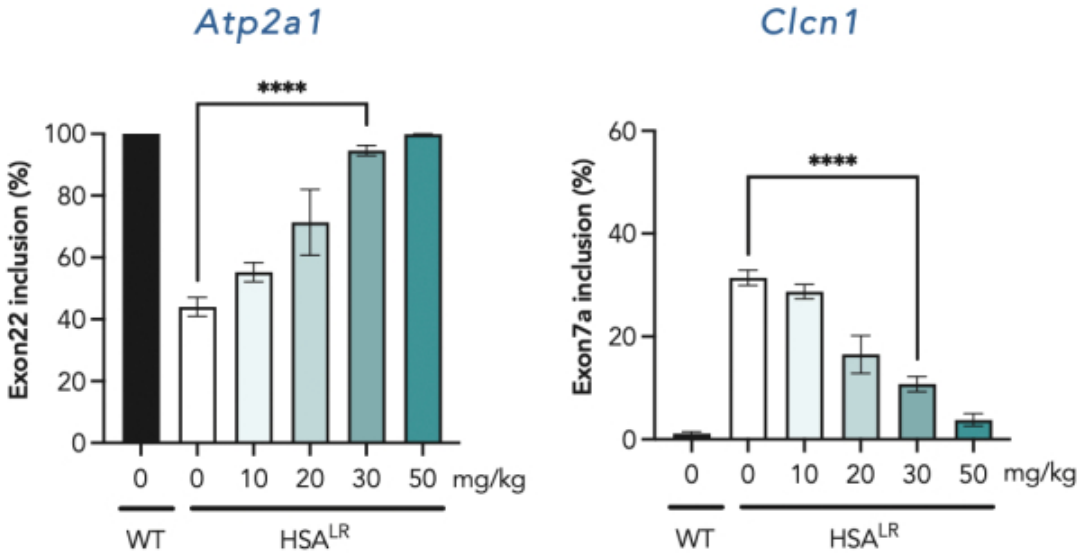
Our preclinical study design enabled robust collection of repeat-dose activity and tolerability data in NHPs.

Through RT-PCR analysis of key skeletal muscles collected upon study termination, we have observed that a 10 mg/kg repeat dose of PGN-EDO51 achieved exon skipping rates of 48% in the biceps, 43% in the quadriceps and 19% in the latissimus dorsi. In contrast, we observed R_6G-PMO at the same dose to have exon skipping levels in the biceps, quadriceps and latissimus dorsi of 11%, 5% and 2% respectively. At a dose of 10 mg/kg, PGN-EDO51 exhibited approximately as much activity as a 3-fold higher dose, i.e., 30 mg/kg, of R_6G-PMO.



Repeat dose administration of PGN-EDO51 yielded high exon skipping rates in peripheral skeletal muscles.

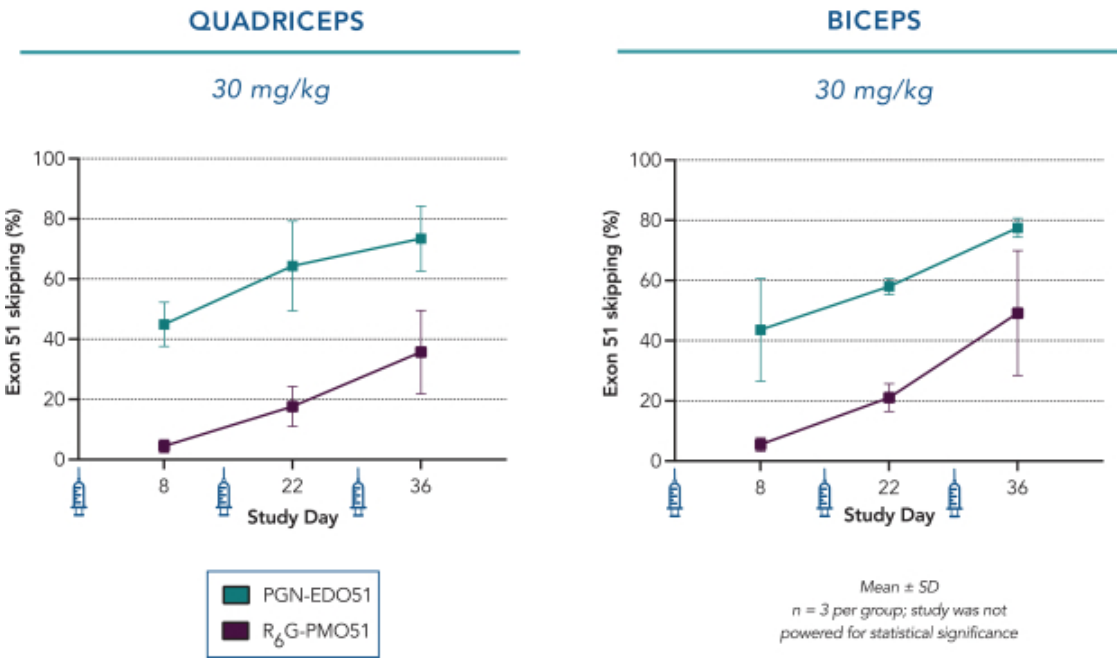
We believe the potentially superior activity of PGN-EDO51 is also exemplified by the exon skipping results obtained for cardiac left ventricle and diaphragm muscle tissues. In patients with DMD, cardiomyopathy and subsequent heart failure is a leading cause of death, and predominantly involves the left ventricle, the chamber responsible for pumping oxygenated blood around the body. A repeat dose of 30 mg/kg resulted in exon 51 skipping levels of over 20% in the left ventricle for PGN-EDO51, while the same dosing regimen for R_6G-PMO yielded an exon skipping rate of 4%. These results highlight a greater than five-fold differential in activity between our EDO lead compound and R_6G-PMO in this key tissue. In addition to cardiac pathologies, DMD patients also experience a progressive impairment in pulmonary function due to the impact of the dystrophic process on the respiratory muscles, including the diaphragm, which in turn results in significant morbidity and mortality over time. In the critical diaphragm tissue, a 10 mg/kg repeat dose of PGN-EDO51 afforded exon skipping rates that were approximately 12-fold higher than those observed for R_6G-PMO. No serious adverse events were observed during this study.



Mean ± SEM
***** = extremely significant*
n = 16 per group for 0 mg/kg; 8 per group for 10 - 30 mg/kg; 4 per group for 50 mg/kg
WT = wild type

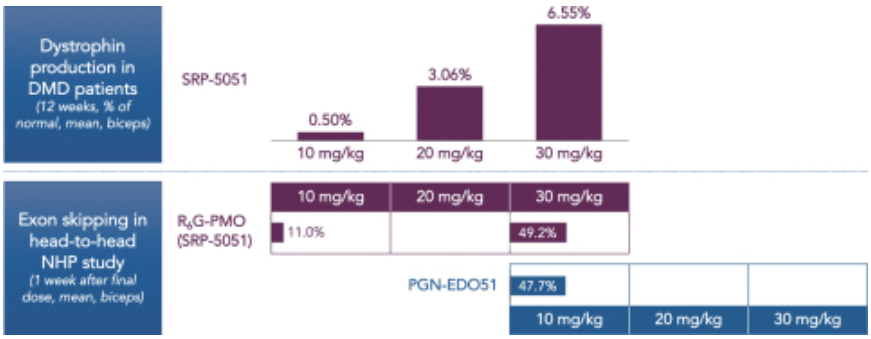
Preclinical repeat dose administration of PGN-EDO51 yielded high exon skipping rates in the key cardiac left ventricle and diaphragm tissues.

In order to understand the potential accumulation of exon 51-skipped transcripts under a repeat dose regimen, we assessed NHP tissue biopsy samples of the biceps and quadriceps collected seven days following the first administration and seven days following the second administration of the study protocol described above; we also assessed terminal samples from the same tissues collected seven days following the third and final administration. The levels of exon 51 skipping of the *DMD* transcript were assayed via an RT-PCR protocol. The results obtained showed a robust accumulation in the levels of the exon 51 skipped transcript with each subsequent dose, and again serve to highlight the dramatic difference in activity observed between PGN-EDO51 and R_6G-PMO. In addition, we believe this accumulative effect suggests that the activity of PGN-EDO51 is likely to further increase with chronic dosing, and we thus anticipate that even higher exon skipping levels would be observed following additional administrations of our lead product candidate.



Exon skipped transcripts in the biceps and quadriceps accumulated under a preclinical repeat-dose regimen of PGN-EDO51.

To provide context to our NHP data, we believe it is important to consider data presented by Sarepta for SRP-5051, which we understand to be structurally equivalent to the R_6G-PMO conjugate we used as a comparator in our preclinical studies. In a Phase 2 clinical trial of SRP-5051 in DMD patients amenable to an exon 51-skipping approach, Sarepta reported that patients treated with 30 mg/kg of their candidate achieved dystrophin production of 6.55% of normal levels. A dose response was observed in this trial, with patients dosed at 30 mg/kg achieving twice as much dystrophin production as patients treated with 20 mg/kg. A positive relationship was observed between exon skipping levels and dystrophin expression, with higher exon skipping resulting in higher dystrophin expression. Sarepta has previously reported data showing that the drug exposure for SRP-5051 is similar between NHPs and human subjects.



We believe PGN-EDO51 has robust clinical potential.

In our head-to-head study in NHPs, PGN-EDO51 dosed at 10 mg/kg resulted in near equivalent exon skipping to the 30 mg/kg dose of R_6G-PMO, and PGN-EDO51 dosed at 30 mg/kg resulted in significantly higher

exon skipping than R_6G-PMO at the same dose. Given these results, we believe that PGN-EDO51 at the 10 mg/kg dose has the potential to afford comparable dystrophin levels to those obtained following treatment with SRP-5051 at the 30 mg/kg dose in DMD patients. We believe that doses of PGN-EDO51 above 10 mg/kg could generate even greater dystrophin production than obtained for the 30 mg/kg dose of SRP-5051, which may lead to clinically meaningful outcome for those suffering from this disease. Due to the long half-life of the dystrophin protein, and the accumulation in exon skipping that we observed during our repeat-dose study, we believe that these levels could continue to accumulate over time and thus further enhance the clinical benefit afforded to DMD patients by our EDO technology.

In addition to Sarepta's competing SRP-5051 approach, several organizations focused on the development of next-generation oligonucleotide therapeutics have recently released NHP exon skipping data. Dyne Therapeutics, a preclinical-stage company utilizing an antigen-binding fragment, or Fab, as a delivery vector for nucleic acid species, announced NHP data in the fourth quarter of 2021 for DYN-251, their lead product candidate for the treatment of DMD patients amenable to an exon 51-skipping approach. Following two bi-weekly or four weekly doses of 30 mg/kg, with tissue analysis two weeks or one week, respectively, after the final dose, Dyne reported very minimal levels of exon skipping in quadriceps, diaphragm and whole heart. An administration regimen of five weekly doses of 30 mg/kg, with tissue analysis four weeks after the final dose, yielded more robust results: 18% exon 51 skipping in quadriceps, 52% in diaphragm and 43% in whole heart. While this data was not obtained as part of a head-to-head comparison, we reported exon 51-skipping levels of 73% in the quadriceps and 76% in the diaphragm following a dosing regimen of three bi-weekly doses of 30 mg/kg of PGN-EDO51 with tissue analysis one week after the final dose, and 19% in whole heart and 71% in diaphragm following a single dose of 20 mg/kg of PGN-EDO51 with tissue analysis one week after dosing. These NHP results serve to further cement our belief that PGN-EDO51 has the potential to address multiple, critical muscle types in this competitive space.

We are additionally aware of other cell-penetrating peptide and antibody-conjugated approaches in preclinical development for the treatment of DMD patients amenable to an exon 44- and exon 45-skipping therapeutic approach.

Preclinical tolerability data: Generally well-tolerated through clinically relevant dose levels

PGN-EDO51 was generally well-tolerated in single-dose, 28-day Good Laboratory Practice, or GLP, toxicity studies in mice and NHPs; no treatment-related mortality and no serious adverse events were observed through the therapeutic dose range. There were no adverse microscopic observations and no adverse impacts on clinical chemistry markers at clinically relevant dose levels.

Sarepta noted that hypomagnesemia was observed in DMD patients at a dose levels of 10, 20 and 30 mg/kg of SRP-5051, an observation that is consistent with our own findings in repeat-dose preclinical testing of R_6G-PMO. In our non-GLP repeat-dose study in NHPs, measurement of serum magnesium levels indicated the presence of hypomagnesemia following multiple administrations of PGN-EDO51 at the upper end of the therapeutic dose range and above; we likewise observed hypomagnesemia with R_6G-PMO in the same head-to-head study at similar dose levels.

Following the announcement of positive interactions with the FDA in the fourth quarter of 2021, Sarepta initiated what it reports could be the pivotal trial for SRP-5051, with a protocol that includes magnesium supplementation. Sarepta has further noted that this modulation in clinical chemistry may be reversible, monitorable and manageable with prophylactic oral administration of such supplements. Based on these findings, we anticipate that we may observe hypomagnesemia following repeat-dose administration of PGN-EDO51 in our patient clinical trials. We intend to carefully monitor serum magnesium levels in our ongoing Phase 1 HNV clinical trial, and we will seek to incorporate a magnesium supplementation protocol into our subsequent Phase 2 patient clinical trials as required.

Collectively, these results, including the exon skipping and serum magnesium data described above, support our belief that PGN-EDO51 has a potential therapeutic index that is considerably wider than the therapeutic index exhibited by SRP-5051. Our lead product candidate has exhibited greater activity than R_6G-PMO at the same dose level in NHPs, and was more tolerable at the same activity level when compared to this competing CPP-PMO approach in a head-to-head study.

An *in vitro* T cell stimulation assay conducted with peripheral blood mononuclear cells from healthy donors indicated that PGN-EDO51 has a very low immunotoxicity risk. This is further supported by data showing that the pharmacokinetic profile of PGN-EDO51 was similar following the first and third dose, suggesting no significant neutralizing anti-drug antibody responses were present after a three dose regimen in NHPs.

We submitted our preclinical dataset for PGN-EDO51, including both pharmacology and toxicity studies, to Health Canada as part of our CTA filing in the first quarter of 2022. Upon review, Health Canada subsequently authorized our CTA.

Clinical development

Our planned clinical path

To date, there have been a number of clinical trials conducted with exon 51-skipping therapeutics for the treatment of DMD. Based on these learnings, and on the extensive expertise of our clinical team and scientific advisory board, we have designed what we believe to be an efficient clinical path to evaluate the safety and efficacy of PGN-EDO51 in humans. We anticipate conducting the following studies, subject to regulatory feedback and clearance to proceed to clinical trials:

Phase 1 clinical trial: We commenced a first-in-human, Phase 1, single-center, randomized, double-blind, placebo-controlled, single ascending dose clinical trial to assess the safety, tolerability, pharmacokinetics and target engagement of PGN-EDO51 administered intravenously to healthy normal volunteer, or HNV, adult males in the second quarter of 2022.

The primary objective of this study will be to assess the safety and tolerability of PGN-EDO51 at doses of 1, 5, 10, 15 and 20 mg/kg. We will also assess the pharmacokinetics and target engagement of our product candidate as secondary and exploratory objectives respectively. The latter endpoint will be focused on exon 51 skipping activity, which will be measured by both reverse transcriptase PCR, or RT-PCR, and droplet digital PCR, or ddPCR, assays conducted on muscle biopsy tissue taken from the biceps brachii. We anticipate receiving topline data from this trial by the end of 2022, and expect that these projected readouts, as detailed below, have the potential, if successful, to inform the design, parameters and objectives of a subsequent clinical trial in DMD patients:

- *Safety and tolerability:* If PGN-EDO 51 is generally well-tolerated with an absence of treatment emergent SAEs, we believe such results would facilitate our Phase 2a clinical trial, and could support the initiation of this multiple ascending dose study at higher dose levels;
- *Pharmacokinetics:* If we successfully detect PGN-EDO51 in muscle tissue, such data, if sufficiently robust, could allow us to establish a baseline for our Phase 2a clinical trial; and
- *Target engagement:* If we observe promising target engagement in exon 51 skipping, we anticipate that this readout, if sufficiently robust, could allow us to establish a baseline for our Phase 2a clinical trial.

Sarepta's recent clinical trials for SRP-5051 provide a highly relevant benchmark with regards to exon skipping target engagement in healthy adults. We note here that, in a single dose trial in HNV, SRP-5051 afforded median exon skipping levels of <0.2%. However, in a subsequent multiple ascending dose trial in DMD

patients, treatment with SRP-5051 yielded exon skipping levels that were more than 10 times higher at the same dose level. Thus, based on this precedent established by the most clinically advanced next-generation exon skipping approach in development for DMD, we anticipate that the exon skipping rates afforded by PGN-EDO51 have the potential to be higher in patients than in HNVs.

Patient clinical studies: Following our HNV study we will seek to assess the safety, tolerability and efficacy of PGN-EDO51 in DMD patients amenable to an exon 51-skipping approach in Phase 2 clinical trials, beginning with a Phase 2a multiple ascending dose study in the first half of 2023. We anticipate receipt of safety and exon skipping and dystrophin topline data in 2024, and we are planning to conduct this trial in a number of geographies, including the United States. Furthermore, we have received initial, positive feedback on our clinical path from the FDA via a pre-IND written response.

We believe that this clinical path may enable us to seek accelerated approval of PGN-EDO51 with the FDA. A product candidate may be eligible for accelerated approval if it treats a serious or life-threatening disease or condition; generally provides a meaningful advantage over available therapies; and demonstrates an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality and is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit. If we receive positive results from our Phase 2 trials, we believe our potential application to this expedited regulatory pathway would be supported by data generated in these trials, namely: an acceptable safety and tolerability profile; a clinically meaningful increase in dystrophin levels, a surrogate endpoint, in the biceps of DMD patients; and robust exon skipping levels in the same tissue.

The accelerated approval of DMD drugs based on an increase in dystrophin production has significant precedent at the FDA, with four such approvals granted on this basis since 2016. Based on these regulatory precedents in DMD, if we are able to demonstrate increased dystrophin production in our Phase 2 trials of PGN-EDO51, we intend to seek accelerated approval from the FDA using dystrophin as a surrogate endpoint.

Four drugs have received accelerated approval in DMD to date.

Drug	Approval	Sponsor	Population	Sample size	Placebo Dystrophin	Drug Dystrophin
EXONDYS 51® *(eteplirsen)*	2016	Sarepta Therapeutics	Exon 51	12	n/a	0.44%
VYONDYS 53® *(golodirsen)*	2019	Sarepta Therapeutics	Exon 53	12	n/a	1.02%
VILTEPSO® *(viltolarsen)*	2020	NS Pharma	Exon 53	8	n/a	5.90%
AMONDYS 45® *(casimersen)*	2021	Sarepta Therapeutics	Exon 45	43	0.76%	1.74%

PGN-EDODM1

Overview

We are developing PGN-EDODM1, an EDO peptide-conjugated PMO, for the treatment of DM1, a debilitating genetic disease with no approved therapies. Utilizing our EDO technology platform, PGN-EDODM1 is designed to deliver a PMO into muscle cells that binds to the cytosine-uracil-guanine, or CUG, repeat expansion present in the *DMPK* mRNA, thus reducing the ability of these trinucleotide repeats to sequester MBNL1, a critical RNA processing protein. This steric blocking approach – which is not designed to knock down *DPMK* – directly addresses the underlying genetic defect in DM1, and we have observed in DM1 patient

cells that treatment with PGN-EDODM1 supported the robust correction of multiple downstream mis-spliced transcripts and a reduction in toxic nuclear foci. Furthermore, we observed in our preclinical studies that a single dose of PGN-EDODM1 corrected the molecular and functional phenotypes presented in the human skeletal actin – long repeat, or, HSA^{LR}, mouse model of disease. We anticipate submitting an IND for PGN-EDODM1 in the first half of 2023 in order to initiate a Phase 1/2 clinical trial in DM1 patients.

Disease background and prevalence

DM1 is a monogenic, autosomal dominant, progressive disorder that primarily affects skeletal, cardiac and smooth muscles, with CNS symptoms also being evident. Globally, the prevalence of DM1 is estimated to be 1 in 8,000 people, with approximately 40,000 patients in the United States, 75,000 patients in Europe and 15,000 patients in Japan. However, under- and misdiagnosis is believed to be widespread, and genetic screening studies for *DMPK* triplet repeats have suggested that this rate may be as high as 1 in 2,100 people.

DM1 patients can suffer from various manifestations of disease including myotonia, or a temporary rigidity due to the inability to relax muscles; muscle weakness; cardiac abnormalities; respiratory problems; fatigue; cardiac pathologies; gastrointestinal complications; early cataracts; and cognitive and behavioral impairments. For patients with more severe forms of DM1, life expectancy is reduced due to increased mortality rates resulting from pulmonary and cardiac complications.

The broad spectrum of pathologies associated with DM1 arise due to genetic changes in the myotonic dystrophy protein kinase, or *DMPK*, gene. Specifically, DM1 is caused by an expansion in the number of cytosine-thymine-guanine, or CTG, triplet repeats that are present in the non-coding region of the *DMPK* gene, and following transcription this mutant *DMPK* gene yields an mRNA product with an expanded CUG repeat region. Healthy, asymptomatic individuals possess between 5 and 37 such repeats, but in DM1 patients the number of repeats can be in the thousands. These highly repetitive sequences form stable hairpin structures in the nucleus of cells and sequester critical RNA splicing proteins, such as MBNL1. The sequestration of MBNL1 prevents this key protein from performing its normal function of processing RNA molecules before they are exported from the nucleus, leading to downstream mis-splicing events in a number of other transcripts. The mis-splicing of these transcripts results in the dysregulation of a broad set of downstream proteins, which in turn leads to in the multi-systemic pathologies that are associated with DM1.

There is a general correlation between the number of CTG repeats in *DPMK* and the severity of disease: individuals with 50 to 150 repeats are prone to development of mild myotonia and cataracts, but typically have a normal lifespan. Individuals with up to approximately 1,000 repeats have muscle weakness and cardiac arrhythmia, with an average lifespan of 48 years to 55 years. The most serious cases of DM1 are generally observed in individuals with more than 1,000 repeats, and these patients are likely to also suffer from respiratory defects and intellectual disability, with a shortened lifespan of approximately 45 years.

Patients are broadly categorized into four populations based on the age of onset:

PHENOTYPE	CLINICAL SIGNS	AGE OF ONSET	CTG REPEAT LENGTH	% OF DM1 PATIENTS (ESTIMATE)
CONGENITAL	Mild to severe neonatal symptoms, including hypotonia, respiratory distress, sucking or swallowing difficulties, or skeletal deformities detected at birth or during the first month of life, cognitive impairments	Birth	>1,000	5
INFANTILE	Dysphagia, facial dysmorphism, cardiac conduction defects, cataracts and muscle involvement, such as muscle weakness and respiratory insufficiency, congnitive impairments	0 – 10	50 – 1,000	15
JUVENILE	Pronounced myotonia, somnolence, dysphagia, respiratory insufficiency, muscle weakness and facial dysmorphism, mild cognitive impairments	10 – 20	50 – 1,000	30
ADULT	Muscle weakness, GI symptoms, dysphagia, facial dysmorphism, cognitive impairment, cardiac conduction defects, cataracts and myotonia	20 – 40	50 – 1,000	35
LATE	Cardiac defects, cataracts, diabetes, overweight/obesity, GI symptoms, dysphagia	40+	50 – 100	15

Overview of DM1 phenotypes.

Current approaches and limitations

There are no approved therapies to treat DM1, with current standards of care being medicines that are used off-label for symptom management. There are a number of therapeutics currently in clinical development for the treatment of DM1 symptoms, including the small molecules tideglusib and ERX-963. However, neither of these therapeutics treat the underlying cause of disease, and thus we believe that a considerable unmet need will remain in DM1 even if these therapies are approved. Previously, a phosphorothioate ASO designed to cause degradation of the *DMPK* transcript was clinically assessed as a therapeutic for DM1. However, this therapeutic approach was restricted by the inefficiency of ASO delivery into tissue and cells, thus limiting the effective clinical translation of this product candidate.

There are several preclinical- and clinical-stage approaches leveraging antibody-oligonucleotide conjugate, or AOC, technologies, that are currently in preclinical development for the treatment of DM1. These approaches utilize monoclonal antibodies, or mAbs, and antigen-binding fragments, or Fabs, that target the transferrin receptor 1, or TfR1, in order to deliver cargo oligonucleotides. In contrast to our steric blocking mechanism of action, these AOCs are designed to knockdown *DMPK* as a therapeutic modality. However, such

knockdown or degradation approaches that cannot differentiate between expanded and non-expanded transcripts may risk confounding effects due to haploinsufficiency.

Haploinsufficiency is a condition where a copy of the gene is deleted or mutated and the remaining copy is unable to produce sufficient protein for normal function. This condition can be created artificially by the degradation of RNA levels to such an extent that there is no longer sufficient protein produced for normal function. We believe that PGN-EDODM1 has the potential to offer a number of benefits when compared to these alternative technologies, as outlined in the table below:

	EDO CONJUGATE	TFR1 FAB / MAB AOC
DELIVERY TO MUSCLE	Efficient tissue penetration due to small size of EDO peptide relative to an antibody or antibody fragment	Large size of delivery Fab / mAb reduces tissue penetration; TfR1 receptor distribution may impact delivery
DELIVERY TO CNS	Delivery to CNS observed in NHPs following IV administration	Affinity of TfR1 Fab / mAb may prevent CNS delivery
TOLERABILITY & IMMUNOGENICITY	Low risk of immunogenicity or complement activation	Considerably higher protein load may lead to greater immunogenicity risk; mAb vectors risk complement activation
MANUFACTURING SCALABILITY	Scalable, straightforward synthesis and characterization	Increased complexity due to large size of Fab / mAb; may be reliant on cell-based processes

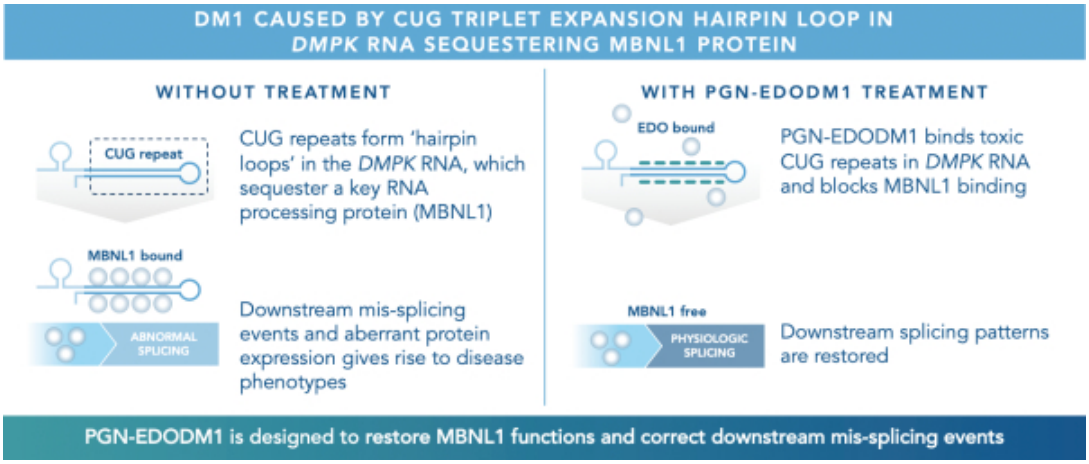
Our approach is differentiated against competing AOC therapeutics in development for DM1.

We are additionally aware of other cell-penetrating peptide approaches currently in preclinical development for the treatment of DM1.

Our approach

Our product candidate for the treatment of DM1, PGN-EDODM1, consists of our lead EDO cell penetrating peptide conjugated to an ASO that binds to the CUG repeats in the *DMPK* mRNA. We are employing the same EDO peptide in PGN-EDO51 and PGN-EDODM1. PGN-EDODM1 is designed to directly address the deleterious effects of genetic alteration in DM1, i.e. the sequestration of MBNL1 due to the high number of CUG repeats in the *DMPK* transcript.

We believe that this innovative therapeutic approach has considerable advantages over oligonucleotide modalities that rely on knockdown or degradation of the *DMPK* transcript. PGN-EDODM1 utilizes a steric-block mechanism to liberate sequestered MBNL1, an approach which we believe will allow the *DMPK* transcript to continue performing its normal function within the cell. We believe that this therapeutic strategy positions us to potentially offer clinically meaningful benefits while mitigating the risk of deleterious outcomes that may be associated with a knockdown or degradation strategy.



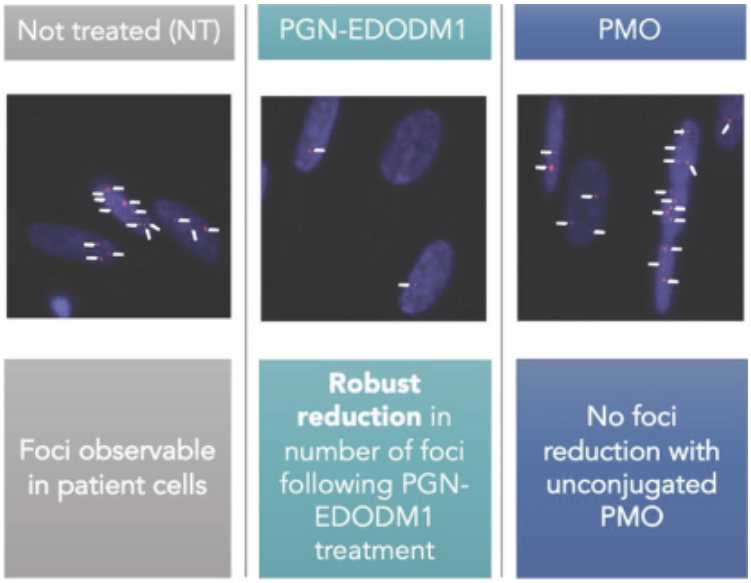
PGN-EDODM1 is designed to bind to the CUG repeats in DMPK RNA and block the sequestration of MBNL1.

Preclinical data

Activity data: Correction of molecular and functional DM1 phenotype

We have observed robust activity of PGN-EDODM1 in an *in vitro* study utilizing DM1 patient cells with approximately 2,600 CTG repeats in the *DMPK* gene. In this study, immortalized myoblasts from a DM1 patient were differentiated for four days, and then treated for 24 hours with PGN-EDODM1 at a range of concentrations from 0 mM to 20 mM. Myoblasts from a healthy individual were utilized as a control, and the unconjugated PMO was also assessed at a concentration of 20 mM in this study in order to demonstrate the critical role that our EDO platform plays in driving efficient cell uptake of this therapeutic cargo.

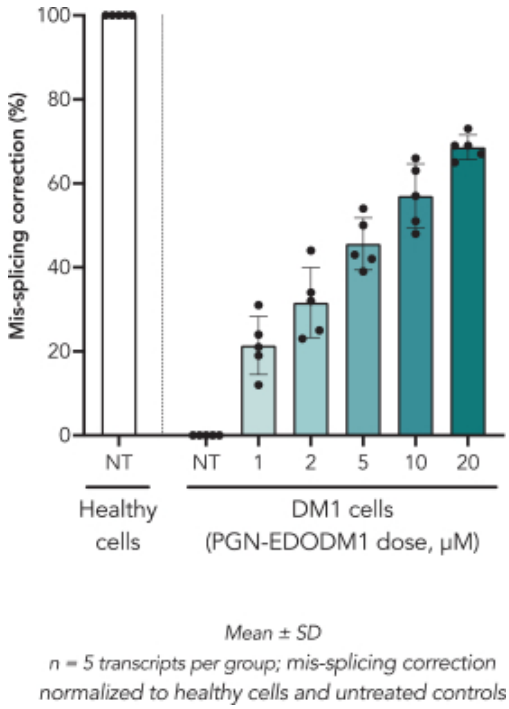
A characteristic feature of DM1 is the accumulation of nuclear foci, or ribonuclear aggregates of *DMPK* mRNA bearing the pathogenic CUG repeat expansion. These foci sequester MBNL1, a critical modulator of transcript splicing, and thus play a key role in the downstream spliceopathies that are observed in this multi-systemic disorder. We assessed the impact of PGN-EDODM1 treatment on the presence of nuclear foci in DM1 cells through visualization with Fluorescence *In Situ* Hybridization, or FISH, and immunofluorescence co-staining, and observed that treatment led to a robust reduction in the number of these toxic aggregates. In contrast, treatment with the unconjugated PMO cargo did not yield a reduction in nuclear foci, an observation which we believe supports the potential utility of our EDO platform in driving the successful delivery of therapeutic agents to their site of action. Furthermore, we believe these results provide additional support for the proposed mechanism of action of PGN-EDODM1, suggesting that – once delivered to the cell nucleus – our therapeutic cargo may bind to the CUG repeat expansion and act as a steric-blocking agent to reduce nuclear foci and liberate MBNL1.



Visualisation was performed with co-staining of FISH (CAG_{exp}, red) and immunofluorescence (nuclear stain, blue) on treated cells.

In a preclinical study conducted in DM1 patient cells, PGN-EDODM1 treatment supported the reduction of pathogenic nuclear foci in a dose-dependent fashion.

Treatment of DM1 patient cells with PGN-EDODM1 supported the robust correction of multiple downstream mis-spliced transcripts associated with key disease pathologies in a dose-dependent fashion. Utilizing RT-PCR and capillary electrophoresis analysis, an accurate, high resolution quantification methodology, we assessed the transcription profiles of MBNL1 and MBNL2, where pathogenic inclusion of exon 5 can result in further splicing defects; BIN1, where inclusion of exon 7 in DM1 patients can lead to altered excitation-contraction coupling and thus muscle weakness; LDB3, where exclusion of exon 11 may lead to dilated cardiomyopathy in DM1 patients; and SORBS1, where inclusion of exon 24 can result in altered insulin handling in the disease state. At the highest dose assessed, 20 mM, PGN-EDODM1 was observed to effect robust mis-splicing correction, resulting in exon inclusion or exclusion rates of approximately 70% of healthy control levels in these transcripts. This observation supports our therapeutic hypothesis that treatment with PGN-EDODM1 may restore the altered global spliceopathy profiles seen in DM1 patients to that of a healthy individual, thus ameliorating the key pathologies that are the hallmark of this devastating disease. In contrast, treatment with the unconjugated PMO at a dose level of 20 μM afforded very limited correction of downstream mis-splicing events, and we believe this result further supports the criticality of our EDO platform in delivering therapeutic cargos to their nuclear site of action.

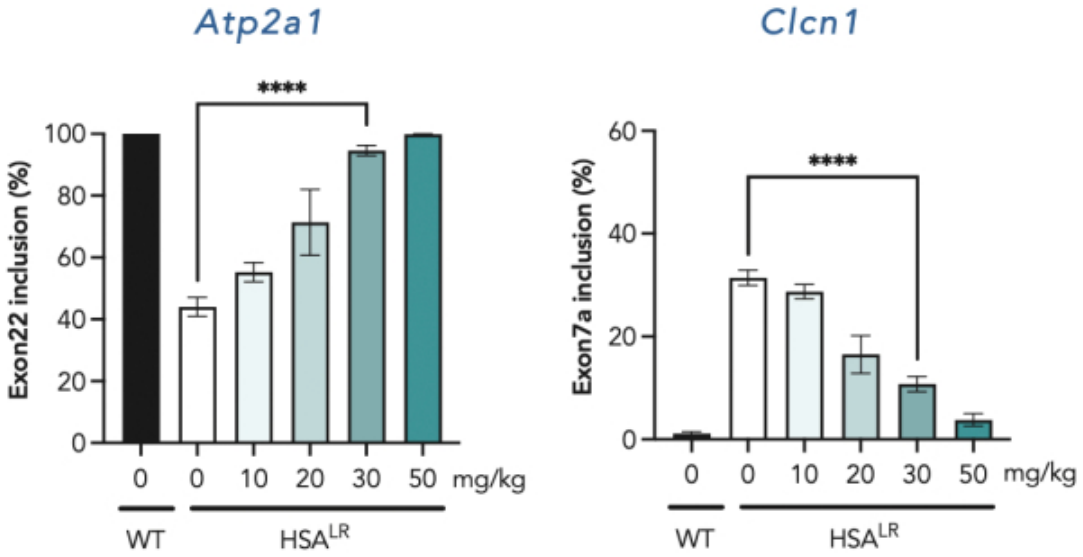


Mean ± SD
n = 5 transcripts per group; mis-splicing correction normalized to healthy cells and untreated controls

Treatment with PGN-EDODM1 resulted in correction of mis-splicing pathologies to around 70% of healthy control levels in a dose-dependent manner.

Building on the success of these *in vitro* studies, we utilized the HSA^{LR} mouse model of DM1 to assess the activity of PGN-EDODM1. This well-validated transgenic mouse model contains between 220 and 250 CTG trinucleotide repeats in the inserted human skeletal actin gene, and exhibits molecular and functional pathologies that are very similar to those seen in human DM1 patients. The CUG repeat expansion present in the HSA^{LR} mouse model, and the subsequent sequestration of MBNL1, leads to downstream defects in the normal mRNA splicing patterns for a number of transcripts, resulting in errant inclusions or exclusions of exons.

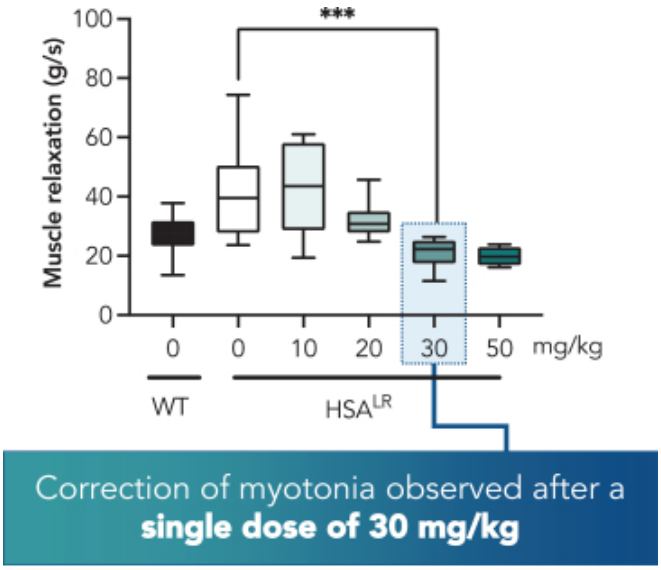
Sequestration of MBNL1 in the HSA^{LR} mouse model causes mis-splicing of multiple RNAs including *Clcn1* and *Atp2a1*, both of which are involved in the regulation of muscle movement. This mis-splicing causes the mice to exhibit myotonia, effectively recapitulating the classic symptom of disease that is observed in DM1 patients. Mis-splicing of *Atp2a1* manifests as a lack of exon 22 inclusion in the *Atp2a1* mRNA when compared to wild-type splicing patterns, while mis-splicing of *Clcn1* manifests as an increase in exon 7a inclusion in the *Clcn1* mRNA when compared to wild-type splicing patterns. Following a single intravenous administration of PGN-EDODM1, we observed dose-dependent normalization of the splicing of these genes in the quadricep and gastrocnemius muscles two weeks after dosing. At doses of 30 to 50 mg/kg and above, we interpret the splicing patterns as resembling those observed in saline-treated wild-type controls, highlighting the potential of our product candidate to address such downstream pathologies.



Mean ± SEM
***** = extremely significant*
n = 16 per group for 0 mg/kg; 8 per group for 10 - 30 mg/kg; 4 per group for 50 mg/kg
WT = wild type

PGN-EDODM1 led to a dose-dependent normalization of the splicing of Atp2a1 and Clcn1 transcripts in preclinical study in quadriceps muscles in HSA^{LR} mice.

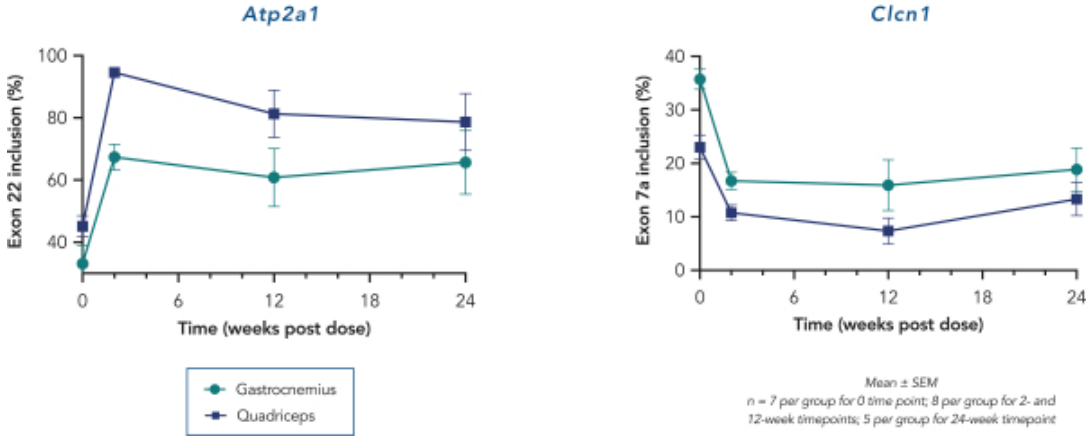
Consistent with the reversal of mis-splicing events, treatment with a single dose of PGN-EDODM1 also led to a reversal of the myotonia phenotype in HSA^{LR} mice, with doses of 30 mg/kg and 50 mg/kg showing complete normalization two weeks after administration. In observational studies we noted quantitative amelioration of myotonia, where treated mice were able to ambulate normally following the inducement of this functional phenotype of disease by hindlimb pinching, while untreated HSA^{LR} mice were unable to efficiently use their hind legs and dragged them behind following the same myotonic inducement event.



Box and whiskers plot; min to max
**** = extremely significant, 0.0001 < p > 0.001*
n = 16 per group for 0 for WT; 15 per group for 0 for HSA^{LR}; 8 per group for 10 - 30 mg/kg; 4 per group for 50 mg/kg
WT = wild type

PGN-EDODM1 led to a normalization of myotonia in a preclinical study after a single administration.

The pharmacologic effects of PGN-EDODM1 were observed to be highly durable. In a duration of effect study, again in the HSA^{LR} mouse model, amelioration of the pathogenic splicing patterns of the *Atp2a1* and *Clcn1* transcripts in the gastrocnemius and quadriceps persisted for at least 24 weeks following a single 30 mg/kg intravenous administration of PGN-EDODM1.



PGN-EDODM1 led to durable improvements in mRNA splicing through 24 weeks post-dose in the HSA^{LR} mouse model.

Our product candidate in DM1 utilizes the same delivery peptide as our DMD pipeline, and thus we believe that PGN-EDODM1 and PGN-EDO51 are likely to share a similar tissue biodistribution profile and a similarly low risk of immunogenicity. As noted earlier, following a single intravenous dose of PGN-EDO51 in NHPs, significant tissue levels of the cargo oligonucleotide were observed in muscle tissues throughout the body, as well as in brain tissues such as cerebral cortex and cerebellum one week after administration. This evidence suggests that our peptide moieties are able to deliver cargo therapeutics across the blood-brain barrier, a characteristic that may in turn allow us to address the cognitive phenotypes that are apparent in DM1. These range in severity from the significant mental impairments seen in congenital patients to the milder CNS symptomology that is present in many adult-onset patients, including fatigue, daytime sleepiness and difficulties in concentrating. As such, we believe that we are well-positioned to offer patients a transformative therapeutic that has the capability to reach and treat the broad range of tissue types affected in this multi-systemic disorder.

Preclinical tolerability data: Generally well-tolerated through clinically relevant dose levels

PGN-EDODM1 was generally well-tolerated in single dose studies in rodents. No mortality and no serious adverse events were observed. There was no impact on body weight or organ function.

The platform nature of our EDO technology allows us to utilize the preclinical data collected for our PGN-EDO51 therapeutic to support our efforts in other pipeline indications such as DM1. We believe that PGN-EDO51 and PGN-EDODM1 are likely to share a similar toxicology profile, and thus we expect to observe a consistent tolerability profile through intended dose levels.

Next steps

We are currently focused on validating our product candidate in dose-range finding studies in mice and NHPs, and expect to move towards formal toxicology studies under GLP conditions in the second half of 2022. We anticipate submitting an IND for PGN-EDODM1 in the first half of 2023 and initiating a Phase 1/2 clinical trial in DM1 patients in the same timeframe. Our expectation is that we will receive safety and splicing topline data from this trial in 2024.

PGN-EDO53

Overview

Our second EDO therapeutic for the treatment of DMD, and third product candidate, PGN-EDO53, is an EDO peptide-conjugated PMO designed to skip exon 53 of the dystrophin transcript in DMD patients who are amenable to such a therapeutic approach. PGN-EDO53 is designed to splice out exon 53 of the dystrophin pre-mRNA, resulting in the restoration of the open reading frame of the dystrophin transcript and production of a shortened yet functional dystrophin protein. PGN-EDO53 will utilize the same EDO cell penetrating peptide as our exon 51-skipping product candidate, PGN-EDO51, thereby allowing us to leverage our drug development experience in this indication to rapidly drive our exon 53-skipping product candidate to the clinic. We are currently conducting a preclinical *in vitro* screen of candidate oligonucleotide sequences, and we anticipate that we will report exon skipping results from an NHP study in the second half of 2022.

Disease background and prevalence

DMD is a fatal X-linked recessive disorder that occurs in up to 1 in 3,500 live male births, with estimates suggesting that there are up to 15,000 DMD patients in the United States and approximately 25,000 in Europe and 5,000 in Japan. Afflicted individuals carry a mutation in the dystrophin gene, and the resulting absence of this critical protein in muscle tissue leads to cell death, atrophy and progressive motoric weakness. As such, DMD sufferers experience a continual deterioration in their physical abilities from birth onwards, with

most boys requiring the use of a wheelchair by their early teens. Cardiomyopathies and respiratory ailments become increasingly common as the disease takes hold, and most patients will die from these complications between the ages of 25 and 35. It is estimated that 8% of DMD patients have mutations that would be amenable to treatment with an exon 53-skipping approach.

Current approaches and limitations

Two unconjugated ASOs leveraging PMO chemistry have been approved for the treatment of individuals with DMD who are amenable to an exon 53-skipping approach – golodirsen, marketed as Vyondys 53® by Sarepta and viltolarsen, marketed as Viltepso® by NS Pharma in the U.S. and Nippon Shinyaku in Japan. These drugs were approved in the United States through the accelerated approval regulatory pathway based on an increased expression of dystrophin, which is considered to be a surrogate endpoint for this indication. Both golodirsen and viltolarsen have yet to establish a clinical benefit for DMD patients through a confirmatory trial.

Our approach

We are developing PGN-EDO53, a peptide-conjugated ASO designed to skip exon 53 of the dystrophin transcript in DMD patients who are amenable to such a therapeutic approach. We have employed the same EDO peptide in PGN-EDO53 as is utilized in PGN-EDO51, our exon 51-skipping product candidate – a factor that allows us to rapidly drive our exon 53-skipping product candidate to the clinic by leveraging our drug development experience in this indication.

Preclinical development

We have completed a preclinical *in vitro* screen of a number of candidate ASO sequences utilizing the established PMO chemistry. We synthesized a number of exon 53-skipping PMOs conjugated to our lead EDO peptide and assessed the activity of these in human-derived myoblasts carrying mutations that are amenable to treatment with an exon 53-skipping therapeutic approach. Based on the data obtained from this *in vitro* screen, we have selected development candidates for assessment in a subsequent NHP study, which we anticipate completing in the second half of 2022.

Clinical development

We anticipate that the clinical path for PGN-EDO53 will mirror that of PGN-EDO51, allowing us to again leverage our experience in this indication to support this phase of development for our exon 53-skipping product candidate. Thus, our expectation is that the clinical development of PGN-EDO53 will commence with a single ascending dose study in healthy normal volunteers, and that this will be followed by studies in DMD patients who are amenable to an exon 53-skipping therapeutic approach.

Additional Discovery Programs

PGN-EDO45 and PGN-EDO44

We have active discovery programs focused on expanding our pipeline in DMD and in neuromuscular diseases. We are screening oligonucleotides for the treatment of DMD patient populations with mutations that are amenable to exon skipping approaches other than exon 51 and exon 53. Our initial discovery work is focused on selection of oligonucleotides for our exon 45- and exon 44-skipping product candidates, with these patient subpopulations representing 8% and 6% of the total DMD patient population, respectively. We anticipate nominating candidates for our PGN-EDO45 and PGN-EDO44 programs in the second half of 2022. For these programs, we expect to utilize a similar preclinical developmental path as for PGN-EDO53, further demonstrating the rapid portfolio augmentation capabilities of our EDO platform, and we have initiated an *in*

vitro screen in patient cells for both PGN-EDO45 and PGN-EDO44. Furthermore, we also intend to leverage the same EDO peptide as has been utilized in our existing pipeline programs.

We project that our screening cascade will allow for the rapid development and translation of our pipeline product candidates.

Expanding the Application and Scope of Our EDO Platform

New indications with PMO therapeutics

We intend to apply our deep understanding of our EDO platform and PMO therapeutics to the development of additional product candidates in other indications. We believe that the ability of our EDO peptides to deliver exon skipping therapeutics to muscle cells, including cardiac muscle cells, as well as to the CNS, is largely independent of the exact sequence of the ASO. As such, by leveraging the preclinical data we have previously obtained and the "plug-and-play" nature of our EDO platform, and by assessing alternative routes of administration, including intrathecal, we believe that we are well-positioned to develop additional product candidates that have the potential to drive clinically relevant therapeutic outcomes in other neuromuscular indications as well as in neurologic indications. We have observed the potential of this approach with our PGN-EDO53 program, where we anticipate moving from concept through to NHP study initiation in less than a year.

New cargos

We believe that our EDO technology has the potential to facilitate the delivery of multiple oligonucleotide therapeutics. To date, our efforts have primarily focused on the delivery of PMOs, but we are now actively pursuing the expansion of our cargo scope to other nucleic acid species.

New peptide technologies

We intend to further establish our expertise and competitive position in the field of oligonucleotide delivery through the ongoing research and development of new peptides. We will leverage our deep expertise in this field to design new peptides that target specific tissue types, and will seek to further optimize the tissue and cellular delivery of our EDO platform.

Manufacturing

We do not own or operate manufacturing facilities, and currently rely on third-party contract manufacturing organizations, or CMOs, and suppliers for the cell-penetrating peptide, linker and oligonucleotide

components that compromise our EDOs, and for the conjugation of our product candidates as well as for the manufacturing of the finished dosage form (sterile injectable drug product). We anticipate that we will continue to utilize third-party CMOs and suppliers to support our ongoing and future preclinical, clinical and commercial activities, and our intention is to build this network of organizations as we scale our manufacturing requirements. Long-term, we may also decide to establish internal manufacturing of our drugs or selected intermediates.

We believe that there are multiple sources for all raw materials employed in the manufacturing of our EDO therapeutics, and we believe that several CMOs are able to assemble either the peptide intermediate, the linker, and/or the oligonucleotide as well as the final API.

There are extensive regulations that govern the manufacturing of biopharmaceutical products, and the third-party manufacturing organizations we work with are required to adhere to these. Our CMOs are required to manufacture our product candidates under current Good Manufacturing Practice, or cGMP, requirements, alongside other applicable laws and regulations.

Competition

The biopharmaceutical industry is characterized by the rapid evolution and development of new technologies, leading to an environment that is intensely competitive in nature and thus supports the robust protection and defense of intellectual property. Any EDO product candidates that we successfully develop and commercialize will compete both with existing therapeutics, and with new approaches that may arise in the future. While we believe that our unique EDO platform and extensive expertise in oligonucleotide delivery may provide us with a differentiated position in the neuromuscular and neurologic spaces, such competing technologies may arise from many different sources, including large biopharmaceutical organizations, specialty pharmaceutical and biotechnology companies, academic institutions, government agencies, and public and private research organizations.

We expect to face competition from existing products and product candidates in development for each of our programs. 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., or PTC. Individuals with DMD also use prednisone or prednisolone off-label. In addition, there are four FDA-approved exon skipping drugs: EXONDYS 51 (Eteplirsen), VYONDYS 53 (Golodirsen) and AMONDYS 45 (Casimersen), which are naked PMOs approved for the treatment of DMD patients amenable to exon 51, exon 53 and exon 45 skipping, respectively, and are marketed by Sarepta Therapeutics, Inc., or Sarepta, and VILTEPSO (Viltolarsen), a naked PMO approved for the treatment of DMD patients amenable to exon 53 skipping, which is marketed in the U.S. by NS Pharma, Inc. Companies focused on developing treatments for DMD that target dystrophin, as our DMD program does, include PTC with ataluren, a small molecule targeting nonsense mutations in a Phase 3 clinical trial, Sarepta with SRP-5051, a peptide-linked PMO currently being evaluated in a Phase 2b clinical trial for patients amenable to exon 51 skipping, Daiichi Sankyo Company, Limited with DS-5141b, a Phase 2 exon skipping approach for Exon 45, Dyne Therapeutics, Inc., or Dyne, with DYN-251, an antibody-conjugated PMO that targets exon 51 skipping in preclinical development, BioMarin Pharmaceutical Inc. with BMN-351, a phosphorothioate oligonucleotide that targets exon 51 skipping, Wave Life Sciences Ltd. with WVE-N531, a stereopure oligonucleotide in Phase 1/2 clinical development for patients amenable to exon 53 skipping, Nippon Shinyaku with NS-089/NCNP-02, an oligonucleotide that targets exon 44 skipping that is currently in clinical development, Avidity Biosciences, Inc., or Avidity, which is in preclinical development with AOC 1044, an antibody oligonucleotide conjugate that targets Exon 44 skipping, and Entrada Therapeutics, Inc., which is in preclinical development with ENTR-601-44, a peptide-oligonucleotide conjugate that targets Exon 44 skipping.

In addition, several companies are developing gene therapies to treat DMD, including Pfizer Inc. (PF-06939926), currently being evaluated in a Phase 3 clinical trial, Sarepta (SRP-9001 and Galgt2 gene therapy program), with the former currently being evaluated in a Phase 3 clinical trial, Solid Biosciences Inc. (SGT-001),

currently in Phase 2 clinical development, and REGENXBIO Inc (RGX-202), currently in Phase 1 clinical development. Astellas Gene Therapies is using AAV gene therapy approaches to skip exons in the dystrophin gene. Gene editing treatments that are in preclinical development are also being pursued by Vertex Pharmaceuticals Incorporated, or Vertex, Sarepta and Eli Lilly and Company. We are also aware of several companies targeting non-dystrophin mechanisms for the treatment of DMD, including Edgewise Therapeutics with EDG-5506, a muscle stabilizer that is currently in clinical development.

There are currently no approved therapies to treat the underlying cause of DM1. Product 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; AOC 1001, an antibody linked siRNA in Phase 1/2 clinical development by Avidity Biosciences, Inc.; AT466, which is an AAV-antisense candidate in preclinical development by Astellas Gene Therapies; DYN-101, an antibody conjugated antisense oligonucleotide in preclinical development by Dyne; a microRNA small molecule approach by Arthex Biotech S.L.; an antisense peptide nucleic acid approach by NeuBase Therapeutics, Inc. currently in preclinical development; gene editing treatments in preclinical development by Vertex; an artificial site-specific RNA endonuclease gene therapy being developed by Enzerna Biosciences Inc.; an RNA-targeting gene therapy in preclinical development by Locana, Inc.; an approach by Design Therapeutics, Inc. to prevent formation of CUG hairpins; an approach utilizing the interaction of small molecules with RNA in preclinical development by Expansion Therapeutics, Inc.; a peptide conjugated PMO in preclinical development by Entrada Therapeutics; and therapeutics based on biomolecular condensate biology in preclinical development by Dewpoint Therapeutics, Inc.

We will also compete more generally with other companies developing alternative scientific and technological approaches, including other companies working to develop conjugates with oligonucleotides for extra-hepatic delivery, including Alnylam Pharmaceuticals, Inc., Aro Biotherapeutics Co, Arrowhead Pharmaceuticals, Inc., Avidity, Dicerna Pharmaceuticals, Inc., Dyne, Entrada Therapeutics, Inc., Ionis Pharmaceuticals, Inc., NeuBase Therapeutics, Inc., PYC Therapeutics Limited and Sarepta, as well as gene therapy and gene editing approaches.

Many of the companies against which we compete with or may compete with in the future have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals and marketing approved products than we do. Accordingly, our competitors may be more successful than us in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining approval for treatments and achieving widespread market acceptance, rendering our treatments obsolete or non-competitive.

Additionally, mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller and other early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These third parties compete with us in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs.

If we successfully obtain approval for any product candidate, we will face competition based on many different factors, including the safety and effectiveness of our products, the ease with which our products 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 of our products, if approved. Competitive products or technological approaches may make any products we develop, or our EDO platform, obsolete or noncompetitive before we recover the expense of developing and commercializing our product candidates. If we are unable to compete effectively, our opportunity to generate revenue from the sale of our products, if approved, could be adversely affected.

Sales and Marketing

We currently do not have a commercial infrastructure in any geography. As we progress our programs through development, we may build a commercial infrastructure in the United States and selected other territories to support the commercialization of each of our product candidates when we believe a regulatory approval in a particular territory is likely. We intend to conduct market research in connection with designing our commercialization strategy for each of our product candidates, which strategy may depend on the size and geographic dispersion of the target patient population and the characteristics of the prescribing audience for our products, if approved. For example, certain of our product candidates that target diseases with a limited patient population, a concentrated prescribing audience and a small number of key opinion leaders who influence the treatments prescribed for the relevant patient population, we may address each such market using our own targeted, specialty sales and marketing organization supported by internal sales personnel, an internal marketing group and distribution support. For other product candidates, we may establish a larger and more dispersed salesforce, or seek strategic collaborations to support our commercialization efforts.

We intend to evaluate our commercialization strategy as we advance each product candidate through clinical development. In any core markets outside of the United States that we may identify, where appropriate, we may utilize strategic partners, distributors or contract sales forces to expand the commercial availability of our product candidates.

Material Contracts

License of Technology Agreement with Oxford University Innovation Limited and Medical Research Council as Part of United Kingdom Research and Innovation

On March 26, 2018, we, through our wholly-owned subsidiary PepGen Limited, entered into a license agreement, or the OUI/MRC License, with Oxford University Innovation Limited, or OUI, and Medical Research Council as Part of United Kingdom Research and Innovation, or MRC. We amended the OUI/MRC License on December 21, 2018, and subsequently amended and restated it on November 23, 2020.

Pursuant to the OUI/MRC License, we obtained from OUI and MRC an exclusive, royalty-bearing, sublicensable with consent (through one tier) license under certain patent rights, or the OUI/MRC Patents, and data, or the OUI/MRC Licensed Technology, and a nonexclusive, royalty-bearing, sublicensable (through one tier) license under certain know-how, or the OUI/MRC Know-How, for certain biological and chemical compounds, including compounds that comprise amino acids and/or nucleic acids relating to our EDO peptides, proprietary linkers and the resulting EDO conjugates. The Licensed Technology is incorporated in our product candidates PGN-EDO51, PGN-EDODM1, PGN-EDO53, PGN-EDO45 and PGN-EDO44, and will likely be utilized in future discovery programs. Under such licenses, we have the right to make, have made, import, use, sell, offer for sale, market, research, develop, trial, register, modify, enhance, improve, manufacture, have manufactured, hold, keep, formulate, optimize, have used, export, transfer, distribute, promote, have sold, dispose of, offer to dispose of or otherwise exploit in all fields of use on a worldwide basis any products or services that incorporate or otherwise utilize the OUI/MRC Licensed Technology or, in each such case, an OUI/MRC Licensed Product. We granted OUI, and those persons who at any time work or have worked on the OUI/MRC Licensed Technology and OUI/MRC Know-How, and MRC an irrevocable, perpetual, royalty-free, sublicensable license under the OUI/MRC Licensed Technology and OUI/MRC Know-How to use the OUI/MRC Licensed Technology and OUI/MRC Know-How for non-commercial clinical, research, teaching, publication, or other scholarly purposes, or Non-Commercial Purposes. MRC also retained the right to grant sublicenses under our rights in the OUI/MRC Licensed Technology and OUI/MRC Know-How for Non-Commercial Purposes to any person at MRC or any academic or not-for-profit institutions who have worked or collaborated on, or otherwise funded, the OUI/MRC Licensed Technology or OUI/MRC Know-How. Further, OUI, MRC and the Chancellor, Masters and Scholars of the University of Oxford retained the right to freely use, publish (subject to certain obligations) or grant licenses under the OUI/MRC Know-How.

The OUI/MRC License requires us to use commercially reasonable efforts to exploit the OUI/MRC Licensed Technology and to achieve certain development milestones in accordance with a development plan and commercialize the OUI/MRC Licensed Products.

In consideration for the rights conveyed by OUI and MRC under the OUI/MRC License, we were obligated to pay, and have paid, to OUI certain up-front fees in an aggregate amount of approximately £80,000 in connection with the execution of each of the original OUI/MRC License and the amended and restated OUI/MRC License. In addition, we are obligated to pay to OUI sub-single to low, single-digit percentage royalties, or the Royalty Rate, on net sales of any OUI/MRC Licensed Products in excess a of threshold amount between £20 million and £30 million that are commercialized by us. The royalty rate for a given OUI/MRC Licensed Product will decrease a certain percentage following expiration or revocation of the last valid claim of the OUI/MRC Patents covering such OUI/MRC Licensed Product and where there is a product sold by a third party that competes with such OUI/MRC Licensed Product on a country-by-country basis. If we receive any non-royalty payments and royalties in connection with sublicenses or other contracts relating to the OUI/MRC Licensed Technology or OUI/MRC Know-How, we are obligated to pay to OUI, in each instance, a sublicense fee that is from mid single-digit to mid teen percentage depending on the license year in which we execute the sublicense or contract. We are also required to pay certain milestone payments to OUI upon the achievement by us or our sublicensees of specified commercial milestones in an aggregate amount of £100,000 for each OUI/MRC Licensed Product and specified patent procurement milestones in an aggregate amount of £10,000.

In addition, in the event that we are acquired or undergo an initial public offering, or Exit Event, we are obligated to pay OUI an exit fee, or Exit Fee, equal to a percentage of the value of the Exit Event. In lieu of paying the Exit Fee, we have the option to pay OUI a buy out fee, or Exit Buy Out Fee, which can be paid at any time to release us from our obligation to pay the Exit Fee. In connection with this offering, we have agreed to pay the amount of £ in satisfaction of these obligations. We are not obligated to make any payments to MRC directly under the OUI/MRC License. Rather, OUI is obligated to pay MRC a percentage of all amounts we pay to OUI, subject to certain exclusions. As of December 31, 2021, we paid an aggregate amount of £80,000 under the OUI/MRC License.

Unless earlier terminated, the OUI/MRC License will terminate in its entirety upon the later of (a) the date on which all patents and patent applications licensed to us under the OUI/MRC License have been abandoned or allowed to lapse or expired or been rejected or revoked without a right of further appeal in a relevant country or territory or (b) March 26, 2038. The last-to-expire licensed patent under the OUI/MRC License is set to expire on February 11, 2042. We may terminate the OUI/MRC License in its entirety at any time after November 23, 2023 for convenience upon providing OUI and MRC with written notice. Either party may terminate the OUI/MRC License in its entirety for the other party's uncured material breach after an opportunity for the other party to cure such material breach. OUI and MRC may terminate the OUI/MRC License for our (a) insolvency or if we challenge the validity of the licensed patents, (b) breach our obligation to develop and exploit the technology in accordance with the development plan and subsequent failure to take remedial action reasonably requested by OUI and/or MRC or (c) failure to pay the Exit Fee or Exit Buy Out Fee. If the OUI/MRC License is terminated by either party for any reason, the OUI/MRC Licenses will terminate and all rights thereunder will revert to OUI and MRC, respectively.

Intellectual Property

We seek to protect the intellectual property, or IP, and proprietary technology that we consider important to our business, including by pursuing patent applications that cover our product candidates and methods of using the same, as well as any other relevant inventions and improvements that are considered commercially important to the development of our business. We likewise seek to protect the IP to which we obtain rights through licenses and sublicenses (e.g., from universities and research institutions) and work collaboratively with our licensors to ensure (and if possible be the driver of) patent prosecution and protection. We also rely on trade secrets, know-how and continuing technological innovation to develop and maintain our

proprietary and IP positions. Our commercial success depends, in part, on our ability to obtain, maintain, enforce and protect our intellectual property and other proprietary rights for the technology, inventions and improvements we consider important to our business, and to defend any patents we may own or in-license in the future, prevent others from infringing any patents we may own or in-license in the future, preserve the confidentiality of our trade secrets, and operate without infringing, misappropriating or otherwise violating the valid and enforceable patents and proprietary rights of third parties.

As with other biotechnology and pharmaceutical companies, our ability to maintain and solidify our proprietary and intellectual property position(s) for our product candidates and technologies will depend on our success in obtaining effective patent claims and enforcing those claims if granted. However, our pending provisional and Patent Cooperation Treaty, or PCT, patent applications, and any patent applications that we may in the future file or license from third parties, may not result in the issuance of patents and any issued patents we may obtain do not guarantee us the right to protect our technology in relation to the commercialization of our products. We also cannot predict the breadth of claims that may be allowed or enforced in any patents we may own or in-license in the future. Notwithstanding the scope of the patent protection available to us, a competitor could develop competitive products that are not covered by our intellectual property, and we may be unable to stop such competitor from commercializing such products.

Any issued patents that we may own or in-license in the future may be challenged, invalidated, circumvented or have the scope of their claims narrowed. Because patent applications can take many years to issue, there may be applications unknown to us, which applications may later result in issued patents that our existing or future products or technologies may be alleged to infringe. Additionally, we cannot be certain of the priority of inventions covered by pending third-party patent applications. If third parties prepare and file patent applications in the United States that also claim technology or therapeutics to which we have rights, we may have to participate in interference proceedings in the United States Patent and Trademark Office, or USPTO, to determine priority of invention, which is highly unpredictable and which could result in substantial costs, even if the eventual outcome is favorable to us. In addition, because of the extensive time required for clinical development and regulatory review of a product candidate we may develop, it is possible that, before any of our product candidates can be commercialized, any patent covering a certain product may expire or remain in force for only a short period following commercialization, thereby limiting the protection such patent would afford the respective product and any competitive advantage such patent may provide.

The term of individual patents depends upon the date of filing of the patent application, the date of patent issuance and the legal term of patents in the countries in which they are obtained. In most countries, including the United States, the patent term is 20 years from the earliest filing date of a non-provisional patent application. In the United States, a patent's term may be lengthened by patent term adjustment, which compensates a patentee for administrative delays by the USPTO in examining and granting a patent, or may be shortened if a patent is terminally disclaimed over an earlier expiring patent.

The term of a patent claiming a new drug product may also be eligible for a limited patent term extension when FDA approval is granted, provided statutory and regulatory requirements are met. The restoration period granted on a patent covering a product is typically one-half the time between the effective date of a clinical investigation involving human beings is begun and the submission date of an application, plus the time between the submission date of an application and the ultimate approval date. The restoration period cannot be longer than five years and the total patent term, including the restoration period, must not exceed 14 years following FDA approval. Only one patent applicable to an approved product is eligible for the extension, and only those claims covering the approved product, a method for using it, or a method for manufacturing it may be extended. Additionally, the application for the extension must be submitted prior to the expiration of the patent in question. 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 or restoration in consultation with the FDA. In the future, if our product candidates receive approval by the FDA, we expect to apply for patent term extensions on any issued patents covering those products, depending upon the length of the clinical studies for each product and other factors.

There can be no assurance that our pending provisional or PCT patent applications will issue or that we will benefit from any patent term extension or favorable adjustments to the terms of any patents we may own or in-license in the future. In addition, the actual protection afforded by a patent varies on a product-by-product basis, from country-to-country, and depends upon many factors, including the type of patent, the scope of its coverage, the availability of regulatory-related extensions, the availability of legal remedies in a particular country and the validity and enforceability of the patent. Patent term may be inadequate to protect our competitive position on our products for an adequate amount of time.

In the future, we may need to engage in litigation to enforce patents issued or licensed to us, to protect our trade secrets or know-how or to defend against claims of infringement of the rights of others. Litigation could be costly and could divert our attention from other functions and responsibilities. Furthermore, even if our patents are found to be valid and infringed, a court may refuse to grant injunctive relief against the infringer and instead grant us monetary damages and/or ongoing royalties. Such monetary compensation may be insufficient to adequately offset the damage to our business caused by the infringer's competition in the market. Adverse determinations in litigation could subject us to significant liabilities to third parties, could require us to seek licenses from third parties and pay significant royalties to such third parties and could prevent us from manufacturing, selling or using our product or techniques, any of which could severely harm our business.

As of March 31, 2022, we owned one pending U.S. patent application and two pending PCT international applications, and exclusively licensed one issued patent (a European patent validated in France, Germany, Italy, Spain, and Great Britain) and 55 patent applications under our PepGen Limited subsidiary's license with Oxford University Innovation Limited, or OUI, and Medical Research Council of United Kingdom Research and Innovation, or MRC. For more information regarding our license agreement with OUI and MRC, or OUI/MRC License, see the section titled "Business—Licensing Agreements."

The issued patent and patent applications that cover our product candidates and technology include:

- With respect to PGN-EDO51, we own one pending U.S. patent application and one pending PCT international application that cover methods of use and exclusively licensed 32 pending patent applications under the OUI/MRC License that cover compositions of matter and methods of use, including applications in Australia, Brazil, Canada, China, Europe, Hong Kong, Israel, India, Japan, South Korea, Mexico, the Russian Federation, Saudi Arabia, and the United States, as well as two PCT international applications. Any patents issuing from the patent applications would have expiration dates ranging from 2039 to 2042, without accounting for any available patent term adjustments or extensions.

- With respect to PGN-EDODM1, we owned one pending PCT international patent application that covers methods of use and exclusively licensed 42 pending patent applications under the OUI/MRC License that cover compositions of matter and methods of use, including applications in Australia, Brazil, Canada, China, Europe, Hong Kong, Israel, India, Japan, South Korea, Mexico, the Russian Federation, Saudi Arabia, and the United States. Any patents issuing from the patent applications would have expiration dates ranging from 2039 to 2042, without accounting for any available patent term adjustments or extensions.

- With respect to PGN-EDO53, we exclusively licensed 30 pending patent applications under the OUI/MRC License that cover compositions of matter and methods of use, including applications in Australia, Brazil, Canada, China, Europe, Hong Kong, Israel, India, Japan, South Korea, Mexico, the Russian Federation, Saudi Arabia, and the United States. Any patents issuing from the patent applications would expire in 2039, without accounting for any available patent term adjustments or extensions.

- With respect to our EDO platform, we exclusively licensed one issued European patent and 41 pending patent applications under the OUI/MRC License that cover compositions of matter and

methods of use, including applications in Australia, Brazil, Canada, China, Europe, Hong Kong, Israel, India, Japan, South Korea, Mexico, the Russian Federation, Saudi Arabia, and the United States. The issued European patent is expected to expire in 2035, without accounting for any available patent term adjustments or extensions. The issued European patent was validated in France, Germany, Italy, Spain, and Great Britain, and it relates to certain compositions of matter and uses that may be utilized during future platform development activities. Any patents issuing from the patent applications would have expiration dates ranging from 2035 to 2039, without accounting for any available patent term adjustments or extensions.

Government Regulation

The FDA and comparable regulatory authorities in state and local jurisdictions and in other countries impose requirements upon companies involved in the clinical development, manufacture, marketing and distribution of drugs, such as those we are developing. These agencies and other federal, state and local entities regulate, among other things, the research and development, testing, manufacture, quality control, safety, effectiveness, labeling, storage, record keeping, approval, advertising and promotion, distribution, post-approval monitoring and reporting, sampling and export and import of drugs.

U.S. Government Regulation of Drug Products

In the United States, the FDA regulates drugs under the Federal Food, Drug, and Cosmetic Act, or FDCA, and its implementing regulations. The process of obtaining regulatory approvals and the subsequent compliance with applicable federal, state, local and foreign statutes and regulations requires the expenditure of substantial time and financial resources. Failure to comply with the applicable U.S. requirements at any time during the product development process, approval process or after approval, may subject an applicant to a variety of administrative or judicial sanctions, such as the FDA's refusal to approve pending New Drug Applications, or NDAs, withdrawal of an approval, imposition of a clinical hold, issuance of warning letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement or civil or criminal penalties.

The process required by the FDA before a drug may be marketed in the United States generally involves the following:

- Completion of preclinical laboratory tests, animal studies and formulation studies in compliance with the FDA's good laboratory practice, or GLP, regulations;
- Submission to the FDA of an investigational new drug application, or IND, which must become effective before human clinical trials may begin;
- Approval by an independent institutional review board, or IRB, at each clinical site before each trial may be initiated;
- Performance of adequate and well-controlled human clinical trials in accordance with Good Clinical Practices, or GCP, requirements to establish the safety and efficacy of the proposed drug product for each proposed indication;
- Submission to the FDA of an NDA after completion of all pivotal trials, together with the payment of application user fees, as applicable;
- A determination by the FDA within 60 days of its receipt of an NDA to accept the marketing application for review;
- Satisfactory completion of an FDA advisory committee review, if applicable;

- Satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the product is produced to assess compliance with current good manufacturing practice, or cGMP, requirements and to assure that the facilities, methods and controls are adequate to preserve the product's identity, strength, quality and purity;

- Satisfactory completion of FDA audits of clinical trial sites to assure compliance with GCPs and the integrity of the clinical data; and

- FDA review and approval of the NDA.

Preclinical Studies

Before testing any drug product candidate, including our product candidates, in humans, the product candidate must undergo rigorous preclinical testing. Preclinical studies include laboratory evaluation of product chemistry, toxicity and formulation, as well as *in vitro* and animal studies to assess potential safety and efficacy. The conduct of preclinical studies is subject to federal regulations and requirements, including good laboratory practice regulations for safety/toxicology studies.

Prior to beginning the first clinical trial with a product candidate in the United States, we must submit an IND to the FDA. An IND sponsor must submit the results of the preclinical tests, together with manufacturing information, analytical data and any available clinical data or literature and plans for clinical studies, among other things, to the FDA as part of an IND. An IND is a request for authorization from the FDA to administer an investigational product to humans and must become effective before human clinical trials may begin. Some preclinical testing, such as animal tests of reproductive adverse events and carcinogenicity, may continue even after the IND is submitted. An IND automatically becomes effective 30 days after receipt by the FDA, unless before that time the FDA raises concerns or questions related to one or more proposed clinical trials and places the clinical trial on a clinical hold. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. As a result, submission of an IND may not result in the FDA allowing clinical trials to initiate.

Clinical Trials

Clinical trials involve the administration of the investigational new drug to human subjects under the supervision of qualified investigators in accordance with GCP requirements, which include the requirement that all research subjects provide their informed consent in writing for their participation in any clinical trial. Clinical trials are conducted under protocols detailing, among other things, the objectives of the trial, 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. In addition, an IRB representing each institution participating in the clinical trial must review and approve the plan for any clinical trial before it is initiated at that institution. An IRB is charged with protecting the welfare and rights of trial participants and considers such items as whether the risks to individuals participating in the clinical trials are minimized and are reasonable in relation to anticipated benefits. The IRB also must review and approve the informed consent form that must be provided to each clinical trial subject or his or her legal representative, and must monitor the clinical trial until completion.

Regulatory authorities, the IRB or the sponsor may suspend a clinical trial at any time on various grounds, including a finding that the subjects are being exposed to an unacceptable health risk or that the trial is unlikely to meet its stated objectives. Some studies also include oversight by an independent group of qualified experts organized by the clinical study sponsor, known as a data safety monitoring board, which provides authorization for whether or not a study may move forward at designated check points based on access to certain data from the study and may halt the clinical trial if it determines that there is an unacceptable safety risk for subjects or other grounds, such as no demonstration of efficacy.

Information about certain clinical trials must be submitted within specific timeframes to the National Institutes of Health, or NIH, for public dissemination on their www.clinicaltrials.gov website. Information related to the product, patient population, phase of investigation, study sites and investigators and other aspects of the clinical trial is made public as part of the registration of the clinical trial. Although sponsors are obligated to disclose the results of their clinical trials after completion, disclosure of the results can be delayed in some cases for some time. Failure to timely register a covered clinical study or to submit study results as provided for in the law can give rise to civil monetary penalties and also prevent the non-compliant party from receiving future grant funds from the federal government.

Human clinical trials are typically conducted in three sequential phases, which may overlap or be combined:

- Phase 1: The drug is initially introduced into healthy human subjects or patients with the target disease or condition and tested for safety, dosage tolerance, absorption, metabolism, distribution, excretion and, if possible, to gain an early indication of its effectiveness.

- Phase 2: The drug is administered to a limited patient population to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted diseases and to determine dosage tolerance and optimal dosage.

- Phase 3: The drug is administered to an expanded patient population, generally at geographically dispersed clinical trial sites, in well-controlled clinical trials to generate enough data to statistically evaluate the efficacy and safety of the product for approval, to establish the overall risk-benefit profile of the product, and to provide adequate information for the labeling of the product. Generally, two adequate and well-controlled Phase 3 clinical trials are required by the FDA for approval of an NDA.

Post-approval trials, sometimes referred to as Phase 4 clinical trials, may be conducted after initial marketing approval. These trials are used to gain additional experience from the treatment of patients in the intended therapeutic indication. In certain instances, the FDA may mandate the performance of Phase 4 clinical trials as a condition of approval on an NDA.

Progress reports detailing the results of the clinical trials must be submitted at least annually to the FDA and more frequently if serious adverse events occur. Written IND safety reports must be submitted to the FDA and investigators for serious and unexpected suspected adverse events, findings from other studies or animal or *in vitro* testing that suggest a significant risk for human subjects and any clinically important increase in the rate of a serious suspected adverse reaction over that listed in the protocol or investigator brochure. The sponsor must submit an IND safety report within 15 calendar days after the sponsor determines that the information qualifies for reporting. The sponsor also must notify the FDA of any unexpected fatal or life-threatening suspected adverse reaction within seven calendar days after the sponsor's initial receipt of the information.

NDA Submission and FDA Review and Approval

Assuming successful completion of the required clinical testing, the results of the preclinical and clinical studies, together with detailed information relating to the product's chemistry, manufacture, controls and proposed labeling, among other things, are submitted to the FDA as part of an NDA requesting approval to market the product for one or more indications. Data may come from company-sponsored clinical trials intended to test the safety and effectiveness of a use of a product, or from a number of alternative sources, including studies initiated by investigators. To support marketing approval, the data submitted must be sufficient in quality and quantity to establish the safety and effectiveness of the investigational drug product for the proposed indication to the satisfaction of the FDA. In most cases, the submission of an NDA is subject to a substantial application user fee; a waiver of such fees may be obtained under certain limited circumstances.

The FDA conducts a preliminary review of all NDAs within the first 60 days after submission, before accepting them for filing, to determine whether they are sufficiently complete to permit substantive review. The FDA may request additional information rather than accept an NDA for filing. In this event, the application must be resubmitted with the additional information. The resubmitted application is also subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA begins an in-depth substantive review. The FDA reviews an NDA to determine, among other things, whether the drug 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.

Under the Prescription Drug User Fee Act, or PDUFA, guidelines that are currently in effect, the FDA has a goal of ten months from the date of "filing" of a standard NDA, for a new molecular entity to review and act on the submission, and six months from the filing date of a new molecular entity NDA with priority review. Accordingly, this review process typically takes 12 months and eight months, respectively from the date the NDA is submitted to the FDA. The FDA does not always meet its PDUFA goal dates for standard or priority NDAs, and the review process is often extended by FDA requests for additional information or clarification. The FDA reviews an NDA to determine, among other things, whether the drug 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.

In addition, under the Pediatric Research Equity Act of 2003, or PREA, as amended, certain NDAs or supplements to an NDA must contain data that are adequate to assess the safety and effectiveness of the drug 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 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. A sponsor who is planning to submit a marketing application for a drug that includes a new active ingredient, new indication, new dosage form, new dosing regimen or new route of administration must submit an initial Pediatric Study Plan, or PSP, within 60 days of an end-of-Phase 2 meeting or, if there is no such meeting, as early as practicable before initiation of the Phase 3 or Phase 2/3 study. The initial PSP must include an outline of the pediatric study or studies that the sponsor plans to conduct, including study objectives and design, age groups, relevant endpoints and statistical approach, or a justification for not including such detailed information, and any request for a deferral of pediatric assessments or a full or partial waiver of the requirement to provide data from pediatric studies along with supporting information. The FDA and the sponsor must reach an agreement on the PSP. A sponsor can submit amendments to an agreed-upon initial PSP at any time if changes to the pediatric plan need to be considered based on data collected from preclinical studies, early phase clinical trials and/or other clinical development programs.

The FDA may refer an application for a novel drug or a drug that presents difficult questions of safety or efficacy to an advisory committee. An advisory committee is a panel of independent experts, including clinicians and other scientific experts, which 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.

The FDA also may require the submission of a Risk Evaluation and Mitigation Strategy, or REMS, if it determines that a REMS is necessary to ensure that the benefits of the drug outweigh its risks and to assure the safe use of the drug. A REMS may include one or more elements, including medication guides, physician communication plans, patient package insert and/or elements to assure safe use, such as restricted distribution methods, patient registries or other risk minimization tools. The FDA determines the requirement for a REMS, as well as the specific REMS provisions, on a case-by-case basis. If the FDA concludes a REMS is needed, the sponsor of the NDA must submit a proposed REMS. The FDA will not approve the NDA without a REMS, if required.

Before approving an NDA, the FDA typically will inspect the facility or facilities where the product is manufactured. The FDA will not approve an application unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. Additionally, before approving an NDA, the FDA may inspect one or more clinical trial sites to assure compliance with GCP requirements.

After evaluating the NDA and all related information, including the advisory committee recommendation, if any, and inspection reports regarding the manufacturing facilities and clinical trial sites, the FDA may issue an approval letter, or, in some cases, a Complete Response Letter. A Complete Response Letter indicates that the review cycle of the application is complete, and the application will not be approved in its present form. A Complete Response Letter generally outlines the deficiencies in the submission and contains a statement of specific conditions that must be met in order to secure final approval of the NDA; it may require additional clinical or preclinical testing in order for FDA to reconsider the application. If a Complete Response Letter is issued, the applicant may either resubmit the NDA, addressing all of the deficiencies identified in the letter, or withdraw the application. Even with submission of this additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval. If and when those conditions have been met to the FDA's satisfaction, the FDA will typically issue an approval letter. An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications.

Even if the FDA approves a product, it may limit the approved indications for use of the product, require that contraindications, warnings or precautions be included in the product labeling, require that post-approval studies, including Phase 4 clinical trials, be conducted to further assess a drug's safety after approval, require testing and surveillance programs to monitor the product after commercialization, or impose other conditions, including distribution and use restrictions or other risk management mechanisms under a REMS, which can materially affect the potential market and profitability of the product. The FDA may prevent or limit further marketing of a product based on the results of post-marketing studies or surveillance programs. After approval, some 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.

Orphan Drug Designation and Exclusivity

Under the Orphan Drug Act, the FDA may grant orphan designation to a drug product intended to treat a rare disease or condition, which is generally a disease or condition that affects either (i) fewer than 200,000 individuals in the United States, or (ii) more than 200,000 individuals in the United States and for which there is no reasonable expectation that the cost of developing and making the product available in the United States for this type of disease or condition will be recovered from sales of the product. A company must request orphan drug designation before submitting an NDA. If the request is granted, the FDA will disclose the identity of the therapeutic agent and its potential use. Orphan drug designation does not convey any advantage in or shorten the duration of the regulatory review and approval process.

If a product with orphan status 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 is entitled to orphan product exclusivity. Orphan product exclusivity means that the FDA may not approve any other applications to market the same product for the same indication for seven years, except in certain limited circumstances. Orphan exclusivity will not bar approval of another product under certain circumstances, including if a subsequent product with the same active ingredient for the same indication is shown to be clinically superior to the approved product on the basis of greater efficacy or safety, or providing a major contribution to patient care, or if the company with orphan drug exclusivity is not able to meet market demand. Further, the FDA may approve more than one product for the same orphan indication or disease as long as the products contain different active ingredients. Moreover, competitors may receive approval of different products for the indication for which the orphan product has exclusivity or obtain approval for the same product but for a different indication for which the orphan drug has exclusivity. Other benefits of orphan drug designation include tax credits for certain research and waiver from the NDA application fee.

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

Expedited Development and Review Programs

The FDA maintains several programs intended to facilitate and expedite development and review of new drugs to address unmet medical needs in the treatment of serious or life-threatening diseases or conditions. These programs include Fast Track designation, Breakthrough Therapy designation, Priority Review and Accelerated Approval, and the purpose of these programs is to either expedite the development or review of important new drugs to get them to patients earlier than under standard FDA development and review procedures.

The FDA has a Fast Track designation program that is intended to expedite or facilitate the process for reviewing new drugs that meet certain criteria. Specifically, new drugs are eligible for Fast Track designation if they are intended to treat a serious or life threatening condition and preclinical or clinical data demonstrate the potential to address unmet medical needs for the condition. Fast Track designation applies to both the product and the specific indication for which it is being studied. The sponsor can request that the FDA grant the product Fast Track designation any time before receiving NDA approval, but ideally no later than the pre-NDA meeting. Fast Track designation provides increased opportunities for sponsor interactions with the FDA review team to expedite development and review of the product. The FDA may also review sections of the NDA for a Fast Track designated-product on a rolling basis before the complete application is submitted, if the sponsor provides a schedule for the submission of the sections of the application, the FDA agrees to accept sections of the application and determines that the schedule is acceptable, and the sponsor pays any required user fees upon submission of the first section of the application. Fast Track designation may be lost if the designation is no longer supported by data emerging in the clinical trial process.

Additionally, a drug may be eligible for designation as a breakthrough therapy if the product is intended, alone or in combination with one or more other drugs or biologics, to treat a serious or life- threatening condition and preliminary clinical evidence indicates that the product may demonstrate substantial improvement over currently approved therapies on one or more clinically significant endpoints. The benefits of Breakthrough Therapy designation include the same benefits as Fast Track designation, plus intensive guidance from the FDA to ensure an efficient drug development program. Breakthrough therapy designation comes with all of the benefits of Fast Track designation, which means that the sponsor may file sections of the NDA for review on a rolling basis if certain conditions are satisfied, including an agreement with the FDA on the proposed schedule for submission of portions of the application and the payment of applicable user fees before the FDA may initiate a review.

A product may also be eligible for priority review if it treats a serious or life-threatening condition and, if approved, would provide a significant improvement in safety and effectiveness compared to available therapies. The FDA determines at the time that the marketing application is submitted, on a case-by-case basis, whether the proposed drug represents a significant improvement in treatment, prevention or diagnosis of disease when compared with other available therapies. 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 for an NDA for a new molecular entity from the date of filing. If criteria are not met for priority review, the application for a new molecular entity is subject to the standard FDA review period of ten months after FDA accepts the application for filing. Priority review designation does not change the scientific/medical standard for approval or the quality of evidence necessary to support approval.

A product may also be eligible for accelerated approval if it treats a serious or life-threatening disease or condition, generally provides a meaningful advantage over available therapies and demonstrates an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, or IMM, 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. As a condition of accelerated approval, the FDA generally requires that a sponsor perform adequate and well-controlled post-marketing clinical trials to verify and describe the product's clinical benefit. These confirmatory trials must be completed with due diligence, and, in some cases, the FDA may require that the trial be designed, initiated, and/or fully enrolled prior to approval. Failure to conduct required post-approval studies, or to confirm a clinical benefit during post-marketing studies, would allow the FDA to initiate a process to ultimately withdraw the product from the market (and withdraw its approval). In addition, for products being considered for accelerated approval, the FDA generally requires, unless otherwise informed by the agency, that all advertising and promotional materials intended for dissemination or publication within 120 days of marketing approval be submitted to the agency for review during the pre-approval review period.

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

U.S. Non-Patent Exclusivity

Market exclusivity provisions under the FDCA can delay the submission or the approval of certain follow-on applications. The FDCA provides a five-year period of data 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, or ANDA, for a generic version of the drug or a 505(b)(2) NDA 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, such a follow-on application may be submitted after four years if it contains a certification of patent invalidity or non-infringement to one of the patents listed with the FDA by the innovator NDA holder.

The FDCA also provides three years of market 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 period covers only the conditions of use associated with the new clinical investigations and does not prohibit the FDA from approving follow-on applications that do not reference the protected clinical data. 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.

Pediatric exclusivity is another type of regulatory market exclusivity in the United States. Pediatric exclusivity, if granted, adds six months to existing regulatory exclusivity periods or listed patents. This six-month exclusivity may be granted based on the voluntary completion of a pediatric trial in accordance with an FDA-issued "Written Request" for such a trial. The issuance of a Written Request does not require the sponsor to undertake the described clinical trials.

Post-approval Requirements

Drugs manufactured or distributed pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to recordkeeping, periodic reporting, product sampling and distribution, advertising and promotion and reporting of adverse experiences with the product. After approval, most changes to the approved product, such as adding new indications or other labeling claims are subject to prior FDA review and approval. There are continuing, annual user fee requirements for any marketed products.

The FDA may impose a number of post-approval requirements as a condition of approval of an NDA. For example, the FDA may require post-marketing testing, including Phase 4 clinical trials, and surveillance to further assess and monitor the product's safety and effectiveness after commercialization.

FDA regulations require that products be manufactured in specific facilities and in accordance with cGMP regulations which require, among other things, quality control and quality assurance, the maintenance of records and documentation and the obligation to investigate and correct any deviations from cGMP. In addition, drug manufacturers and other entities involved in the manufacture and distribution of approved drugs are required to register their establishments with the FDA and state agencies, and are subject to periodic unannounced inspections by the FDA and these state agencies for compliance with cGMP requirements. Manufacturers and other parties involved in the drug supply chain for prescription drug products must also comply with product tracking and tracing requirements and for notifying FDA of counterfeit, diverted, stolen and intentionally adulterated products or products that are otherwise unfit for distribution in the United States. Changes to the manufacturing process are strictly regulated and often require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP requirements and impose reporting and documentation requirements upon the sponsor and any third-party manufacturers that the sponsor may decide to use. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain cGMP compliance. Manufacturers and other parties involved in the drug supply chain for prescription drug products must also comply with product tracking and tracing requirements and for notifying FDA of counterfeit, diverted, stolen and intentionally adulterated products or products that are otherwise unfit for distribution in the United States.

Once an approval of a drug 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 mandatory 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. Any of these limitations on approval or marketing could restrict the commercial promotion, distribution, prescription or dispensing of products. 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 clinical holds on post-approval clinical trials;
- Refusal of the FDA to approve pending NDAs or supplements to approved NDAs, or suspension or withdrawal of product approvals;
- Product seizure or detention, or refusal to permit the import or export of products;
- Consent decrees, corporate integrity agreements, debarment or exclusion from federal healthcare programs;

- Mandated modification of promotional materials and labeling and the issuance of corrective information;
- Issuance of safety alerts, Dear Healthcare Provider letters, press releases and other communications containing warnings or other safety information about the product; and
- Injunctions or the imposition of civil or criminal penalties.

The FDA strictly regulates marketing, labeling, advertising and promotion of products that are placed on the market. Drugs may be promoted by a manufacturer and any third parties acting on behalf of a manufacturer only for the approved indications and in a manner consistent with the approved label for the product. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability. Failure to comply with these requirements can result in, among other things, adverse publicity, warning letters, corrective advertising and potential civil and criminal penalties. Physicians may prescribe, in their independent professional medical judgment, legally available products for uses that are not described in the product's labeling and that differ from those tested by us and approved by the FDA. Physicians may believe that such off-label uses are the best treatment for many patients in varied circumstances. The FDA does not regulate the behavior of physicians in their choice of treatments. The FDA does, however, restrict manufacturer's communications on the subject of off-label use of their products. The federal government has levied large civil and criminal fines against companies for alleged improper promotion of off-label use and has enjoined companies from engaging in off-label promotion. The FDA and other regulatory agencies have also required that companies enter into consent decrees and/or imposed permanent injunctions under which specified promotional conduct is changed or curtailed. However, companies may share truthful and not misleading information that is otherwise consistent with a product's FDA-approved labeling.

Healthcare Regulation

Coverage and Reimbursement

Sales of any product depend, in part, on the extent to which such product will be covered by third-party payors, such as federal, state, and foreign government healthcare programs, commercial insurance and managed healthcare organizations, and the level of reimbursement for such product by third-party payors. Decisions regarding the extent of coverage and amount of reimbursement to be provided are made on a plan-by-plan basis. These third-party payors are increasingly reducing coverage and reimbursement for medical products, drugs and services. For products administered under the supervision of a physician, obtaining coverage and adequate reimbursement may be particularly difficult because of the higher prices often associated with such drugs. Additionally, separate reimbursement for the product itself or the treatment or procedure in which the product is used may not be available, which may impact physician utilization.

The U.S. government, state legislatures and foreign governments have also continued implementing cost-containment programs, including price controls, restrictions on coverage and 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 sales of any product. Decreases in third-party reimbursement for any product or a decision by a third-party payor not to cover a product could reduce physician usage and patient demand for the product and also have a material adverse effect on sales.

Other Healthcare Laws

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 of 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 and Legislative Updates

In the United States, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, each as amended, collectively known as the ACA, was enacted, which substantially changed the way healthcare is financed by both governmental and private insurers, and significantly affected the pharmaceutical industry. The ACA contained a number of provisions, including those governing enrollment in federal healthcare programs, reimbursement adjustments and changes to fraud and abuse laws. For example, the ACA:

- increased the minimum level of Medicaid rebates payable by manufacturers of brand name drugs from 15.1% to 23.1% of the average manufacturer price;
- required collection of rebates for drugs paid by Medicaid managed care organizations;
- required manufacturers to participate in a coverage gap discount program, under which they must agree to offer 70 percent (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; and
- imposed a non-deductible annual fee on pharmaceutical manufacturers or importers who sell "branded prescription drugs" to specified federal government programs.

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. Other legislative changes have been proposed and adopted since the ACA was enacted, including aggregate reductions of Medicare payments to providers of 2% per fiscal year, which was temporarily suspended from May 1, 2020 through March 31, 2022 due to the ongoing COVID-19 pandemic. Following the temporary suspension, a 1% payment reduction will occur beginning April 1, 2022 through June 30, 2022, and the 2% payment reduction will resume on July 1, 2022.

Moreover, there has recently been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products, which has resulted in several Congressional inquiries, proposed and enacted legislation and executive orders issued by the former Trump administration 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. The likelihood of success of these and other measures initiated by the former Trump administration is uncertain, particularly in light of the new Biden administration. It is also possible that additional governmental action is taken in response to the ongoing COVID-19 pandemic. Individual states in the United States have also become increasingly active in implementing 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 additional state and federal healthcare reform measures will be adopted in the future, any of which could impact the amounts that federal and state governments and other third-party payors will pay for healthcare products and services.

Data Privacy and Security

Numerous state, federal and foreign laws, regulations and standards govern the collection, use, access to, confidentiality and security of health-related and other personal information, and could apply now or in the future to our operations or the operations of our partners. In the United States, numerous federal and state laws and regulations, including data breach notification laws, health information privacy and security laws and consumer protection laws and regulations govern the collection, use, disclosure, and protection of health-related and other personal information. In addition, certain foreign laws govern the privacy and security of personal data, including health-related data. For example, the GDPR imposes strict requirements for processing the personal data of individuals within the EEA, including requirements relating to processing health-related and other sensitive data, establishing a legal basis for processing such as 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, imposing limitations on retention of personal data; maintaining a record of data processing, complying with the principal of accountability and the obligation to demonstrate compliance through policies, procedures, training and audit 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 EEA to countries that the EU does not consider to have in place adequate data protection legislation, including the United States. Companies that must comply with the GDPR face increased compliance obligations and risk, including more robust regulatory enforcement of data protection requirements and potential fines for noncompliance of up to €20 million or 4% of the annual global revenues of the non-compliant company, whichever is greater. Further, from January 1, 2021, companies have had to comply with the GDPR and also the UK GDPR, which, together with the amended UK Data Protection Act 2018, retains the GDPR in UK national law. The UK GDPR mirrors the fines under the GDPR, i.e. fines up to the greater of €20 million (£17.5 million) or 4% of global turnover. The European Commission has adopted an adequacy decision in favor of the UK, enabling data transfers from EU member states to the UK without additional safeguards. However, the UK adequacy decision will automatically expire in June 2025 unless the European Commission re-assesses and renews/extends that decision, and remains under review by the Commission during this period. In September 2021, the UK government launched a consultation on its proposals for wide-ranging reform of UK data protection laws following Brexit. There is a risk that any material changes which are made to the UK data protection regime could result in the European Commission reviewing the UK adequacy decision, and the UK losing its adequacy decision if the European Commission deems the UK to no longer provide adequate protection for personal data. Privacy and security laws, regulations, and other obligations are constantly evolving, may conflict with each other to complicate compliance efforts, and can result in investigations, proceedings, or actions that lead to significant civil and/or criminal penalties and restrictions on data processing.

Brexit and the Regulatory Framework in the United Kingdom

On June 23, 2016, the electorate in the United Kingdom voted in favor of leaving the EU, commonly referred to as Brexit, and the United Kingdom formally left the EU on January 31, 2020. There was a transition period during which EU pharmaceutical laws continued to apply to the United Kingdom, which expired on December 31, 2020. However, the EU and the United Kingdom have concluded a trade and cooperation agreement, or TCA, which was provisionally applicable since January 1, 2021 and has been formally applicable since May 1, 2021. The TCA includes specific provisions concerning pharmaceuticals, which include the mutual recognition of cGMP, inspections of manufacturing facilities for medicinal products and cGMP documents issued, but does not foresee wholesale mutual recognition of United Kingdom and EU pharmaceutical

regulations. At present, EU laws which have been transposed into UK law through secondary legislation continue to be applicable as "retained EU law". However, new legislation such as the EU Clinical Trials Regulation or in relation to orphan medicines will not be applicable. The UK government has passed a new Medicines and Medical Devices Act 2021, which introduces delegated powers in favour of the Secretary of State or an 'appropriate authority' to amend or supplement existing regulations in the area of medicinal products and medical devices. This allows new rules to be introduced in the future by way of secondary legislation, which aims to allow flexibility in addressing regulatory gaps and future changes in the fields of human medicines, clinical trials and medical devices.

As of January 1, 2021, the Medicines and Healthcare products Regulatory Agency, or MHRA, is the UK's standalone medicines and medical devices regulator. As a result of the Northern Ireland protocol, different rules will apply in Northern Ireland than in England, Wales, and Scotland, together, Great Britain, or GB; broadly, Northern Ireland will continue to follow the EU regulatory regime, but its national competent authority will remain the MHRA. The MHRA has published a guidance on how various aspects of the UK regulatory regime for medicines will operate in Great Britain and in Northern Ireland following the expiry of the Brexit transition period on December 31, 2020. The guidance includes clinical trials, importing, exporting, and pharmacovigilance and is relevant to any business involved in the research, development, or commercialization of medicines in the UK. The new guidance was given effect via the Human Medicines Regulations (Amendment etc.) (EU Exit) Regulations 2019, or the Exit Regulations.

The MHRA has introduced changes to national licensing procedures, including procedures to prioritize access to new medicines that will benefit patients, including a 150-day assessment and a rolling review procedure. All existing EU marketing authorizations for centrally authorized products were automatically converted or grandfathered into UK marketing authorizations, effective in Great Britain (only), free of charge on January 1, 2021, unless the marketing authorization holder chooses to opt-out. In order to use the centralized procedure to obtain a marketing authorization that will be valid throughout the EEA, companies must be established in the EEA. Therefore, after Brexit, companies established in the UK can no longer use the centralized procedure and instead an EEA entity must hold any centralized marketing authorizations. In order to obtain a UK marketing authorization to commercialize products in the UK, an applicant must be established in the UK and must follow one of the UK national authorization procedures or one of the remaining post-Brexit international cooperation procedures. The MHRA may rely on a decision taken by the European Commission on the approval of a new (centralized procedure) MA when determining an application for a Great Britain authorization; or use the MHRA's decentralized or mutual recognition procedures which enable marketing authorizations approved in EU member states (or Iceland, Liechtenstein, Norway) to be granted in GB.

There will be no pre-marketing authorization orphan designation. Instead, the MHRA will review applications for orphan designation in parallel to the corresponding marketing authorization application. The criteria are essentially the same, but have been tailored for the market, i.e., the prevalence of the condition in Great Britain, rather than the EU, must not be more than five in 10,000. Should an orphan designation be granted, the period or market exclusivity will be set from the date of first approval of the product in Great Britain.

Pricing Decisions for Approved Products

In the EU, 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 or so-called health technology assessments, in order to obtain reimbursement or pricing approval. For example, EU Member States have the option 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. EU 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 EU 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 EU have increased the amount of discounts required on pharmaceuticals and these efforts could continue as countries attempt to manage health care expenditures, especially in light of the severe fiscal and debt crises experienced by many countries in the EU. The downward pressure on health care 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 EU Member States, and parallel trade, i.e., arbitrage between low-priced and high-priced EU 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 products, if approved in those countries.

Rest of the World Regulation

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

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

Employees and Human Capital Resources

As of March 31, 2022, we had 31 full-time employees, of which 15 have Ph.D. degrees, and no part-time employees. Within our workforce, 24 employees are engaged in research and development and four are engaged in business development, finance, legal, and general management and administration. 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, advisors and consultants. The principal purposes of our equity incentive plans are to attract, retain and reward personnel through the granting of equity-based compensation awards in order to increase stockholder value and the success of our company by motivating such individuals to perform to the best of their abilities and achieve our objectives.

Facilities

We primarily operate out of approximately 800 square feet of office space located at 245 Main Street, Cambridge, Massachusetts 02142, and lease and occupy approximately 300 square feet of laboratory space at Ipsen Innovation Center BioLabs, 650 E. Kendall St, Cambridge, Massachusetts. The current terms for each of these leases is month-to-month, with a 30-day written notice of cancellation. We also lease 31,668 square feet of office space at 321 Harrison Street, Boston, Massachusetts 02118. The current term of the lease is 110 months, beginning on the lease commencement date, which is expected to occur in the second half of 2022. In addition, we have executed a lease for 6,500 square feet of laboratory space at the University of Massachusetts, Mount Ida Campus in Newton, Massachusetts at the School of Applied Sciences Building, which commenced on February 1, 2022 and expires on January 31, 2023.

We also lease and occupy approximately 900 square feet laboratory space at Innovation Building, University of Oxford, Roosevelt Drive, Oxford, OX3 7FZ. The term for this laboratory space expires in September 2022 and may be cancelled on a one-month rolling notice period.

We believe that our facilities are adequate for our current needs and for the foreseeable future. To meet the future needs of our business, we may lease additional or alternate space. We believe that suitable additional or substitute 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 arising in the ordinary course of business. We are not currently a party to any litigation or legal proceedings that, in the opinion of our management, are probable to have a material adverse effect on our business. Regardless of outcome, litigation 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.

MANAGEMENT

Executives and Directors

The following table sets forth the name, age and position of each of our executives and directors as of March 31, 2022.

Name	Age	Position
Executive Officers:		
James McArthur, Ph.D.	60	President, Chief Executive Officer and Director
Noel Donnelly, M.B.A.	52	Chief Financial Officer
Jaya Goyal, Ph.D.	54	Executive Vice President, Research and Preclinical Development
Niels Svenstrup, Ph.D.	52	Senior Vice President, Chemistry, Manufacturing and Control
Sonia Bracegirdle, D.Phil.	36	Senior Vice President, Strategy and Operations
Michelle L. Mellion, M.D.	46	Senior Vice President, Clinical Development
Non-Employee Directors:		
Christopher Ashton, Ph.D.	62	Director
Joshua Resnick, M.D., M.B.A.	47	Director
Heidi Henson	56	Director
Laurie B. Keating, J.D.	68	Director

(1) Member of the Audit Committee.
(2) Member of the Compensation Committee.
(3) Member of the Nominating and Corporate Governance Committee.

Each executive officer serves at the discretion of our board of directors and holds office until his or her successor is duly elected and qualified or until his or her earlier resignation or removal. There are no family relationships among any of our directors or executive officers.

Executive Officers

James McArthur, Ph.D., has served as our President and Chief Executive Officer and a member of our board of directors since January 2021. Prior, from August 2020 to May 2021, Dr. McArthur served as a Venture Partner at RA Capital Management, L.P., an investment company. Dr. McArthur co-founded Imara Inc., a clinical-stage biopharmaceutical company, where he served as President and Chief Executive Officer from January 2016 to May 2018, and on the board of directors from January 2016 to April 2020. He was also a founder of Vtesse Inc. in 2015, a pharmaceutical company, which was acquired by Sucampo, Inc. in April 2017, Tiburio Therapeutics, Inc., a biopharmaceutical company, in 2018 and Cydan Development, Inc., a pharmaceutical company, in 2013, and served as a member of the board of directors of Nightstar Therapeutics, a public gene therapy company that was acquired by Biogen in June 2019. Prior, Dr. McArthur was an Entrepreneur-in-Residence at HealthCare Ventures LLC, a life science venture capital firm, and was the founding employee and Chief Scientific Officer of Synovex Corporation, which was renamed Adheron Therapeutics, Inc., or Adheron, a biotechnology company, from June 2006 to September 2012 (which was acquired by F. Hoffmann-La Roche AG in October 2015), and a consultant to Adheron from September 2012 to January 2015. Dr. McArthur currently serves as a member of the board of directors and Scientific Advisory Board of the Friedreich's Ataxia Research Alliance (FARA), a leading patient advocacy group and formerly served on the board of directors of T-Cure Biosciences Inc, a biotechnology company, from April 2020 to September 2020. Dr. McArthur obtained his Ph.D. in molecular oncology at McGill University of Montreal and was a post-doctoral fellow studying immunology at Massachusetts Institute of Technology and the University of California, Berkeley. Dr. McArthur received his B.Sc. in biochemistry from McGill University. We believe Dr. McArthur is qualified to serve on our board of directors due to his extensive experience in the life sciences industry and his position as our President and Chief Executive Officer.

Noel Donnelly, M.B.A., has served as our Chief Financial Officer since October 2021. Previously, from July 2019 until October 2021, Mr. Donnelly served as Chief Financial Officer of EIP Pharma, Inc., a privately-held pharmaceutical company. From June 2004 until July 2019, Mr. Donnelly served in various roles of increasing seniority at Shire plc, a biopharmaceutical company, including Vice President, Research and Development Business Ops; Senior Director, Head of Research and Development Business Analytics and Knowledge Management; Senior Director, Head of Research and Development Finance; Director, Financial Planning and Analysis; and Associate Director, Financial Planning and Analysis. Mr. Donnelly received an MBA from Babson College and B.Sc. in nuclear engineering from the University of Massachusetts Lowell.

Jaya Goyal, Ph.D., has served as our Executive Vice President, Research and Preclinical Development since October 2021. Prior to joining PepGen, from March 2017 until October 2021, Dr. Goyal served as Senior Vice President, Preclinical and Clinical Development Sciences, and, previously, as Vice President, Bioanalytical, Pharmacology and Biomarker Development, of Wave Life Sciences Limited, a publicly-held clinical-stage genetic medicines company. From April 2001 until March 2017, Dr. Goyal served in various roles of increasing seniority at Biogen Inc., a publicly-held biotechnology company, including Director-Senior Director, Translational Medicine and Value Based Medicine; Associate Director; and Senior Scientist. Dr. Goyal was a Postdoctoral Fellow at Rush Presbyterian St. Luke's Medical Center in Chicago, Illinois, received her Ph.D. in biochemistry from the Central Drug Research Institute, India, and received her undergraduate degree from Lucknow University.

Niels Svenstrup, Ph.D., has served as our Senior Vice President, Chemistry, Manufacturing and Control since April 2021. Previously, from July 2017 until April 2021, Dr. Svenstrup served as Vice President of Development and, subsequently, as Senior Vice President of Development at Cydan II, Inc., a privately-held orphan drug accelerator. From November 2015 until July 2017, Dr. Svenstrup served as Director of CMC at Ascendis Pharma A/S, a biopharmaceutical company. Prior to that, Dr. Svenstrup served as Head of Department, Medicinal Chemistry, at H. Lundbeck, from May 2008 to November 2015, and at Bayer Pharmaceutical from December 2000 to May 2008 in various research and development leadership roles. Dr. Svenstrup performed postdoctoral research at The Scripps Research Institute. He received a Ph.D. in Organic Chemistry and an M.Sc. in Chemistry and Cell Biology from the University of Southern Denmark.

Sonia Bracegirdle, D.Phil., has served as our Senior Vice President, Strategy and Operations, since November 2021, and previously as our Vice President, Strategy and Operations from January 2021 until November 2021, Chief Business Officer from February 2019 until January 2021 and Head of Business Development from April 2018 until February 2019. Prior to joining PepGen, in 2017, Dr. Bracegirdle served as a partner of Syncona Limited, a London-based biotechnology venture capital firm, and from 2015 to 2016, served as Co-Founder and Chief Executive Officer of Chiloé, a privately-held women's clothing label. She has also held roles at the Boston Consulting Group and McKinsey & Company. Dr. Bracegirdle received her D.Phil. in Organic Chemistry from the University of Oxford and M.Sc. in Chemistry from the University of Cambridge.

Michelle L. Mellion, M.D., has served as our Senior Vice President, Clinical Development since April 2022. Prior to joining PepGen, from August 2018 until March 2022, Dr. Mellion served in various roles of increasing seniority at Fulcrum Therapeutics, Inc., a biotechnology company, including Executive Medical Director, Head of Neuromuscular Clinical Development, Senior Medical Director and Medical Director. Prior to Fulcrum Therapeutics, from December 2016 until August 2018, Dr. Mellion served as Medical Director at Vertex Pharmaceuticals Incorporated, a biopharmaceutical company, and from February 2015 until November 2016, as Associate Medical Director at Biogen Inc., a biotechnology company. In addition, since September 2020, Dr. Mellion has served as an attending physician in pediatric neurology at Pratt Medical Associates and, from July 2006 until July 2018, served as an attending physician in neurology at The Neurology Foundation and as Assistant Professor of Neurology at the Warren Alpert Medical School of Brown University. During that time she served as the director of the Neurology Residency Program, Clinical Neurophysiology Fellowship and Attending Physician at the Rhode Island Hospital interdisciplinary MDA clinic. She completed her internship, neurology residency and fellowship in clinical neurophysiology at RIH/Warren Alpert Medical School of Brown

University from 2001 until 2006 and is double boarded in neurology and clinical neurophysiology. She has multiple publications regarding various neuromuscular diseases and conditions. Dr. Mellion received an M.D. from Wake Forest University School of Medicine and a B.A. in Molecular Biology from Colgate University.

Non-employee directors

Christopher Ashton, Ph.D., has served as a member of our board of directors since December 2019. Since December 2019, Dr. Ashton has served as an Advisor to Oxford Science Enterprises plc. Dr. Ashton served as chairman of the board of directors of MacrophOx Limited, a drug discovery company, from October 2018 until August 2020. Previously, from March 2016 until February 2018, Dr. Ashton was a partner at Syncona Investment Management Limited, an investment company, and from May 2016 through January 2018, as Chief Executive Officer of Achilles Therapeutics Limited, a biopharmaceutical company. Dr. Ashton currently serves on the board of directors of OMass Therapeutics, a privately-held biotechnology company. Dr. Ashton carried out post-doctoral research at the Massachusetts Institute of Technology and has a Ph.D. in Organic Chemistry and a Bachelor of Science in Biochemistry from The University of Manchester. We believe Dr. Ashton's industry experience provides him with the appropriate set of skills to serve as a member of our board of directors.

Joshua Resnick, M.D., M.B.A., has served as a member of our board of directors since November 2020. Dr. Resnick has served as a Managing Director at RA Capital Management, L.P., a life sciences investment advisor, since October 2018. Dr. Resnick previously served as a Partner at SV Health Investors from January 2016 to September 2018 and as President and Managing Partner at MRL Ventures Fund, an early-stage therapeutics-focused corporate venture fund that he built and managed within Merck & Co., from 2014 to January 2016. Dr. Resnick is on staff in the Department of Emergency Medicine at Massachusetts General Hospital. Dr. Resnick has served on the board of directors of Vor Biopharma Inc. (NASDAQ: VOR) since February 2019 and Aerovate Therapeutics, Inc. (NASDAQ: AVTE) since August 2020 (and previously from October 2018 to February 2020) and previously served on the boards of directors of Kalvista Pharmaceuticals, Inc. and Avrobio, Inc. from November 2016 to September 2018 and July 2016 to September 2018, respectively. Dr. Resnick received a B.A. in chemistry from Williams College, an M.D. from the University of Pennsylvania School of Medicine and an M.B.A. from The Wharton School of the University of Pennsylvania. We believe Dr. Resnick's industry and investor experience provides him with the appropriate set of skills to serve as a member of our board of directors.

Heidi Henson**,** has served as a member of our board of directors since July 2021. Ms. Henson has served as Chief Financial Officer of Pardes Biosciences Inc., a publicly-held clinical-stage biopharmaceutical company, since January 2021. From April 2019 to July 2020, Ms. Henson served as Chief Financial Officer of Imbria Pharmaceuticals, Inc., a privately-held biotechnology company, and from November 2018 to April 2019 she served as Chief Financial Officer of Respivant Sciences, a privately-held clinical-stage biopharmaceutical company. From October 2014 to July 2018, Ms. Henson served as Chief Financial Officer of Kura Oncology, Inc., a public biopharmaceutical company. Ms. Henson also served as Chief Financial Officer of Wellspring Biosciences, Inc., a privately-held biopharmaceutical company, and its parent company Araxes Pharma LLC, from July 2012 to July 2018, and served as Secretary of Wellspring and Araxes from July 2012 to January 2015. From 2007 to March 2012, Ms. Henson served as the Vice President, Finance at Intellikine, Inc., a privately-held biopharmaceutical company, until its acquisition by Takeda Pharmaceutical Company Limited. Ms. Henson previously served as an independent financial consultant for several years assisting with various start-up activities for early stage companies, SEC reporting and Sarbanes-Oxley implementation and compliance. Ms. Henson previously served as Director of Finance at Anadys Pharmaceuticals, Inc., a publicly-held biopharmaceutical company, and held a number of management positions with Fair Isaac & Co., Inc. (formally HNC Software, Inc.), a publicly-held software company. Ms. Henson began her career in auditing at PricewaterhouseCoopers LLP, a public accounting firm, where she served both public and private companies. Ms. Henson currently serves on the board of directors of Cend Therapeutics, Inc., a privately-held clinical-stage biotechnology company. She received a Bachelor's of Accountancy from the University of San Diego and is a Certified Public Accountant (inactive) in the state of California. We believe Ms. Henson is qualified to serve on

our board of directors due to her extensive finance experience and experience serving as an executive of several companies in the life sciences industry.

Laurie B. Keating, J.D., has served as a member of our board of directors since December 2021. Since March 2019, Ms. Keating has served as Executive Vice President, Chief Legal Officer and Secretary of Alnylam Pharmaceuticals, Inc., a publicly-held pharmaceutical company, and previously served as Senior Vice President, General Counsel and Secretary of Alnylam from September 2014 to March 2019. Prior to joining Alnylam, Ms. Keating served as Senior Vice President, General Counsel and Secretary of Millennium: The Takeda Oncology Company, a biopharmaceutical company, from September 2004 to January 2014. Prior to Millennium, Ms. Keating was the founding Chief Executive Officer and a director of venture-backed Hydra Biosciences, Inc., a privately-held biopharmaceutical company. Before co-founding Hydra, she served as an executive at several high growth technology companies. Upon graduating from law school, Ms. Keating practiced law at McCutchen, Doyle, Brown and Enersen (which is now a part of Morgan, Lewis & Bockius). Ms. Keating currently serves on the board of directors of Imago BioSciences, Inc., a publicly-held biopharmaceutical company, Immuneering Corporation, a publicly-held biopharmaceutical company, and MassBio, a non-profit life sciences industry association. Ms. Keating received a B.A. in economics from the University of California, Berkley and a J.D. from the University of California, Hastings College of Law. We believe Ms. Keating is qualified to serve on our board of directors due to her business, legal and public policy background.

Composition of our board of directors

Our board consists of five members, each of whom are members pursuant to the board composition provisions of our certificate of incorporation and agreements with our stockholders, and is chaired by Ms. Keating. 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 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

We intend to apply to list our common stock on The Nasdaq Global Market. Under the Nasdaq listing rules, independent directors must comprise a majority of a listed company's board of directors within twelve months from the date of listing. In addition, the Nasdaq listing rules require that, subject to specified exceptions, each member of a listed company's audit, compensation and nominating and governance committees be independent within twelve months from the date of listing. Audit committee members must also satisfy additional independence criteria, including those set forth in Rule 10A-3 under the Securities Exchange Act of 1934, as amended, or the Exchange Act, and compensation committee members must also satisfy the independence criteria set forth in Rule 10C-1 under the Exchange Act. Under Nasdaq listing rules, a director will only qualify as an "independent director" if, in the opinion of that company's board of directors, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the

responsibilities of a director. In order to be considered independent for purposes of Rule 10A-3 under the Exchange Act, a member of an audit committee of a listed company may not, other than in his or her capacity as a member of the audit committee, the board of directors, or any other board committee: (1) accept, directly or indirectly, any consulting, advisory, or other compensatory fee from the listed company or any of its subsidiaries, other than compensation for board service; or (2) be an affiliated person of the listed company or any of its subsidiaries. In order to be considered independent for purposes of Rule 10C-1, the board of directors must consider, for each member of a compensation committee of a listed company, all factors specifically relevant to determining whether a director has a relationship to such company which is material to that director's ability to be independent from management in connection with the duties of a compensation committee member, including, but not limited to: the source of compensation of the director, including any consulting advisory or other compensatory fee paid by such company to the director, and whether the director is affiliated with the company or any of its subsidiaries or affiliates.

Our board of directors has determined that all members of the board of directors, except Dr. McArthur, are independent directors, including for purposes of the rules of The Nasdaq Global Market and the SEC. In making such independence determinations, 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. Dr. McArthur is not an independent director under these rules because is our President and Chief Executive Officer.

Staggered board

In accordance with the terms of our 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 2022 for Class I directors, 2023 for Class II directors and 2024 for Class III directors.

- Our Class I directors will be ;
- Our Class II directors will be ; and
- Our Class III directors will be .

Our 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 our 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 our 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 and demonstrates our commitment to good corporate governance.

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 titled "Risk Factors" 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 us and our 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 The Nasdaq Global Market, each committee's charter will be available on our website at https://pepgen.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

serve on the audit committee, which is chaired by . Our board of directors has determined that each are "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 determined that qualifies as an "audit committee financial expert," as defined under the applicable rules of the SEC. 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

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. 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, recommending to the board of directors the cash compensation of our Chief Executive Officer;
- determining the cash compensation of our other executive officers;
- 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 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.

Each member of our compensation committee is a non-employee director, as defined in Rule 16b-3 promulgated under the Exchange Act.

Nominating and corporate governance committee

Upon the effectiveness of the registration statement of which this prospectus forms a part, will serve on the nominating and corporate governance committee, which will be chaired by . Our board of directors has determined that a majority of the nominating and corporate governance committee is "independent" as defined in the applicable Nasdaq rules. 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.

Our board of directors may from time to time establish other committees.

Compensation committee interlocks and insider participation

In 2021, the compensation committee consisted of Christopher Ashton and Joshua Resnick. 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.

Code of Business Conduct and Ethics

Our board of directors intends to adopt a Code of Business Conduct and Ethics in connection with this offering. The Code of Business Conduct and Ethics will apply to our directors, officers, and employees, including our principal executive officer, principal financial officer, principal accounting officer, or controller, or persons performing similar functions. Upon the completion of this offering, the full text of our Code of Business Conduct and Ethics will be posted on our website at https://pepgen.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, our 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.

Limitations on Liability and Indemnification Agreements

As permitted by Delaware law, provisions in our amended and restated certificate of incorporation, which will become effective immediately prior to the closing of this offering, and amended and restated bylaws, which will become effective upon the effectiveness of this registration statement, limit or eliminate the personal liability of directors for a breach of their fiduciary duty of care as a director. The duty of care generally requires that, when acting on behalf of the corporation, a director exercise an informed business judgment based on all material information reasonably available to him or her. 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 act related to unlawful stock repurchases, redemptions or other distributions or payments of dividends; or
- any transaction from which the director derived an improper personal benefit.

These limitations of liability do not limit or eliminate our rights or any stockholder's rights to seek non-monetary relief, such as injunctive relief or rescission. These provisions will not alter a director's liability under other laws, such as the federal securities laws or other state or federal laws. Our amended and restated certificate of incorporation that will become effective immediately prior to the closing of this offering also authorizes us to indemnify our officers, directors and other agents to the fullest extent permitted under Delaware law.

As permitted by Delaware law, our amended and restated bylaws to be effective upon the effectiveness of this registration statement will provide that:

- we will indemnify our directors, officers, employees and other agents to the fullest extent permitted by law;
- we must advance expenses to our directors and officers, and may advance expenses to our employees and other agents, in connection with a legal proceeding to the fullest extent permitted by law; and
- the rights provided in our amended and restated bylaws are not exclusive.

If Delaware law is amended to authorize corporate action further eliminating or limiting the personal liability of a director or officer, then the liability of our directors or officers will be so eliminated or limited to the fullest extent permitted by Delaware law, as so amended. Our amended and restated bylaws will also permit us to secure insurance on behalf of any officer, director, employee or other agent for any liability arising out of his or her actions in connection with their services to us, regardless of whether our bylaws permit such indemnification. We have obtained such insurance.

In addition to the indemnification that will be provided for in our amended and restated certificate of incorporation and amended and restated bylaws, we plan to enter into separate indemnification agreements with each of our directors and executive officers, which may be broader than the specific indemnification provisions

contained in the Delaware General Corporation Law. These indemnification agreements may require us, among other things, to indemnify our directors and executive officers for some expenses, including attorneys' fees, expenses, judgments, fines and settlement amounts incurred by a director or executive officer in any action or proceeding arising out of his service as one of our directors or executive officers or any other company or enterprise to which the person provides services at our request. We believe that these provisions and agreements are necessary to attract and retain qualified individuals to serve as directors and executive officers.

This description of the indemnification provisions of our amended and restated certificate of incorporation, our amended and restated bylaws and our indemnification agreements is qualified in its entirety by reference to these documents, each of which is attached as an exhibit to the registration statement of which this prospectus forms a part.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, we have been advised that, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act, and is, therefore, unenforceable.

There is no pending litigation or proceeding naming any of our directors or officers as to which indemnification is being sought, nor are we aware of any pending or threatened litigation that may result in claims for indemnification by any director or officer.

EXECUTIVE COMPENSATION

Overview

The following discussion contains forward-looking statements that are based on our current plans and expectations regarding our future compensation programs. The actual amount and form of compensation that we pay and the compensation policies and practices that we adopt in the future may differ materially from the currently-planned programs that are 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. The compensation provided to our named executive officers for the fiscal years ended December 31, 2021 and 2020 is detailed in the 2021 Summary Compensation Table and accompanying footnotes and narrative that follow. Our named executive officers for fiscal year ending December 31, 2021, are:

- James McArthur, Ph.D., our President and Chief Executive Officer;
- Caroline Godfrey, Ph.D., our Senior Vice President of Discovery and former Chief Executive Officer;
- Noel Donnelly, our Chief Financial Officer; and
- Jaya Goyal, Ph.D., our Executive Vice President, Research and Preclinical Development.

Effective January 21, 2021, Dr. Godfrey resigned as our Chief Executive Officer and as a member of our board of directors and transitioned to her current role as our Senior Vice President of Discovery, and James McArthur, Ph.D. assumed the role as our Chief Executive Officer, President, Treasurer and Secretary. Noel Donnelly joined the Company as our Chief Financial Officer and Jaya Goyal joined the Company as our Executive Vice President, Research and Preclinical Development in October 2021.

2021 Summary Compensation Table

The following table provides information regarding the total compensation awarded to, earned by, and paid to our named executive officers for services rendered to us in all capacities during the years listed below. The USD amounts below are based on a weighted-average exchange ratio of GBP £0.7265 to USD $1.00 for the reporting period as set forth on Bloomberg:

Name and Principal Position	Year	Salary ($)	Bonus ($)(2)	Stock Awards ($)(3)	Option Awards ($)(4)	Non-Equity Incentive Plan Compensation ($)	All Other Compensation ($)	Total ($)
James McArthur, Ph.D.								
President and Chief Executive Officer(1)	2021	407,604	190,350	—	3,490,920	—	—	4,088,874
Caroline Godfrey, Ph.D.								
Senior Vice President of Discovery and former Chief Executive Officer	2021	137,640	137,640	—	—	—	6,882(5)	282,162
	2020	128,290	—	3,051	83,635	—	6,415(5)	221,391
Noel Donnelly								
Chief Financial Officer(1)	2021	91,212	154,800	—	1,529,199	—	—	1,775,211
Jaya Goyal, Ph.D.								
Executive Vice President, Research and Preclinical Development(1)	2021	84,849	219,000	—	1,129,539	—	—	1,433,387

(1) Dr. McArthur joined us in January 2021 and Mr. Donnelly and Dr. Goyal joined in October 2021.
(2) The amounts reported for Dr. McArthur, Mr. Donnelly, and Dr. Goyal include discretionary bonuses earned in 2021 based on achievement of performance objectives as determined by our board of directors. The amount reported for Dr. Godfrey represents a bonus paid to Dr. Godfrey in connection with the closing of the Company's Series A financing. For Dr. Goyal, the amount reported also includes a $75,000 signing bonus pursuant to her employment agreement.
(3) Amount reflects the incremental fair value related to the modification of Dr. Godfrey's outstanding shares in November 2020 in connection with the Reorganization, as described below in the section titled "Equity Compensation".
(4) The amount reported for 2021 represent the grant date fair value of options to shares of our common stock, calculated in accordance with Financial Accounting Standards Board, or FASB Accounting Standards Codification, or ASC Topic 718. The amounts reported for 2020 represent the aggregate grant date fair value of options to purchase Limited Options (as defined below in the section titled "Equity Compensation") awarded to the named executive officers during fiscal year 2020 prior to the Reorganization, calculated in accordance with ASC Topic 718. Such grant date fair value does not take into account any estimated forfeitures. The value reported for 2020 reflects the grant date fair value based upon probable achievement of the performance conditions of the Limited Options. The grant date fair value of such option awards assuming the maximum achievement of the performance condition is $83,635. The assumptions used in calculating the grant date fair value of the awards reported in this column are set forth in the notes to our consolidated financial statements included elsewhere in this prospectus. The amounts reported in this column reflect the accounting cost for the options and does not correspond to the actual economic value that may have been received upon exercise of the options or any sale of any of the underlying shares. See the section below titled "Equity Compensation" for more detailed discussion of the treatment of the Limited Options in connection with the Reorganization.
(5) The amount reported represents employer contributions on behalf of Dr. Godfrey to a group personal pension scheme, the People's Pension Scheme.

Narrative to Summary Compensation Table

As noted above, the USD amounts described below are based on a weighted-average exchange ratio of GBP £0.7265 to USD $1.00 for the reporting period as set forth on Bloomberg.

Base salary

For the fiscal year ended December 31, 2021, the annual base salaries for Dr. McArthur, Dr. Godfrey, Mr. Donnelly, and Dr. Goyal were $470,000, $137,640, $430,000, and $400,000, respectively. For fiscal year 2020, Dr. Godfrey's annual base salary was $128,290.

Annual Bonuses

For the fiscal year ended December 31, 2021, each of Dr. McArthur, Mr. Donnelly, and Dr. Goyal was eligible to earn an annual discretionary cash bonus based on the achievement of corporate and individual performance goals as determined by our board of directors. The target annual bonus for each of Dr. McArthur, Mr. Donnelly, and Dr. Goyal for the fiscal year ended December 31, 2021 were 45%, 40%, and 40% of annual base salary, respectively. The terms of Mr. Donnelly's employment agreement provide that his 2021 bonus would be prorated, but our board of directors determined to pay Mr. Donnelly a non-prorated bonus for 2021.

Equity Compensation

During the fiscal year ended December 31, 2021, we granted stock option awards to each of our named executive officers (other than Dr. Godfrey), as described in more detail in the "Outstanding equity awards at fiscal 2021 year-end" table.

In August 2020, PepGen Limited granted equity awards to certain of our employees, including Dr. Godfrey, who was granted options to purchase 4,100 ordinary shares of PepGen Limited, or the Limited Options. In connection with the Company's Series A preferred stock financing in November 2020, certain of the shares subject to the Limited Options were to have vested. With respect to Dr. Godfrey, 2,312 of the shares subject to her Limited Options vested in connection with the Company's Series A preferred stock financing, and the remaining shares subject to the Limited Options were forfeited. On the same date, Dr. Godfrey exercised her vested Limited Options to purchase ordinary shares of PepGen Limited, which shares were immediately exchanged for shares of the Company in the Reorganization. In connection with the Reorganization, Dr. Godfrey and the Company also agreed to the imposition of time-based vesting conditions on 50% of all shares of the Company held by Dr. Godfrey.

Employment Agreements with our Named Executive Officers

We have entered into an employment contract or consulting arrangement with each of the named executive officers in connection with their employment or other service relationship with us, which set forth the terms and conditions of their respective employment or service relationship.

Employment Agreements in Place During the Fiscal Year Ended December 31, 2021 with Our Named Executive Officers

James McArthur, Ph.D.

On January 21, 2021, we entered into an employment agreement, or the McArthur Employment Agreement, with Dr. McArthur, to be employed as our Chief Executive Officer. The McArthur Employment Agreement provides for Dr. McArthur's annual base salary, a discretionary annual bonus, his initial equity award, as well as his ability to participate in our benefit plans generally. Dr. McArthur's target bonus is equal to 40% of his annual base salary, which will increase to 50% following a "liquidity event" (as defined in the McArthur Employment Agreement).

In the event of a termination of Dr. McArthur's employment by the Company without "cause" or Dr. McArthur's resignation for "good reason" (each as defined in the McArthur Employment Agreement), subject to Dr. McArthur's execution and non-revocation of a release, the Company will pay Dr. McArthur (i) base salary continuation for twelve (12) months, and (ii) subject to Dr. McArthur's election to receive continued health benefits under COBRA, payment of premiums for participation in our health benefit plans (or cash payments equal to the amount of such premiums) for up to twelve (12) months. In addition, in the event that such a termination occurs within twelve (12) months following the effective date of a "change in control" (as defined in the McArthur Employment Agreement), subject to Dr. McArthur's execution and non-revocation of release and provided that Company equity awards have been continued, assumed or substituted by the Company and/or the acquiror or an affiliate thereof in connection with such change in control, any unvested equity awards held by the executive immediately prior to the executive's termination date will be deemed immediately vested effective as of the termination date.

Caroline Godfrey, Ph.D.

On November 1, 2018, PepGen Limited entered into an employment contract, amended in November 2020, or the Godfrey Employment Contract, with Dr. Godfrey, who served as our Chief Executive Officer until January 2021, and currently serves as our Senior Vice President of Discovery. The Godfrey Employment Contract provides for Dr. Godfrey's annual base salary, a discretionary annual bonus, as well as her ability to participate in our benefit plans generally. The Godfrey Employment Contract also provides for a bonus opportunity equal to one times Dr. Godfrey's then current annual base salary upon the achievement of certain milestones related to the Company's Series A preferred stock financing, or the Godfrey Milestone Bonus, which was paid in 2021.

Pursuant to the Godfrey Employment Contract, Dr. Godfrey and the Company may terminate such contract by providing six (6) months' written notice, such notice not to expire at any time before November 24, 2022. In the event that the Company makes Dr. Godfrey redundant at any time prior to November 24, 2022, Dr. Godfrey is eligible to receive a redundancy payment equal to one year of her base salary, in addition to the Milestone Bonus, plus, in the event that the Company terminates Dr. Godfrey's employment with immediate effect, an amount equal to six (6) months of Dr. Godfrey's annual base salary in lieu of notice. Following November 24, 2022, Dr. Godfrey and the Company may terminate the Godfrey Employment Contract by providing three (3) months' written notice. In the event that the Company terminates Dr. Godfrey's employment with immediate effect following November 24, 2022, the Company shall pay Dr. Godfrey an amount equal to three (3) months of her annual base salary in lieu of notice.

Noel Donnelly

On September 29, 2021, we entered into an employment agreement, or the Donnelly Employment Agreement, with Mr. Donnelly, to be employed as our Chief Financial Officer. The Donnelly Employment Agreement provides for Mr. Donnelly's annual base salary, a discretionary annual bonus (pro rated for 2021), his initial equity award, as well as his ability to participate in our benefit plans generally. Mr. Donnelly's target bonus is equal to 40% of his annual base salary. The Donnelly Employment Agreement also provided for a one time cash bonus equal to $100,000 in connection with the closing of an initial public offering prior to December 31, 2021.

In the event of a termination of Mr. Donnelly's employment by the Company without "cause" or his resignation for "good reason" (each as defined in the Donnelly Employment Agreement), subject to Mr. Donnelly's execution and non-revocation of a release, the Company will pay Mr. Donnelly (i) base salary continuation for nine (9) months, and (ii) subject to Mr. Donnelly's election to receive continued health benefits under COBRA, payment of premiums for participation in our health benefit plans for up to nine (9) months.

Jaya Goyal, Ph.D.

On September 17, 2021, we entered into an employment agreement, or the Goyal Employment Agreement, with Dr. Goyal, to be employed as the Executive Vice President, Research and Preclinical Development. The Goyal Employment Agreement provides for Goyal's annual base salary, a $75,000 sign-on bonus, a discretionary annual bonus, her initial equity award grant, as well as her ability to participate in our benefit plans generally. Dr. Goyal's target bonus is equal to 40% of her annual base salary.

In the event of a termination of Dr. Goyal's employment by the Company without "cause" or Dr. Goyal's resignation for "good reason" (each as defined in the Goyal Employment Agreement), subject to Dr. Goyal's execution and non-revocation of a release, the Company will pay Dr. Goyal base salary continuation for nine (9) months.

Outstanding equity awards at fiscal 2021 year-end

The following table sets forth information regarding outstanding equity awards held by our named executive officers as of December 31, 2021. The USD amounts below are based on a weighted-average exchange ratio of GBP £0.7265 to USD $1.00 for the reporting period as set forth on Bloomberg:

			Option Awards(1)				Stock Awards(1)(2)	
Name	Grant Date	Vesting Commencement Date	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested ($)(2)
James McArthur, Ph.D.	3/21/2021	1/21/2021	362,718(3)	—	2.66	3/21/2031	—	—
	9/6/2021	9/6/2021		359,054(4)	8.80	9/6/2031	—	—
	9/6/2021	9/17/2021	—	41,550(4)	8.80	9/6/2031	—	—
	9/6/2021	10/6/2021	—	41,550(4)	8.80	9/6/2031	—	—
Caroline Godfrey, Ph.D.	11/23/2020	11/24/2020	—	—	—	—	15,780(5)	—
Noel Donnelly	11/11/2021	10/15/2021	—	207,000(4)	10.68	11/11/2031	—	—
Jaya Goyal, Ph.D.	11/11/2021	10/15/2021	—	152,900(4)	10.68	11/11/2031	—	—

(1) All stock options have been granted pursuant to the terms of our 2020 Stock Plan. Upon certain terminations of employment in connection with a change in control, vesting of unvested options and stock awards is fully accelerated, as described above under "—Employment Agreements with our Named Executive Officers".

(2) The market price of our common stock is based on an assumed initial offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus.

(3) This stock option was granted with 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 holder's employment prior to meeting the vesting conditions, we have the right to repurchase any unvested shares at the original purchase price. The stock option vests over four years following the vesting commencement date, with 25% of such shares vesting on the first anniversary of the vesting commencement date, and the remaining shares vesting in 36 equal monthly installments, subject to the executive's continued service through each vesting date.

(4) The stock option vests over four years following the vesting commencement date, with 25% of such shares vesting on the first anniversary of the vesting commencement date, and the remaining shares vesting in 36 equal monthly installments, subject to the executive's continued service through each vesting date.

(5) Represents the number of unvested shares of our common stock that Dr. Godfrey held as of December 31, 2021, adjusted to reflect the 10:1 stock split, which occurred in November 2020, or the Stock Split. See the section titled "Equity Compensation" for a discussion of the Limited Options that were granted to Dr. Godfrey in 2020 and the subsequent treatment of the Limited Options. These unvested shares shall fully vest in the event of a "change in control" as defined in Dr. Godfrey's stock restriction agreement.

Employee benefits and equity compensation plans

PepGen Inc. 2020 Stock Plan

Our board of directors adopted and our stockholders approved our 2020 Stock Plan, or the 2020 Plan, in November 2020. Our 2020 Plan allows for the grant of incentive stock options, non-qualified stock options and restricted stock units to our employees, outside directors and consultants of the company, the parent, or any of our subsidiary corporations.

Authorized Shares. No shares will be available for future issuance under the 2020 Plan following the effectiveness of the registration statement of which this prospectus forms a part. However, our 2020 Plan will continue to govern outstanding awards granted thereunder. As of December 31, 2021, we reserved an aggregate of 2,396,882 shares of our common stock for issuance of stock options and other equity awards under the 2020 Plan. The number is subject to adjustment in the event of a stock split, stock dividend, combination or

consolidation of outstanding shares, reclassification, or other change in our capitalization. As of December 31, 2021, stock options to purchase 1,932,273 shares of our common stock at a weighted average exercise price of $7.33 per share, and no shares of restricted stock were outstanding under the 2020 Plan and 464,609 shares remained available for issuance under the 2020 Plan.

Any shares of stock underlying awards that are terminated, surrendered or cancelled, are forfeited in whole or in part or otherwise result in shares of common stock not being issued are currently added back to the shares of common stock available for issuance under the 2020 Plan. Following this offering, such shares will be added to the shares of common stock available for issuance under the 2022 Plan.

Administration. The 2020 Plan may be administered by one or more committees, each consisting, as required by applicable law, of one or more members of the board of directors who have been appointed by the board of directors. Each committee shall have such authority and be responsible for such functions as the board of directors has assigned to it. If no committee has been appointed, the entire board of directors shall administer the 2020 Plan. Subject to the provisions of the 2020 Plan, the board of directors has full authority and discretion to take any actions it deems necessary or advisable for the administration of the 2020 Plan. Persons eligible to participate in the 2020 Plan will be employees, directors and consultants of our company, its parent, or any subsidiary, as selected from time to time by our board of directors (or a committee thereof) in its discretion.

Options. The 2020 Plan permits the granting of (1) options to purchase common stock intended to qualify as incentive stock options under Section 422 of the Internal Revenue Code of 1986, as amended, or the Code, and (2) options that do not so qualify. The per share 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 the common stock on the date of grant, subject to certain exceptions. The term of each option is fixed by our board of directors but may not exceed 10 years from the date of grant. Our board of directors determines at what time or times each option may be exercised.

Restricted Stock Units. The 2020 Plan allows for the grant of restricted stock units, subject to such conditions and restrictions as our board of directors may determine in its sole discretion.

Transferability. Pursuant to the 2020 Plan, our awards are subject to transfer restrictions as our board of directors may determine. The 2020 Plan generally does not allow for the transfer or assignment of awards, other than, at the discretion of the plan administrator, by will or the laws of descent and distribution, or by instrument to an inter vivos or testamentary trust in which the award is passed to beneficiaries upon the death of the participant.

Corporate Transaction. The 2020 provides that in the event the company is a party to a merger or consolidation, or in the event of a sale of all or substantially all of the company's stock or assets, all shares of common stock acquired under the 2020 Plan and all awards outstanding on the effective date of the transaction shall be treated in the manner described in the definitive transaction agreement (or, in the event the transaction does not entail a definitive agreement to which the Company is party, in the manner determined by the administrator). The treatment specified in the transaction agreement or as determined by the board of directors may include, without limitation, one or more of the following with respect to each outstanding award: (a) continuation, assumption or substitution with a comparable award; accelerate the vesting of the award, (b) cancellation in exchange for payment with respect to the vested portion of an award equal to the excess of the value, as determined by the board of directors, of the property received by the holder of a share of stock in the transaction, over, if applicable, the per share exercise price of the award (or no payment if the per share exercise price exceeds the value of the property received in the transaction); (c) cancellation of an option for no consideration, provided that the holder is given notice and the opportunity to exercise the option to the extent vested or will become vested as of the effective date of the transaction during a period of not less than five business days preceding the effective date of the transaction; or (d) in the case of an option, (A) suspension of the optionee's right to exercise the option during a limited period of time preceding the closing of the transaction if

such suspension is administratively necessary to facilitate the closing of the transaction and/or (B) termination of any right the optionee has to exercise the option prior to vesting in the shares subject to the option (i.e., "early exercise"), such that following the closing of the transaction the option may only be exercised to the extent it is vested.

The 2020 Plan shall terminate automatically 10 years after the later of (i) the date when the board of directors adopted the plan or (ii) the date when the board of directors approved the most recent increase in the number of shares reserved under the plan that was also approved by the Company's stockholders. Our board of directors may amend, suspend, or terminate the 2020 Plan at any time, subject to stockholder approval where such approval is required by applicable law.

Nonqualified Deferred Compensation

Our named executive officers did not participate in, or earn any benefits under, a nonqualified deferred compensation plan sponsored by us during fiscal 2020 or 2021.

401(k) and Pension Scheme

We currently maintain a 401(k) retirement savings plan for our employees, including our named executive officers, who satisfy certain eligibility requirements. Our named executive officers are eligible to participate in the 401(k) plan on the same terms as other full-time employees. Our 401(k) plan is intended to qualify for favorable tax treatment under Section 401(a) of the Code, and contains a cash or deferred feature that is intended to meet the requirements of Section 401(k) of the Code. Our 401(k) plan provides for a non-elective employer contribution equal to 3% of eligible compensation, up to $20,500, regardless of an employee's contribution. We believe that providing a vehicle for tax-deferred retirement savings though our 401(k) plan adds to the overall desirability of our executive compensation package and further incentivizes our employees, including our named executive officers, in accordance with our compensation policies.

The Company currently maintains a personal pension plan provided by the People's Pension Scheme pursuant to which it makes contributions to our UK eligible employee's personal pension plan as we select. Each participant may make additional contributions at his or her discretion. Under this plan, the Company contributes a certain percentage of Dr. Godfrey's base salary to this group personal pension scheme.

Other Benefits

Our named executive officers are eligible to participate in our employee benefit plans on the same basis as our other employees, including our health and welfare plans.

DIRECTOR COMPENSATION

Non-employee director compensation table

The following table presents the total compensation for each person who served as a non-employee member of our board of directors during the fiscal year ended December 31, 2021. 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 non-employee members of our board of directors in 2021 for their services as members of our board of directors. James McArthur, Ph.D., our Chief Executive Officer, received no additional compensation for his service as a director. See the section titled "Executive Compensation" for more information on the compensation paid to or earned by Dr. McArthur for the year ended December 31, 2021. The USD amounts below are based on a weighted-average exchange ratio of GBP £0.7265 to USD $1.00 for the reporting period as set forth on Bloomberg:

Name	Fees Earned or Paid in Cash ($)	Option Awards ($) (1)(2)	All Other Compensation ($)	Total ($)
Matthew Wood, M.D., Ph.D.	—	—	85,253(4)	85,808
Christopher Ashton, Ph.D.	—	96,479	—	96,479
Josh Resnick, M.D., M.B.A.	—	—	—	—
Ramin Farzaneh-Far, M.D.	—	118,105	—	—
Laurie Keating(3)	2,362	737,753	—	740,115
Heidi Henson(3)	10,417	335,476	—	345,892

(1) Amounts reported represent the grant date fair value of options to shares of our common stock, calculated in accordance with ASC Topic 718. Such grant date fair value does not take into account any estimated forfeitures.

(2) As of December 31, 2021, Dr. Ashton and Dr. Farzaneh-Far, held options to purchase 17,380 and 19,650 shares of our common stock, respectively and Dr. Wood held 55,000 unvested shares of our common stock. The rest of the non-employee directors did not hold any options to purchase shares of our common stock or unvested shares of our common stock.

(3) Laurie Keating and Heidi Henson joined our board of directors in December 2021 and July 2021, respectively.

(4) Amounts reported represent fees paid to Dr. Wood pursuant to a consultancy agreement with PepGen Limited.

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 holders 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 Compensation" and "Director Compensation—Non-Employee Director Compensation."

Private Placements of Securities

Series A-1 Convertible Preferred Stock Financing

In November 2020, we elected to convert 1,372,970 shares of Class A and Class B common stock that were previously sold for aggregate proceeds of $6.4 million into shares of Series A-1 convertible stock at a price of $4.6372 per share. The following table summarizes purchases of our Series A-1 convertible preferred stock by related persons:

Participant	Shares of Series A Preferred Stock	Total Purchase Price ($)
Oxford Science Enterprises plc(1)	1,285,720	5,962,141

(1) Oxford Science Enterprises plc beneficially owns more than five percent of our outstanding capital stock. Christopher Ashton, Ph.D., is an affiliate of Oxford Sciences Enterprises plc and a member of our board of directors.

Series A-2 Convertible Preferred Stock Financing

In November 2020, with subsequent closings in May 2021 and July 2021, we sold an aggregate of 3,939,069 shares of Series A-2 convertible preferred stock at a purchase price of $11.4240 per share for aggregate proceeds of $45.0 million. The following table summarizes purchases of our Series A-2 convertible preferred stock by related persons:

Participant	Shares of Series A Preferred Stock	Total Purchase Price ($)
Entities Affiliated with RA Capital Management, L.P.(1)	2,801,119	31,999,983
Oxford Science Enterprises plc(2)	962,884	10,999,987

(1) Entities affiliated with RA Capital Management, L.P., or RA Capital, beneficially own more than five percent of our outstanding capital stock. Joshua Resnick, M.D., M.B.A. is an affiliate of RA Capital and is a member of our board of directors.

(2) Oxford Science Enterprises plc beneficially owns more than five percent of our outstanding capital stock. Christopher Ashton, Ph.D., is an affiliate of Oxford Science Enterprises plc and a member of our board of directors.

In connection with the Series A-2 convertible preferred stock financing, we also issued to entities affiliated with RA Capital warrants to purchase, in the aggregate, up to 35,529 shares of Series A-2 convertible preferred stock.

Series B Convertible Preferred Stock Financing

In July 2021, we sold an aggregate of 7,234,766 shares of Series B Convertible Preferred Stock at a purchase price of $15.5499 per share for aggregate proceeds of $112.5 million. The following table summarizes purchases of our Series B Convertible Preferred Stock by related persons:

Participant	Shares of Series B Preferred Stock	Total Purchase Price ($)
Entities Affiliated with RA Capital(1)	2,154,354	33,499,990
Oxford Science Enterprises plc(2)	1,575,572	24,499,987
KAVRA 16 LLC(3)	1,093,254	16,999,990

(1) Entities affiliated with RA Capital beneficially own more than five percent of our outstanding capital stock. Joshua Resnick, M.D., M.B.A. is an affiliate of RA Capital and is a member of our board of directors.
(2) Oxford Science Enterprises plc beneficially owns more than five percent of our outstanding capital stock. Christopher Ashton, Ph.D., is an affiliate of Oxford Science Enterprises plc and a member of our board of directors.
(3) KAVRA 16 LLC beneficially owns more than five percent of our outstanding capital stock.

License Agreement with OUI and MRC

In March 2018, we entered into a license agreement, or OUI/MRC License, with Oxford University Innovation Limited, or OUI, and the Medical Research Council of United Kingdom Research and Innovation, or MRC, which was subsequently amended in December 2018 and further amended and restated in November 2020. Each of OUI and MRC and their affiliates hold shares of the our Series A-1 and Series A-2 preferred stock and Class A common stock. For more information about the OUI/MRC License, see the section titled “Business—Licensing Agreements” located elsewhere in this prospectus.

Other Agreements with Our Stockholders

In connection with our Series B Convertible Preferred Stock financing, we entered into an amended and restated investors’ rights, amended and restated voting and amended and restated right of first refusal and co-sale agreements containing registration rights, information rights, voting rights and rights of first refusal, among other things, with certain holders of our preferred stock and certain holders of our common stock. These stockholder agreements will terminate upon the closing of this offering, except for the registration rights granted under our investors’ rights agreement, as more fully described in “Description of Capital Stock—Registration Rights.”

Indemnification Agreements

We have entered into agreements to indemnify our directors and executive officers. These agreements will, among other things, require us to indemnify these individuals for certain expenses (including attorneys’ fees), judgments, fines and settlement amounts reasonably incurred by such person in any action or proceeding, including any action by or in our right, on account of any services undertaken by such person on our behalf 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 five percent 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 have adopted a written related party transactions policy 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 is part is declared effective by the SEC.

PRINCIPAL STOCKHOLDERS

The following table sets forth certain information known to us regarding beneficial ownership of our capital stock as of December 31, 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 five percent 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 with respect to the securities as well as any shares of common stock that the individual or entity has the right to acquire within 60 days of December 31, 2021 through the exercise of stock options or other rights. These shares are deemed to be outstanding and beneficially owned by the person holding those options for the purpose of computing the percentage ownership of that person, but they are not treated as outstanding for the purpose of computing the percentage ownership of any other person. 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.

Each individual or entity shown on the table has furnished information with respect to beneficial ownership. Unless otherwise indicated, the address for each beneficial owner is c/o PepGen Inc., 245 Main St. 2nd Floor, Cambridge, Massachusetts 02142.

The percentage of beneficial ownership prior to this offering in the table below is based on shares of common stock deemed to be outstanding as of December 31, 2021, assuming the conversion of all outstanding shares of our preferred stock immediately prior to the completion of this offering, 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.

Name of Beneficial Owner	Number of Shares Beneficially Owned	Percentage of Shares Outstanding Beneficially Owned	
		Before Offering	After Offering
5% or Greater Stockholders			
Entities Affiliated with RA Capital(1)			
Oxford Science Enterprises plc(2)			
KAVRA 16 LLC(3)			
Directors, Named Executive Officers and Other Executive Officers:			
Christopher Ashton, Ph.D.(4)			
Joshua Resnick, M.D., M.B.A.(5)			
Heidi Henson(6)			
Laurie B. Keating, J.D.(7)			
James McArthur, Ph.D.(8)			

Name of Beneficial Owner	Number of Shares Beneficially Owned	Percentage of Shares Outstanding Beneficially Owned	
		Before Offering	After Offering
Noel Donnelly, M.B.A.(9)			
Jaya Goyal, Ph.D.(10)			
Sonia Bracegirdle, D.Phil.(11)			
Niels Svenstrup, Ph.D.(12)			
Michelle L. Mellion, M.D.			
All executive officers and directors as a group (10 persons)			

* Less than one percent.

(1) Consists of (i) 2,172,189 shares of common stock issuable upon conversion of Series A-2 Convertible Preferred Stock, 1,508,048 shares of common stock issuable upon conversion of Series B Convertible Preferred Stock and 27,552 shares of common stock issuable upon the exercise of Series A-2 preferred warrants held by RA Capital Healthcare Fund, L.P., or RACHF, (ii) 420,168 shares of common stock issuable upon conversion of Series A-2 Convertible Preferred Stock, 646,306 shares of common stock issuable upon conversion of Series B Convertible Preferred Stock and 5,329 shares of common stock issuable upon the exercise of Series A-2 preferred warrants held by RA Capital Nexus Fund II, L.P., or Nexus II, and (iii) 208,762 shares of common stock issuable upon conversion of Series A-2 Convertible Preferred Stock and 2,648 shares of common stock issuable upon the exercise of Series A-2 preferred warrants held by Blackwell Partners LLC – Series A, or Blackwell. RA Capital Management, LP, or RACM, is the investment adviser to RACHF, Nexus II and Blackwell. RA Capital Healthcare Fund GP, LLC is the general partner of RACHF. The general partner of Nexus II is RA Capital Nexus Fund II GP, LLC. Peter Kolchinsky and Rajeev Shah are the managing members of RACM, RA Capital Healthcare Fund GP, LLC and RA Capital Nexus Fund II GP, LLC and have the power to vote or dispose of the shares held by each entity. Joshua Resnick, a member of our board of directors, serves as a Managing Director at RACM. The business address of RA Capital is 200 Berkeley Street, 18th Floor, Boston, Massachusetts 02116.

(2) Consists of (i) 121,000 shares of Class A common stock, (ii) 1,285,720 shares of common stock issuable upon conversion of our Series A-1 Convertible Preferred Stock, (iii) 962,884 shares of common stock issuable upon conversion of our Series A-2 Convertible Preferred Stock and (iv) 1,575,572 shares of common stock issuable upon conversion of our Series B Convertible Preferred Stock. Christopher Ashton, a member of our board of directors, serves as an Advisor to Oxford Science Enterprises plc. The business address for each person and entity named in this footnote is 46 Woodstock Road, Oxford, OX2 6HT, United Kingdom.

(3) Consists of .

(4) Consists of (i) shares of common stock and (ii) shares of common stock that the person has the right to acquire within 60 days of through the exercise of stock options.

(5) Consists of (i) shares of common stock and (ii) shares of common stock that the person has the right to acquire within 60 days of through the exercise of stock options.

(6) Consists of (i) shares of common stock and (ii) shares of common stock that the person has the right to acquire within 60 days of through the exercise of stock options.

(7) Consists of (i) shares of common stock and (ii) shares of common stock that the person has the right to acquire within 60 days of through the exercise of stock options.

(8) Consists of (i) shares of common stock and (ii) shares of common stock that the person has the right to acquire within 60 days of through the exercise of stock options.

(9) Consists of (i) shares of common stock and (ii) shares of common stock that the person has the right to acquire within 60 days of through the exercise of stock options.

(10) Consists of (i) shares of common stock and (ii) shares of common stock that the person has the right to acquire within 60 days of through the exercise of stock options.

(11) Consists of (i) shares of common stock and (ii) shares of common stock that the person has the right to acquire within 60 days of through the exercise of stock options.

(12) Consists of (i) shares of common stock and (ii) shares of common stock that the person has the right to acquire within 60 days of through the exercise of stock options.

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 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 December 31, 2021, 1,051,720 shares of our common stock were outstanding and held by 14 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.

Warrants

In connection with the Series A-2 Convertible Preferred Stock financing on November 24, 2020, we also issued to entities affiliated with RA Capital warrants to purchase, in the aggregate, up to 35,529 shares of

Series A-2 Convertible Preferred Stock at a price per share equal to $11.42 and with a term ending upon the earlier of an underwritten public offering pursuant to an effective registration statement under the Securities Act, the consummation of a Deemed Liquidation Event, as such term is defined in our amended and restated certificate of incorporation or 10 years. Unless earlier exercised, these warrants will automatically be net-exercised in connection with our initial public offering.

Registration rights

Upon the completion of this offering, the holders of shares 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 our Investor Rights Agreement, dated July 30, 2021, or the 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 pro rata on the basis of the number of registrable securities registered on their behalf (other than the counsel of an individual holder, which is borne solely by the holder engaging such counsel).

Demand registration rights

Beginning 180 days after the completion of this offering, the holders of shares 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 Investor Rights Agreement, we will be required, upon the written request of at least 40% of holders of the registrable securities then outstanding that would result in an aggregate offering price of at least $15.0 million, to file a registration statement 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, the holders of shares 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 the holders of at least 30% of the registrable securities then outstanding to sell registrable securities at an aggregate price of at least $5.0 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 pursuant to this provision of the Investor Rights Agreement.

Piggyback registration rights

Upon the completion of this offering, the holders of shares 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

The 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 (1) with respect to a holder that then holds less than 1% of our outstanding shares of capital stock, such time after the completion of this offering as an 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-month period without registration or (2) on the third anniversary of the completion of this offering.

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 provides 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 provides 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

Upon the completion of this offering, our certificate of incorporation will provide 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.

Exclusive Forum

Our bylaws to be adopted upon the completion of this offering will 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 or our certificate of incorporation or bylaws (including the interpretation, validity or enforceability thereof) or (4) any action asserting a claim that is governed by the internal affairs doctrine; provided, however, that this provision shall not apply to any causes of action arising under the Securities Act or the Exchange Act. In addition, our amended and restated bylaws will provide that, unless we consent to 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 under the Securities Act (the Federal Forum Provision). 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 judgements or results than other courts. In addition, there is uncertainty as to whether our Federal Forum Provision 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 intend to apply to list our common stock on The Nasdaq Global Market under the trading symbol "PEPG".

Transfer agent and registrar

The transfer agent and registrar for our common stock will be . The transfer agent and registrar's address is , and its telephone number is .

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 , 2022, upon the completion of this offering, shares of our common stock will be outstanding, 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, and shares of our common stock are restricted shares of common stock subject to time-based vesting terms.

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 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 , 2022; 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 effectiveness of the registration statement of which this prospectus forms a part 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 the representatives, subject to certain exceptions. See the section titled "Underwriting" appearing elsewhere in this prospectus for more information.

Rule 10b5-1 Trading Plans

Following the completion of this offering, certain of our officers, directors and significant stockholders may adopt written plans, known as Rule 10b5-1 trading plans, in which they will contract with a broker to buy or sell shares of our common stock on a periodic basis to diversify their assets and investments. Under these 10b5-1 trading plans, a broker may execute trades pursuant to parameters established by the officer, director or stockholder when entering into the plan, without further direction from such officer, director or stockholder. Such sales would not commence until the expiration of the applicable lock-up agreements entered into by such officer, director or stockholder in connection with this offering.

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 statement. See the section titled "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.

Warrants

The 35,529 shares of Series A-2 Convertible Preferred Stock issuable under the Warrants may be available for sale in the open market once issued and converted to common stock, subject to resale restrictions under Rule 144 for certain affiliates of ours that may hold such warrants at the time of such exercise.

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR NON-U.S. HOLDERS OF COMMON STOCK

The following discussion is a summary of 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 issued pursuant to this offering, but does not purport to be a complete analysis of all potential tax effects. For purposes of this discussion, a non-U.S. holder means a beneficial owner of our common stock that is, for U.S. federal income tax purposes:

- a non-resident alien individual;
- a corporation or any other organization taxable as a corporation for U.S. federal income tax purposes that is created or organized in or under laws other than the laws of the United States, any state thereof, or the District of Columbia;
- an estate, the income of which is not subject to U.S. federal income tax on a net income basis; or
- a trust that (1) (a) has not made an election to be treated as a U.S. person under applicable U.S. Treasury regulations and (b) either (i) is not subject to the primary supervision of a court within the United States or (ii) is not subject to the substantial control of one or more U.S. persons or (2) the income of which is not subject to U.S. federal income tax on a net income basis.

This discussion does not address the tax treatment of partnerships or other entities or arrangements that are treated as pass-through entities for U.S. federal income tax purposes or persons that hold their shares of our common stock through partnerships or such other pass-through entities. The tax treatment of a partner in a partnership or other entity or arrangement that is treated as a pass-through entity for U.S. federal income tax purposes generally will depend upon the status of the partner and the activities of the partnership. A partner in a partnership or an investor in any other pass-through entity that will hold our common stock should consult his, her or its 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 and will not seek any rulings from the Internal Revenue Service, or the IRS, regarding the matters discussed below and there can be no assurance that the IRS will not challenge one or more of the tax consequences described herein or that any such challenge would not be sustained by a court. We assume in this discussion that a non-U.S. holder holds shares of our common stock as a "capital asset" within the meaning of Section 1221 of the Code, which is 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, including the alternative minimum tax, the Medicare tax on net investment income, the special tax accounting rules under Section 451(b) of the Code, the rules relating to "qualified small business stock," any U.S. federal tax other than the income tax (including, for example, the estate or gift tax), or any aspects of U.S. state, local or non-U.S. taxes. 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:

1. insurance companies;
2. tax-exempt or governmental organizations;

3. financial institutions;

4. brokers or dealers in securities;

5. regulated investment companies;

6. pension plans;

7. "controlled foreign corporations," "passive foreign investment companies," and corporations that accumulate earnings to avoid U.S. federal income tax;

8. "qualified foreign pension funds" as defined in Section 897(l)(2) of the Code or entities wholly owned by a "qualified foreign pension fund";

9. persons that own, or are deemed to own, more than 5% of our capital stock;

10. persons deemed to sell our common stock under the constructive sale provisions of the Code;

11. persons that hold our common stock as part of a straddle, hedge, conversion transaction, synthetic security or other integrated investment;

12. persons that hold or receive our common stock pursuant to the exercise of any employee stock option or otherwise as compensation; and

13. U.S. expatriates and 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 non-U.S. holders of our common stock should consult their tax advisors with respect to the U.S. federal, state, local, estate and non-U.S. tax consequences of the purchase, ownership and disposition of our common stock.

Distributions on our common stock

As described in the "Dividend Policy" section above, we do not intend to pay any dividends in cash or property on our common stock to our stockholders in the foreseeable future. Distributions of cash or property, if any, on shares of 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 return of the non-U.S. holder's investment, up to such holder's adjusted tax basis in the shares of common stock (not below zero). Any remaining excess will be treated as capital gain, subject to the tax treatment described below in "Gain on sale, exchange or other taxable disposition of shares 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 U.S. federal withholding tax at a rate of 30% of the gross amount of the dividends or such lower rate specified by an applicable income tax treaty between the United States and such holder's country of residence, if such holder is qualified for the benefits of such tax treaty. A non-U.S. holder of shares 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 properly executed IRS Form W-8BEN or W-8BEN-E (or a successor form) to the applicable withholding agent and satisfy applicable certification and other requirements. 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 generally obtain a refund or credit of any excess amounts 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 delivers a properly executed IRS Form W-8ECI, stating that the dividends are so connected and satisfies applicable certification and disclosure requirements. However, such U.S. effectively connected income, net of specified deductions and credits, is taxed at the same 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 specified by an applicable income tax treaty between the United States and such holder's country of residence.

Gain on sale, exchange or other taxable disposition of shares of our common stock

Subject to the discussion below under "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, exchange or other taxable disposition of shares of our common stock unless:

1. 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 same 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 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) may also apply as described above in "Distributions on our common stock" also may apply;

2. 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 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, if any; or

3. we are, or have been, at any time during the five-year period preceding such sale or 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 five-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 gain derived from the disposition at the U.S. federal income tax rates applicable to United States persons (as defined in the Code). 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 and applicable U.S. Treasury regulations) 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.

Backup withholding and information reporting

We must report annually to the IRS and to each non-U.S. holder the gross amount of the distributions on shares of our common stock paid to such holder and the tax withheld, if any, with respect to such distributions. 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 shares of our common stock. Generally, a non-U.S. holder will comply with such procedures if it provides a properly executed IRS Form W-8BEN, W-8BEN-E or W-8ECI (or other applicable IRS Form W-8), or otherwise meets documentary evidence requirements for establishing that it is a non-U.S. holder, or otherwise establishes an exemption. 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.

Information reporting and backup withholding will generally apply to the proceeds of a disposition of shares of our common stock by a non-U.S. holder effected by or through the U.S. office of any broker, U.S. or non-U.S., 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 certain U.S. connections 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 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. 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, or FATCA, generally imposes a U.S. federal withholding tax at a rate of 30% on payments of dividends on 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. Such withholding may also apply to payments of gross proceeds of sales or other dispositions of shares of our common stock, although under proposed U.S. Treasury regulations (the preamble to which specifies that taxpayers, including withholding agents, are generally permitted to rely on them pending finalization), no withholding will apply to payments of gross proceeds. 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 shares of 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.

The preceding discussion of material U.S. federal tax considerations is for prospective investors' information only. It is not tax advice. Prospective investors should consult their own tax advisors regarding the particular U.S. federal, state, local, and non-U.S. tax consequences of purchasing, holding, and disposing of our common stock, including the consequences of any proposed changes in applicable laws, as well as tax consequences arising under any state, local, non-U.S. or U.S. federal non-income tax laws such as estate and gift tax or under any applicable tax treaty.

UNDERWRITING

BofA Securities, Inc., SVB Securities LLC and Stifel, Nicolaus & Company, Incorporated are acting as representatives of each of the underwriters named below. Subject to the terms and conditions set forth in an underwriting agreement among us and the underwriters, we have agreed to sell to the underwriters, and each of the underwriters has agreed, severally and not jointly, to purchase from us, the number of shares of common stock set forth opposite its name below.

Underwriter	Number of Shares
BofA Securities, Inc.	
SVB Securities LLC	
Stifel, Nicolaus & Company, Incorporated	
Wedbush Securities Inc.	
Total	

Subject to the terms and conditions set forth in the underwriting agreement, the underwriters have agreed, severally and not jointly, to purchase all of the shares sold under the underwriting agreement if any of these shares are purchased. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the non-defaulting underwriters may be increased or the underwriting agreement may be terminated.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments the underwriters may be required to make in respect of those liabilities.

The underwriters are offering the shares, subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel, including the validity of the shares, and other conditions contained in the underwriting agreement, such as the receipt by the underwriters of officer's certificates and legal opinions. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Commissions and Discounts

The representatives have advised us that the underwriters propose initially to offer the shares to the public at the public offering price set forth on the cover page of this prospectus and to dealers at that price less a concession not in excess of $ per share. After the initial offering, the public offering price, concession or any other term of the offering may be changed.

The following table shows the public offering price, underwriting discount and proceeds before expenses to us. The information assumes either no exercise or full exercise by the underwriters of their option to purchase additional shares.

	Per Share	Without Option	With Option
Public offering price	$	$	$
Underwriting discount	$	$	$
Proceeds, before expenses, to us	$	$	$

The expenses of the offering, not including the underwriting discount, are estimated at $ and are payable by us. We have also agreed to reimburse the underwriters for certain of their expenses in an amount up to $.

Option to Purchase Additional Shares

We have granted an option to the underwriters, exercisable for 30 days after the date of this prospectus, to purchase up to additional shares at the public offering price, less the underwriting discount. If the underwriters exercise this option, each will be obligated, subject to conditions contained in the underwriting agreement, to purchase a number of additional shares proportionate to that underwriter's initial amount reflected in the above table.

No Sales of Similar Securities

We, our executive officers and directors and our other existing security holders have agreed not to sell or transfer any common stock or securities convertible into, exchangeable for, exercisable for, or repayable with common stock, for 180 days after the date of this prospectus without first obtaining the written consent of BofA Securities, Inc., SVB Securities LLC and Stifel, Nicolaus & Company, Incorporated. Specifically, we and these other persons have agreed, with certain limited exceptions, not to directly or indirectly

- offer, pledge, sell or contract to sell any common stock,
- sell any option or contract to purchase any common stock,
- purchase any option or contract to sell any common stock,
- grant any option, right or warrant for the sale of any common stock,
- lend or otherwise dispose of or transfer any common stock,
- request or demand that we file or make a confidential submission of a registration statement related to the common stock, or
- enter into any swap or other agreement that transfers, in whole or in part, the economic consequence of ownership of any common stock whether any such swap or transaction is to be settled by delivery of shares or other securities, in cash or otherwise; or
- publicly disclose the intention to do any of the foregoing.

This lock-up provision applies to common stock and to securities convertible into or exchangeable or exercisable for or repayable with common stock. It also applies to common stock owned now or acquired later by the person executing the agreement or for which the person executing the agreement later acquires the power of disposition.

Nasdaq Global Market Listing

We expect the shares to be approved for listing on the Nasdaq Global Market, subject to notice of issuance, under the symbol "PEPG."

Determination of Offering Price

Before this offering, there has been no public market for our common stock. The initial public offering price will be determined through negotiations between us and the representatives. In addition to prevailing market conditions, the factors to be considered in determining the initial public offering price are

- the valuation multiples of publicly traded companies that the representatives believe to be comparable to us,

- our financial information,
- the history of, and the prospects for, our company and the industry in which we compete,
- an assessment of our management, its past and present operations, and the prospects for, and timing of, our future revenues,
- the present state of our development, and
- the above factors in relation to market values and various valuation measures of other companies engaged in activities similar to ours.

An active trading market for the shares may not develop. It is also possible that after the offering the shares will not trade in the public market at or above the initial public offering price.

The underwriters do not expect to sell more than 5% of the shares in the aggregate to accounts over which they exercise discretionary authority.

Price Stabilization, Short Positions and Penalty Bids

Until the distribution of the shares is completed, SEC rules may limit underwriters and selling group members from bidding for and purchasing our common stock. However, the representatives may engage in transactions that stabilize the price of the common stock, such as bids or purchases to peg, fix or maintain that price.

In connection with the offering, the underwriters may purchase and sell our common stock in the open market. These transactions may include short sales, purchases on the open market to cover positions created by short sales and stabilizing transactions. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in the offering. “Covered” short sales are sales made in an amount not greater than the underwriters’ option to purchase additional shares described above. The underwriters may close out 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 close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the option granted to them. “Naked” short sales are sales in excess of such option. The underwriters must close out any 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 our 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 shares 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.

Similar to other purchase transactions, the underwriters’ purchases to cover the syndicate short sales may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. The underwriters may conduct these transactions on the Nasdaq Global Market, in the over-the-counter market or otherwise.

Neither we nor any of the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, neither we nor any of the underwriters make any representation that the representatives will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

Electronic Distribution

In connection with the offering, certain of the underwriters or securities dealers may distribute prospectuses by electronic means, such as e-mail.

Other Relationships

Some of the underwriters and their affiliates have engaged in, and may in the future engage in, investment banking and other commercial dealings in the ordinary course of business with us or our affiliates. They have received, or may in the future receive, customary fees and commissions for these transactions.

In addition, in the ordinary course of their business activities, the underwriters and their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

European Economic Area

In relation to each Member State of the European Economic Area, or Relevant State, no Shares have been offered or will be offered pursuant to this offering to the public in that Relevant State prior to the publication of a prospectus in relation to the Shares which has been approved by the competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the competent authority in that Relevant State, all in accordance with the Prospectus Regulation, except that offers of shares may be made to the public in that Relevant State at any time under the following exemptions under the Prospectus Regulation:

a. to any legal entity which is a qualified investor as defined under the Prospectus Regulation

b. to fewer than 150 natural or legal persons (other than qualified investors as defined under the Prospectus Regulation), subject to obtaining the prior consent of the representatives for any such offer; or

c. in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of Shares shall require the Issuer or any Manager to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

Each person in a Relevant State who initially acquires any Shares or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with the Company and the Managers that it is a qualified investor within the meaning of the Prospectus Regulation.

In the case of any Shares being offered to a financial intermediary as that term is used in Article 5(1) of the Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the Shares acquired by it in the offer 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 circumstances which may give rise to an offer to the public other than their offer or resale in a Relevant State to qualified investors, in circumstances in which the prior consent of the representatives has been obtained to each such proposed offer or resale.

The Company, the underwriters and their affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements. The above selling restriction is in addition to any other selling restrictions set out below.

In connection with the offering, the underwriters are not acting for anyone other than the issuer and will not be responsible to anyone other than the issuer for providing the protections afforded to their clients nor for providing advice in relation to the offering.

Notice to Prospective Investors in the United Kingdom

In relation to the United Kingdom, or UK, no Shares have been offered or will be offered pursuant to this offering to the public in the UK prior to the publication of a prospectus in relation to the Shares which has been approved by the Financial Conduct Authority in the UK in accordance with the UK Prospectus Regulation and the FSMA, except that offers of Shares may be made to the public in the UK at any time under the following exemptions under the UK Prospectus Regulation and the FSMA:

a. to any legal entity which is a qualified investor as defined under the UK Prospectus Regulation;

b. to fewer than 150 natural or legal persons (other than qualified investors as defined under the UK Prospectus Regulation), subject to obtaining the prior consent of the representatives for any such offer; or

c. at any time in other circumstances falling within section 86 of the FSMA,

provided that no such offer of Shares shall require the Issuer or any Manager to publish a prospectus pursuant to Section 85 of the FSMA or Article 3 of the UK Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the UK Prospectus Regulation.

Each person in the UK who initially acquires any Shares or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with the Company and the Managers that it is a qualified investor within the meaning of the UK Prospectus Regulation.

In the case of any Shares being offered to a financial intermediary as that term is used in Article 5(1) of the UK Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the Shares acquired by it in the offer 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 circumstances which may give rise to an offer to the public other than their offer or resale in the UK to qualified investors, in circumstances in which the prior consent of the representatives has been obtained to each such proposed offer or resale.

The Company, the underwriters and their affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

For the purposes of this provision, the expression an “offer to the public” in relation to any Shares in the UK means the communication in any form and by any means of sufficient information on the terms of the offer and any Shares to be offered so as to enable an investor to decide to purchase or subscribe for any Shares, 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, and the expression “FSMA” means the Financial Services and Markets Act 2000.

In connection with the offering, the underwriters are not acting for anyone other than the issuer and will not be responsible to anyone other than the issuer for providing the protections afforded to their clients nor for providing advice in relation to the offering.

This document is for distribution only to persons who (i) have professional experience in matters relating to investments and who qualify as investment professionals within the meaning of Article 19(5) of the

Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended, or Financial Promotion Order, (ii) are persons falling within Article 49(2)(a) to (d) ("high net worth companies, unincorporated associations etc.") of the Financial Promotion Order, (iii) are outside the United Kingdom, or (iv) are persons to whom an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000, as amended, or FSMA) in connection with the issue or sale of any securities may otherwise lawfully be communicated or caused to be communicated (all such persons together being referred to as "relevant persons"). This document is directed only at relevant persons and must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this document relates is available only to relevant persons and will be engaged in only with relevant persons.

Notice to Prospective Investors in Switzerland

The shares may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange, or SIX, or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the shares or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, the Company, the shares have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA (FINMA), and the offer of shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Scheme, or CISA. The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of shares.

Notice to Prospective Investors in the Dubai International Financial Centre

This prospectus relates to an Exempt Offer in accordance with the Offered Securities Rules of the Dubai Financial Services Authority, of DFSA. This prospectus is intended for distribution only to persons of a type specified in the Offered Securities Rules of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with Exempt Offers. The DFSA has not approved this prospectus nor taken steps to verify the information set forth herein and has no responsibility for the prospectus. The shares to which this prospectus relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the shares offered should conduct their own due diligence on the shares. If you do not understand the contents of this prospectus you should consult an authorized financial advisor.

Notice to Prospective Investors in Australia

No placement document, prospectus, product disclosure statement or other disclosure document has been lodged with the Australian Securities and Investments Commission, or ASIC, in relation to the offering. This prospectus does not constitute a prospectus, product disclosure statement or other disclosure document under the Corporations Act 2001, or the Corporations Act, and does not purport to include the information required for a prospectus, product disclosure statement or other disclosure document under the Corporations Act.

Any offer in Australia of the shares may only be made to persons, or the Exempt Investors, who are "sophisticated investors" (within the meaning of section 708(8) of the Corporations Act), "professional investors" (within the meaning of section 708(11) of the Corporations Act) or otherwise pursuant to one or more exemptions contained in section 708 of the Corporations Act so that it is lawful to offer the shares without disclosure to investors under Chapter 6D of the Corporations Act.

The shares applied for by Exempt Investors in Australia must not be offered for sale in Australia in the period of 12 months after the date of allotment under the offering, except in circumstances where disclosure to investors under Chapter 6D of the Corporations Act would not be required pursuant to an exemption under section 708 of the Corporations Act or otherwise or where the offer is pursuant to a disclosure document which complies with Chapter 6D of the Corporations Act. Any person acquiring shares must observe such Australian on-sale restrictions.

This prospectus contains general information only and does not take account of the investment objectives, financial situation or particular needs of any particular person. It does not contain any securities recommendations or financial product advice. Before making an investment decision, investors need to consider whether the information in this prospectus is appropriate to their needs, objectives and circumstances, and, if necessary, seek expert advice on those matters.

Notice to Prospective Investors in Hong Kong

The shares have not been offered or sold and will not be offered or sold in Hong Kong, by means of any document, other than (a) to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong and any rules made under that Ordinance; or (b) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies Ordinance (Cap. 32) of Hong Kong or which do not constitute an offer to the public within the meaning of that Ordinance. No advertisement, invitation or document relating to the shares has been or may be issued or has been or may be in the possession of any person for the purposes of issue, 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 of 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" as defined in the Securities and Futures Ordinance and any rules made under that Ordinance.

Notice to Prospective Investors in Japan

The shares have not been and will not be registered under the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948, as amended) and, accordingly, will not be offered or sold, directly or indirectly, in Japan, or for the benefit of any Japanese Person or to others for re-offering or resale, directly or indirectly, in Japan or to any Japanese Person, except in compliance with all applicable laws, regulations and ministerial guidelines promulgated by relevant Japanese governmental or regulatory authorities in effect at the relevant time. For the purposes of this paragraph, "Japanese Person" shall mean any person resident in Japan, including any corporation or other entity organized under the laws of Japan.

Notice to Prospective Investors in Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, the shares were not offered or sold or caused to be made the subject of an invitation for subscription or purchase and will not be offered or sold or caused to be made the subject of an invitation for subscription or purchase, and this prospectus or any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares, has not been circulated or distributed, nor will it be circulated or distributed, whether directly or indirectly, to any person in Singapore other than (i) to an institutional investor (as defined in Section 4A of the Securities and Futures Act (Chapter 289) of Singapore, as modified or amended from time to time, or the SFA) pursuant to 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.

Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

(a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or

(b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

securities or securities-based derivatives contracts (each term as defined in Section 2(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the shares pursuant to an offer made under Section 275 of the SFA except:

(a) to an institutional investor or to a relevant person, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;

(b) where no consideration is or will be given for the transfer;

(c) where the transfer is by operation of law; or

(d) as specified in Section 276(7) of the SFA.

Notice to Prospective Investors in Canada

The shares may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 *Prospectus Exemptions* or subsection 73.3(1) of the *Securities Act* (Ontario), and are permitted clients, as defined in National Instrument 31-103 *Registration Requirements, Exemptions and Ongoing Registrant Obligations*. Any resale of the shares must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 (or, in the case of securities issued or guaranteed by the government of a non-Canadian jurisdiction, section 3A.4) 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.

Notice to Prospective Investors in Israel

This document does not constitute a prospectus under the Israel Securities Law, 5728-1968, and has not been filed with or approved by the Israel Securities Authority nor have the securities offered under this document been approved or disapproved by the Israel Securities Authority or registered for sale in Israel. Our common stock will not be offered or sold to the public in Israel, except that the underwriters may offer and sell such shares, and distribute this prospectus to investors listed in the first addendum (the Addendum) to the Israel

Securities Law, consisting primarily of joint investment in trust funds, provident funds, insurance companies, banks, portfolio managers, investment advisors, members of the TASE, underwriters purchasing for their own account, venture capital funds, entities with equity in excess of NIS 50 million, and "qualified individuals," each as defined in the Addendum (as it may be amended from time to time), collectively referred to as qualified investors. Qualified investors are required to complete and sign a questionnaire to confirm that they fall within the scope of the Addendum. Any resale in Israel, directly or indirectly, to the public of the securities offered by this prospectus is subject to restrictions on transferability and must be effected only in compliance with the Israel Securities Law.

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 Latham & Watkins LLP, New York, New York.

EXPERTS

The consolidated financial statements of PepGen Inc. as of December 31, 2020 and 2021, and for each of the years in the two-year period ended December 31, 2021, have been included herein in reliance upon the report of KPMG LLP, independent registered public accounting firm, appearing elsewhere herein, and upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 (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 this 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 https://pepgen.com/. Upon completion of this offering, you may access, free of charge, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendment 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.

INDEX TO FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors
PepGen Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of PepGen Inc. and subsidiaries (the Company) as of December 31, 2021 and December 31, 2020, the related consolidated statements of operations, comprehensive loss, convertible preferred stock and stockholders' deficit, and cash flows for each of the years in the two-year period ended December 31, 2021, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2021 and December 31, 2020, and the results of its operations and its cash flows for each of the years in the two-year period ended December 31, 2021, in conformity with U.S. generally accepted accounting principles.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated 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 consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated 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 consolidated 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 consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ KPMG LLP

We have served as the Company's auditor since 2021.

Phoenix, Arizona
April 8, 2022

PEPGEN INC.
CONSOLIDATED BALANCE SHEETS
(IN THOUSANDS, EXCEPT SHARE AND PAR VALUE AMOUNTS)

	December 31, 2020	December 31, 2021
Assets		
Current assets:		
Cash and cash equivalents	$ 9,778	$132,895
Other receivables	407	4,744
Prepaid expenses and other current assets	134	2,347
Total current assets	10,319	139,986
Property and equipment, net	323	636
Other assets	—	3,019
Total assets	$10,642	$143,641
Liabilities, convertible preferred stock, and stockholders' deficit		
Current liabilities:		
Accounts payable (including related party amounts of $57 and $33, respectively)	$ 721	$ 3,240
Accrued expenses	117	7,081
Total current liabilities	838	10,321
Preferred stock warrant liability	30	226
Total liabilities	868	10,547
Commitments and contingencies (Note 8)		
Convertible preferred stock:		
Series A-1 convertible preferred stock, $0.0001 par value; 1,372,970 shares authorized, issued, and outstanding as of December 31, 2020 and 2021; $6.4 million liquidation preference as of December 31, 2020 and 2021	8,454	8,454
Series A-2 convertible preferred stock, $0.0001 par value; 3,974,598 shares authorized as of December 31, 2020 and 2021; 700,278 and 3,939,069 shares issued and outstanding as of December 31, 2020 and 2021, respectively; $8.0 million and $45.0 million liquidation preference as of December 31, 2020 and 2021, respectively	7,680	44,639
Series B convertible preferred stock, $0.0001 par value; zero and 7,234,766 shares authorized as of December 31, 2020 and 2021, respectively; zero and 7,234,766 shares issued and outstanding as of December 31, 2020 and 2021, respectively; zero and $112.5 million liquidation preference as of December 31, 2020 and 2021, respectively	—	112,083
Stockholders' deficit:		
Class A common stock, $0.0001 par value; 7,800,000 and 16,000,000 shares authorized as of December 31, 2020 and 2021, respectively; 910,160 and 980,940 shares issued and outstanding as of December 31, 2020 and 2021, respectively	—	—
Class B common stock, $0.00001 par value; 571,430 and zero shares authorized as of December 31, 2020 and 2021, respectively; zero shares issued and outstanding as of December 31, 2020 and 2021	—	—
Additional paid-in capital	119	1,653
Accumulated other comprehensive income (loss)	(8)	17
Accumulated deficit	(6,471)	(33,752)
Total stockholders' deficit	(6,360)	(32,082)
Total liabilities, convertible preferred stock, and stockholders' deficit	$10,642	$143,641

See accompanying notes to consolidated financial statements.

PEPGEN INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(IN THOUSANDS, EXCEPT SHARE AND PER SHARE AMOUNTS)

	Year Ended December 31,	
	2020	2021
Operating expenses:		
Research and development (including related party amounts of $152 and $945, respectively)	$ 1,024	$ 18,999
General and administrative	853	8,110
Total operating expenses	1,877	27,109
Operating loss	(1,877)	(27,109)
Other income (expense)		
Interest income	8	—
Other income (expense), net	(20)	(172)
Total other income (expense), net	(12)	(172)
Net loss	$ (1,889)	$(27,281)
Deemed dividend on Class A and B stock conversion	(2,188)	—
Net loss attributable to common stockholders	$ (4,077)	$ (27,281)
Net loss attributable to common stockholders per share, basic and diluted	$ (4.61)	$ (29.74)
Weighted-average common shares outstanding, basic and diluted	885,311	917,335

See accompanying notes to consolidated financial statements.

PEPGEN INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(IN THOUSANDS)

	Year Ended December 31,	
	2020	2021
Net loss	$(1,889)	$(27,281)
Cumulative translation adjustment arising during the period	—	25
Comprehensive loss	$(1,889)	$(27,256)

See accompanying notes to consolidated financial statements.

PEPGEN INC.
CONSOLIDATED STATEMENTS OF CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT
(IN THOUSANDS, EXCEPT SHARE AMOUNTS)

	Series A-1 Convertible Preferred Stock		Series A-2 Convertible Preferred Stock		Series B Convertible Preferred Stock		Class A Common Stock		Class B Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity (Deficit)
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount				
Balance as of December 31, 2019	—	$ —	—	$ —	—	$ —	1,801,540	$ —	571,430	$ —	$ 6,269	$ (8)	$ (2,394)	$ 3,867
Exercise of stock options	—	—	—	—	—	—	51,720	—	—	—	—	—	—	—
Issuance cost of common stock	—	—	—	—	—	—	—	—	—	—	(3)	—	—	(3)
Conversion of common stock to Series A-1 convertible preferred stock	1,372,970	8,454	—	—	—	—	(801,540)	—	(571,430)	—	(6,266)	—	(2,188)	(8,454)
Issuance of Series A-2 convertible preferred stock, net of issuance cost of $320	—	—	700,278	7,680	—	—	—	—	—	—	—	—	—	—
Vesting conditions placed on previously issued common stock	—	—	—	—	—	—	(141,560)	—	—	—	—	—	—	—
Stock-based compensation expense	—	—	—	—	—	—	—	—	—	—	119	—	—	119
Net loss	—	—	—	—	—	—	—	—	—	—	—	—	(1,889)	(1,889)
Balance as of December 31, 2020	1,372,970	8,454	700,278	7,680	—	—	910,160	—	—	—	119	(8)	(6,471)	(6,360)
Release of common stock from vesting restrictions	—	—	—	—	—	—	70,780	—	—	—	—	—	—	—
Issuance of Series A-2 convertible preferred stock, net of issuance cost of $40	—	—	3,238,791	36,959	—	—	—	—	—	—	—	—	—	—
Issuance of Series B convertible preferred stock, net of issuance cost of $417	—	—	—	—	7,234,766	112,083	—	—	—	—	—	—	—	—
Stock-based compensation expense	—	—	—	—	—	—	—	—	—	—	1,534	—	—	1,534
Net loss	—	—	—	—	—	—	—	—	—	—	—	—	(27,281)	(27,281)
Foreign currency translation adjustment	—	—	—	—	—	—	—	—	—	—	—	25	—	25
Balance as of December 31, 2021	1,372,970	$ 8,454	3,939,069	$44,639	7,234,766	$112,083	980,940	$ —	—	$ —	$ 1,653	$ 17	$ (33,752)	$ (32,082)

See accompanying notes to consolidated financial statements.

PEPGEN INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(IN THOUSANDS)

	Year Ended December 31, 2020	2021
Cash flows from operating activities:		
Net loss	$(1,889)	$ (27,281)
Adjustments to reconcile net loss to cash used in operating activities:		
Depreciation	110	178
Stock-based compensation expense	119	1,534
Change in fair value of preferred stock warrant liability	—	196
Changes in operating assets and liabilities:		
Other receivables	(170)	(4,342)
Prepaids and other current and non-current assets	(80)	(2,215)
Accounts payable	290	2,534
Accounts payable related party	41	(24)
Accrued expenses and other non-current liabilities	(73)	6,821
Net cash used in operating activities	(1,652)	(22,599)
Cash flows from investing activities:		
Purchases of property and equipment	(8)	(500)
Net cash used in investing activities	(8)	(500)
Cash flows from financing activities:		
Proceeds from issuance of Series A-2 convertible preferred stock, net of issuance costs	7,955	36,959
Proceeds from issuance of Series B convertible preferred stock, net of issuance costs	—	112,083
Deferred offering costs	—	(1,386)
Issuance costs of common stock	(3)	—
Net cash provided by financing activities	7,952	147,656
Effect of exchange rate changes on cash	(5)	33
Net increase in cash, cash equivalents and restricted cash	6,287	124,590
Cash, cash equivalents and restricted cash at beginning of period	3,491	9,778
Cash, cash equivalents and restricted cash at end of period	$ 9,778	$134,368
Components of cash, cash equivalents and restricted cash		
Cash and cash equivalents	$ 9,778	$132,895
Restricted cash	—	1,473
Total cash, cash equivalents and restricted cash at end of period	$ 9,778	$134,368
Supplemental noncash investing and financing activities		
Deferred offering costs included in accounts payable and accrued expenses	$ —	$ 160
Series A-2 convertible preferred stock issuance costs included in accounts payable	$ 253	$ —
Series A-2 convertible preferred stock warrants included in issuance costs	$ 30	$ —
Deemed dividend on Class A and B stock conversion	$ 2,188	$ —

See accompanying notes to consolidated financial statements.

PEPGEN INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Nature of Business and Basis of Presentation

PepGen Inc., or the Company or PepGen, headquartered in Boston, Massachusetts, is a biopharmaceutical company developing a transformative oligonucleotide delivery technology and pipeline of product candidates to treat neuromuscular and neurologic diseases with a high unmet medical need.

The Company was initially formed as PepGen Limited on January 25, 2018, in the United Kingdom, or the UK. On November 9, 2020, PepGen Limited completed a corporate reorganization, or the Reorganization. As part of the Reorganization, PepGen Limited formed PepGen Inc., a Delaware corporation with nominal assets and liabilities, for the purpose of consummating the Reorganization. In connection with the Reorganization, the existing stockholders of PepGen Limited exchanged each of its classes of shares of PepGen Limited for the same number and class of common stock of PepGen Inc. on a one-to-one basis. The newly issued stock of PepGen Inc. had substantially identical rights to the exchanged shares of PepGen Limited. As a result of the exchange, PepGen Inc. became the sole stockholder of PepGen Limited. Upon the completion of the Reorganization on November 23, 2020, the historical financial statements of PepGen Limited became the historical financial statements of PepGen Inc. as the Reorganization was deemed to be between entities under common control.

On November 24, 2020, the Company entered into a Series A Preferred Stock and Warrant Purchase Agreement, or the Stock Purchase Agreement. In connection with executing the Stock Purchase Agreement, the Company also amended and restated its certificate of incorporation, or the Restated Certificate of Incorporation. In accordance with the terms of the Stock Purchase Agreement, the Company agreed to issue an aggregate of 3,939,069 shares of Series A-2 convertible preferred stock to new and existing investors at a price of $11.42 per share, in three closings, and elected to convert 1,372,970 shares of outstanding Class A and Class B common stock into shares of Series A-1 convertible preferred stock. A total of 1,051,720 shares of Class A common stock held by certain investors and employees were not modified and continue to exist as Class A common stock. See Note 9 "*Convertible Preferred Stock and Stockholders' Equity*" for further discussion.

Liquidity and Going Concern

Since inception, the Company has not generated any revenue from product sales or other sources and has incurred significant operating losses and negative cash flows from operations. The Company's primary uses of cash and cash equivalents to date have been to fund research and development activities, business planning, establishing and maintaining the Company's intellectual property portfolio, hiring personnel, leasing premises and associated capital expenditures, raising capital, and providing general and administrative support for these operations. As of December 31, 2021, the Company had an accumulated deficit of $33.8 million. To date, the Company has funded operations primarily through private placements of convertible preferred stock. As of December 31, 2021, the Company had raised aggregate gross proceeds of $163.9 million from these private placements and had cash and cash equivalents of $132.9 million.

The accompanying consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and the satisfaction of liabilities and commitments in the normal course of business. The Company believes that its existing cash and cash equivalents, offset by cash used for continued capital expenditures and operating expenses, will be sufficient to allow the Company to fund operations for at least one year from the issuance date of these consolidated financial statements.

As the Company continues to pursue its business plan to successfully develop and obtain regulatory approval for the Company's product candidates, it expects to finance its operations through the sale of equity, debt financings or other capital resources, which could include income from collaborations, strategic partnerships or marketing, distribution, licensing or other strategic arrangements with third parties, or from grants. However, there can be no assurance that any additional financing or strategic transactions will be available to the Company

on acceptable terms, if at all. If events or circumstances occur such that the Company does not obtain additional funding, it may need to delay, reduce or eliminate its product development or future commercialization efforts, which could have a material adverse effect on the Company's business, results of operations or financial condition.

Basis of Presentation and Consolidation

The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States, or U.S. GAAP. The consolidated financial statements include the accounts of PepGen Inc. (a U.S. Corporation) and its wholly owned subsidiaries PepGen Limited (a UK corporation) and PepGen Securities Corp. All intercompany accounts and transactions have been eliminated in consolidation.

2. Summary of Significant Accounting Policies

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. Management bases its estimates and judgments on historical experience, knowledge of current conditions, and beliefs of what could occur in the future, given the available information. On an ongoing basis, management evaluates such estimates and assumptions for continued reasonableness. In particular, management makes estimates with respect to accruals for research and development activities, for the fair value of common stock and convertible preferred stock warrants and stock-based compensation expense. Appropriate adjustments, if any, to the estimates used are made prospectively based upon such periodic evaluation. Actual results could differ materially from those estimates and assumptions.

Segment Reporting

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision-maker, or the CODM. The Company's CODM is its chief executive officer who reviews financial information together with certain operating metrics principally to make decisions about how to allocate resources and to measure the Company's performance. The Company has determined that it operates as a single reportable segment. The Company's CODM evaluates financial information on a consolidated basis. As the Company operates as one operating segment, all required segment financial information is presented in the consolidated financial statements.

Foreign Currency Remeasurement

The Company's reporting currency is the U.S. Dollar. The functional currency of PepGen Limited is the British Pound. The assets and liabilities of PepGen Limited are translated into U.S. Dollars at the exchange rates in effect at each balance sheet date, and the results of operations are translated using the average exchange rates prevailing throughout the reporting period. Adjustments resulting from translating foreign functional currency financial statements into U.S. Dollars are included in the foreign currency translation adjustment, a component of accumulated other comprehensive loss in stockholders' deficit.

Concentration of Credit Risk

Financial instruments, which potentially subject the Company to concentrations of credit risk, consist of cash and money market accounts. The Company's cash and money market accounts are held by one financial institution in the U.S. and one financial institution in the UK, which the Company believes to be financially sound, and accordingly, minimal credit risk exists with respect to the financial institutions. At times, the Company's deposits held in the U.S. and UK may exceed the Federal Depository Insurance Corporation and Financial Services Compensation Scheme, respectively, insured limits. The Company has not experienced any credit losses in such accounts and does not believe it is exposed to any significant credit risk on these funds.

Deferred Offering Costs

The Company capitalizes within other long-term assets certain legal, accounting, and other third- party fees that are directly related to the Company's in-process equity financings, until such financings are consummated. After consummation of the equity financing, these costs are recorded as a reduction of the proceeds received as a result of the offering. Should a planned equity financing be abandoned, terminated, or significantly delayed, the deferred offering costs are immediately written off to operating expenses. The Company did not have any deferred offering costs as of December 31, 2020. As of December 31, 2021, deferred offering costs of $1.5 million were recorded within other assets on the consolidated balance sheets.

Fair Value Measurements

Certain assets and liabilities of the Company are carried at fair value under U.S. GAAP. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. Financial assets and liabilities carried at fair value are to be classified and disclosed in one of the following three levels of the fair value hierarchy, of which the first two are considered observable and the last is considered unobservable:

- Level 1: Fair values are determined utilizing prices (unadjusted) in active markets for identical assets or liabilities that the Company has the ability to access.

- 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 that are significant to determining the fair value of the assets or liabilities, including pricing models, discounted cash flow methodologies and similar techniques.

For certain financial instruments, including cash and cash equivalents, prepaid expenses, accounts payable, as well as certain accrued liabilities, the recorded amount approximates estimated fair value due to their relatively short maturity period.

Cash and Cash Equivalents

The Company considers all highly liquid investments with an original maturity of three months or less when purchased to be cash equivalents. Cash and cash equivalents are recorded at cost, which approximates fair value. As of December 31, 2020 the Company's cash consisted of money held in checking accounts. As of December 31, 2021, cash and cash equivalents consisted primarily of checking and money market funds composed of US government obligations.

Restricted Cash

The Company classifies all cash whose use is limited by contractual provisions as restricted cash. Restricted cash arises from the requirement for the Company to maintain cash of $1.5 million as collateral under a lease agreement. As of December 31, 2020 and 2021, $0 and $1.5 million of restricted cash was recorded in other assets on the consolidated balance sheets.

Property and Equipment, Net

Property and equipment are stated at cost, net of accumulated depreciation. Depreciation of property and equipment is calculated using the straight-line method over the estimated useful lives of the respective assets. Maintenance and repairs that do not improve or extend the life of the assets are expensed when incurred.

The estimated useful lives of the Company's property and equipment are as follows:

Laboratory and computer equipment	3 years
Furniture and fixtures	5 years

Impairment of Long-Lived Assets

The Company reviews long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset or asset group may not be recoverable. The recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset or asset group to the estimated undiscounted future cash flows expected to be generated by the asset or asset group.

If the carrying amount of an asset or asset group exceeds its estimated undiscounted future cash flows, an impairment charge is recognized as the amount by which the carrying amount of the asset or asset group exceeds the estimated discounted future cash flows of the asset or asset group. There have been no such impairments of long-lived assets for the years ended December 31, 2020 and 2021.

Commitment and Contingencies

The Company recognizes a liability with regard to loss contingencies when it believes it is probable a liability has been incurred, and the amount can be reasonably estimated. If some amount within a range of loss appears at the time to be a better estimate than any other amount within the range, the Company accrues that amount. When no amount within the range is a better estimate than any other amount the Company accrues the minimum amount in the range. The Company has not recorded any such liabilities as of December 31, 2020 and 2021 that were material to the consolidated financial statements.

Convertible Preferred Stock

The Company records convertible preferred stock at fair value on the dates of issuance, net of issuance costs. Upon the occurrence of certain events that are outside the Company's control, including a deemed liquidation event, holders of the convertible preferred stock can cause redemption for cash. Therefore, convertible preferred stock is classified outside of stockholders' deficit on the consolidated balance sheets as events triggering the liquidation preferences are not solely within the Company's control. The carrying values of the convertible preferred stock are adjusted to their liquidation preferences if and when it becomes probable that such a liquidation event will occur. Because the occurrence of a deemed liquidation event is not currently probable, the carrying values of the convertible preferred stock are not being accreted to their redemption values. Subsequent adjustments to the carrying values of the convertible preferred stock would be made only when a deemed liquidation event becomes probable.

Preferred Stock Warrants

The Company has classified warrants to purchase its Series A-2 convertible preferred stock as a liability on the consolidated balance sheets as these warrants are freestanding financial instruments that could require the Company to transfer assets upon exercise (see Note 3 "*Fair Value Measurements*").

Grant Funding Agreements

Funding provided from grants is recognized as a reduction of research and development expense in the period during which the related qualifying expenses are incurred, provided that the conditions under which the

grants or incentives were provided have been met. Grant funding that is received by the Company in advance of incurring qualifying expenses is recorded in the consolidated balance sheets as a liability. Grant funding recognized upon incurring qualifying expenses in advance of receipt of grant funding is presented in the consolidated balance sheets as an other receivable.

Research and Development

Research and development costs are expensed as incurred. Research and development costs consist of salaries, benefits, and other personnel-related costs, including stock-based compensation, laboratory supplies, process development costs, fees paid to other entities to conduct certain research and development activities on the Company's behalf, including contract manufacturing organizations and contract research organizations, and allocated facility and other related costs. Non-refundable advance payments for goods or services that will be used or rendered for future research and development activities are deferred and capitalized as prepaid expenses until the related goods are delivered or services are performed. The Company recognizes the benefit of government grants and refundable research and development tax credits as a reduction of research and development expense when it is probable that the Company has complied with the conditions attached and will receive reimbursement. Government grants and refundable research and development tax credits are included in other receivables within the consolidated balance sheets. For the years ended December 31, 2020 and 2021, the Company recorded $0.1 million and $4.8 million as reductions of research and development expense in the consolidated statements of operations, respectively. As of December 31, 2020 and 2021, $0.1 million and $4.7 million of research and development tax credits were recorded in other receivables on the consolidated balance sheets, respectively.

The Company records accrued liabilities for estimated costs of research and development activities conducted by third-party service providers. The Company accrues for these costs based on factors such as estimates of the work completed and in accordance with agreements established with its third-party service providers under the service agreements. The Company makes significant judgments and estimates in determining the accrued liabilities balance in each reporting period. As actual costs become known, the Company adjusts its accrued liabilities. The historical accrual estimates made by the Company have not been materially different from the actual costs.

Common Stock Valuation

Due to the absence of an active market for the Company's common stock, the Company utilized methodologies, approaches and assumptions consistent with the American Institute of Certified Public Accountants' Audit and Accounting Practice Guide: Valuation of Privately-Held Company Equity Securities Issued as Compensation to estimate the fair value of its common stock. In determining the exercise prices for options granted, the Company has considered the fair value of the common stock as of the grant date. The fair value of the common stock has been determined based upon a variety of factors, including valuations of the Company's common stock performed with the assistance of independent third-party valuation specialists; the Company's stage of development and business strategy, including the status of research and development efforts of its product candidates, and the material risks related to its business and industry; the Company's business conditions and projections; the Company's results of operations and financial position, including its levels of available capital resources; the valuation of publicly traded companies in the life sciences and biotechnology sectors, as well as recently completed mergers and acquisitions of peer companies; the lack of marketability of the Company's common stock as a private company; the prices of the Company's convertible preferred stock sold to investors in arm's length transactions and the rights, preferences and privileges of its convertible preferred stock relative to those of its common stock; the likelihood of achieving a liquidity event for the holders of the Company's common stock, such as an initial public offering or a sale of the Company given prevailing market conditions; trends and developments in its industry; the hiring of key personnel and the experience of management; and external market conditions affecting the life sciences and biotechnology industry sectors. Significant changes to the key assumptions underlying the factors used could result in different fair values of common stock at each valuation date.

Stock-Based Compensation

The Company recognizes stock-based compensation expense for employee, officer, director and non-employee stock options and restricted stock awards on a straight-line basis over the requisite service period. The Company accounts for forfeitures as they occur.

The Company classifies stock-based compensation expense in its consolidated statements of operations and comprehensive loss in the same manner in which the award recipient's cash compensation costs are classified.

The fair value of each stock option award is estimated on the date of grant using the Black-Scholes option pricing model. As there is no public market for its common stock the Company determined the volatility for awards granted based on an analysis of reported data for a group of guideline companies that issued options with substantially similar terms. The expected volatility has been determined using a weighted-average of the historical volatility measures of this group of guideline companies. The Company expects to continue to do so until such time as it has adequate historical data regarding the volatility of its own traded stock price. The expected term of the Company's stock options 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. The Company has not paid, and does not anticipate paying, cash dividends on its common stock; therefore, the expected dividend yield is assumed to be zero.

Income Taxes

Income taxes are accounted for using the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts or existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using the enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period of enactment. The Company records a valuation allowance to reduce deferred tax assets to an amount for which realization is more likely than not.

The Company recognizes the tax benefit from an uncertain tax position if it is more likely than not that the tax position will be sustained upon examination by the tax authorities, based on the merits of the position. The Company's policy is to recognize interest and penalties related to the underpayment of income taxes as a component of income tax expense or benefit. To date, there have been no interest or penalties charged in relation to the unrecognized tax benefits.

Comprehensive Loss

Comprehensive loss is composed of two components — net loss and other comprehensive loss. Other comprehensive loss consists of cumulative foreign currency translation adjustments. Other comprehensive loss refers to gains and losses that under U.S. GAAP are recorded as an element of stockholders' equity but are excluded from net loss. The Company's other comprehensive loss consists of foreign currency translation adjustments.

Net Loss Per Share

Basic net loss per share is calculated by dividing the net loss attributable to common stockholders by the weighted-average number of shares of common stock outstanding for the period, without consideration of potential dilutive securities. Diluted net loss per share is computed by dividing the net loss attributable to common stockholders by the sum of the weighted average number of common shares plus the potential dilutive effects of potential dilutive securities outstanding during the period.

Potential dilutive securities are excluded from diluted earnings or loss per share if the effect of such inclusion is antidilutive. The Company's potentially dilutive securities, which include convertible preferred stock and unvested common stock under the Company's equity incentive plan, vesting conditions placed on previously issued common shares and warrants to purchase convertible preferred stock have been excluded from the computation of diluted net loss per share as they would be anti-dilutive to the net loss per share. For all periods presented, there is no difference in the number of shares used to calculate basic and diluted shares outstanding due to the Company's net loss position.

The following table sets forth the outstanding potentially dilutive securities that have been excluded in the calculation of diluted net loss per share because their inclusion would be anti-dilutive:

	As of December 31,	
	2020	2021
Series A-1 convertible preferred stock	1,372,970	1,372,970
Series A-2 convertible preferred stock	700,278	3,939,069
Series A-2 convertible preferred stock warrants	35,529	35,529
Series B convertible preferred stock	—	7,234,766
Options to purchase common stock	—	1,932,273
Vesting conditions placed on previously issued common shares	141,560	70,780
Total	2,250,337	14,585,387

Emerging Growth Company Status

The Company is an "emerging growth company," as defined in the Jumpstart Our Business Startups Act, or JOBS Act, and may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies. The Company may take advantage of these exemptions until the Company is no longer an "emerging growth company." Section 107 of the JOBS Act provides that an "emerging growth company" can take advantage of the extended transition period afforded by the JOBS Act for the implementation of new or revised accounting standards. The Company has elected to use the extended transition period for complying with new or revised accounting standards and as a result of this election, its consolidated financial statements may not be comparable to companies that comply with public company effective dates. The Company may take advantage of these exemptions up until the last day of the fiscal year following the fifth anniversary of an offering or such earlier time that it is no longer an "emerging growth company."

Recent Accounting Pronouncements

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842), The amendment relates to leases to increase transparency and comparability among organizations by requiring the recognition of right-of-use, or the ROU, assets obtained in exchange for lease liabilities on the balance sheet. Most prominent among the changes in the standard is the recognition of ROU assets and lease liabilities by lessees for those leases classified as operating leases. Under the standard, disclosures are required to meet the objective of enabling users of consolidated financial statements to assess the amount, timing, and uncertainty of cash flows arising from leases. The effective date of this update is for fiscal years beginning after December 15, 2021, and interim periods therein. The Company is currently planning to adopt the standard on January 1, 2022. As of January 1, 2022, the Company does not have any leases with initial terms greater than twelve months. For any future leases with initial terms greater than twelve months, the Company will record a lease liability and corresponding right of use asset on is balance sheet and provide required disclosures under Topic 842.

In June 2016, the FASB issued ASU 2016-13, Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments. The standard changes how entities will measure credit losses for most financial assets, including accounts and notes receivables. The standard will replace today's "incurred loss" approach with an "expected loss" model, under which companies will recognize allowances

based on expected rather than incurred losses. Entities will apply the standard's provisions as a cumulative-effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is effective. The effective date of this update is for fiscal years beginning after December 15, 2022, and interim periods therein. The Company is currently assessing the impact of adopting this standard on the Company's consolidated financial statements and related disclosures.

In November 2019, the FASB issued ASU 2019-11, Codification Improvements to Topic 326, Financial Instruments—Credit Losses. The standard is an accounting pronouncement that amends ASU 2016-13, "Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments." The amendments update guidance on reporting credit losses for financial assets. These amendments affect loans, debt securities, trade receivables, net investments in leases, off balance sheet credit exposures, reinsurance receivables, and any other financial assets not excluded from the scope that have the contractual right to receive cash. The amendments in both ASU 2016-13 and ASU 2019-11 are effective for annual reporting periods beginning after December 15, 2019, including interim periods within those fiscal years. As a result of the Company having elected the extended transition period for complying with new or revised accounting standards pursuant to Section 107(b) of the JOBS Act, 2016-13 and ASU 2019-11 are effective for the Company for fiscal years beginning after December 15, 2022, and interim periods within those fiscal years. The Company is currently evaluating ASU 2016-13 and ASU 2019-11 and their impact on its consolidated financial statements and financial statement disclosures.

In December 2019, the FASB issued ASU 2019-12, Income Taxes (Topic 740). The standard simplifies the Accounting for Income Taxes. The standard simplifies the accounting for income taxes by removing certain exceptions to the general principles in Topic 740 and also improves consistent application by clarifying and amending existing guidance. The standard is effective for fiscal years beginning after December 15, 2021, and interim periods within fiscal years beginning after December 15, 2022. The Company is assessing the impact of this guidance and is continuing to evaluate the impact on its consolidated financial statements.

In August 2020, the FASB issued ASU 2020-06, Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entity's Own Equity (Subtopic 815-40). The standard address issues identified as a result of the complexity associated with applying U.S. GAAP for certain financial instruments with characteristics of liabilities and equity. The standard reduces the number of accounting models for convertible debt instruments and convertible preferred stock resulting in fewer embedded conversion features being separately recognized from the host contract. The standard is effective for public companies, excluding entities eligible to be smaller reporting companies, for fiscal years beginning after December 15, 2021, including interim periods within those fiscal years. For all other entities, the amendments are effective for fiscal years beginning after December 15, 2023, including interim periods within those fiscal years. Early adoption is permitted, but no earlier than fiscal years beginning after December 15, 2020, including interim periods within those fiscal years. The Board specified that an entity should adopt the guidance as of the beginning of its annual fiscal year. The Company is assessing the impact of this guidance and is continuing to evaluate the impact on its consolidated financial statements.

3. Fair Value Measurements

The following table set forth the fair value of the Company's financial assets measure at fair value on a recurring basis and indicates the level within the fair value hierarchy utilized to determine such values (in thousands):

	As of December 31, 2021			
	Total	Level 1	Level 2	Level 3
US Treasury-backed money market funds	$30,719	$30,719	$ —	$ —
Total	$30,719	$30,719	$ —	$ —

As of December 31, 2020, the Company did not have cash equivalents in money market funds.

Money market funds are highly liquid investments that are valued based on quoted market prices in active markets, which represent a Level 1 measurement within the fair value hierarchy.

Preferred stock warrant liability

In connection with the November 24, 2020 Stock Purchase Agreement (Note 9), the Company granted warrants to purchase up to 35,529 shares of Series A-2 convertible preferred stock at a price per share equal to $11.42 and with a term ending upon the earlier of an underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, the consummation of a Deemed Liquidation Event, as such term is defined in the Company's Restated Certificate of Incorporation or 10 years. As the warrants are for preferred stock, which do not qualify for equity classification, the warrants have been recorded as a liability and are required to be remeasured to fair value at each reporting date.

As there are significant inputs that are not observable in the market, the warrant valuation represents a Level 3 measurement within the fair value hierarchy. The Company's valuation of the preferred stock warrant utilized the Black-Scholes option-pricing model, which incorporates assumptions and estimates to value the preferred stock warrant.

The quantitative elements associated with the Company's Level 3 inputs impacting the fair value measurement of the preferred stock warrant liability include the fair value per share of the underlying Series A-2 convertible preferred stock, the remaining contractual term of the warrant, risk-free interest rate, expected dividend yield and expected volatility of the price of the underlying preferred stock. The most significant assumption in the Black-Scholes option-pricing model impacting the fair value of the preferred stock warrant is the fair value of the Company's Series A-2 convertible preferred stock as of each remeasurement date. The Company determines the fair value per share of the underlying preferred stock by taking into consideration its most recent sales of its convertible preferred stock. The Company historically has been a private company and lacks company-specific historical and implied volatility information of its stock. Therefore, it estimates its expected stock volatility based on the historical volatility of publicly traded peer companies for a term equal to the remaining contractual term of the warrant. The risk-free interest rate is determined by reference to the U.S. Treasury yield curve for time periods approximately equal to the remaining contractual term of the warrant. The Company has estimated a 0% dividend yield based on the expected dividend yield and the fact that the Company has never paid or declared dividends.

The Company recognizes changes in the fair value of the warrant liability as a component of other income (expense) in its consolidated statements of operations and comprehensive loss. The Company will continue to recognize changes in the fair value of the warrant liability until the warrant is exercised, expires, or qualifies for equity classification. No changes were recognized from the date of issuance, November 24, 2020, through December 31, 2020, primarily due to the short duration of time.

A reconciliation of the Level 3 warrant liability is as follows (in thousands):

	Series A-2 Preferred Stock Warrant Liability
Balance as of December 31, 2019	$ —
Issuance of Series A preferred stock warrants	30
Change in fair value	—
Balance as of December 31, 2020	30
Change in fair value	196
Balance as of December 31, 2021	$ 226

4. Property and Equipment, Net

The cost and accumulated depreciation of property and equipment were as follows (in thousands):

	December 31, 2020	December 31, 2021
Lab equipment	$ 558	$ 975
Computer and office equipment	24	91
Total property and equipment	582	1,066
Less accumulated depreciation	(259)	(430)
Total property and equipment, net	$ 323	$ 636

Depreciation expense was $0.1 million and $0.2 million for the year ended December 31, 2020 and 2021, respectively.

5. Accrued Expenses

Accrued expenses consisted of the following (in thousands):

	December 31, 2020	December 31, 2021
Research and development	$ 10	$5,343
Employee related	28	1,205
Other	79	533
Total accrued expenses	$ 117	$7,081

6. Material Agreements

Grant funding

In February 2019, Innovate UK, or IUK, awarded the Company up to $2.1 million under a grant award to support the Company's development of therapies for neuromuscular and neurological diseases. During the years ended December 31, 2020 and 2021, the Company recognized $1.4 million and $0.2 million of reimbursable funds from IUK, based on eligible costs incurred under the grant, respectively. The IUK grant reimbursements are accrued as an offset against research and development expenses as reimbursable expenses are incurred. The Company recorded receivables, included in other receivables in the consolidated balance sheets of $0.3 million and $0 for the periods ended December 31, 2020 and 2021, respectively, related to eligible costs incurred but not yet reimbursed.

7. Related Party Transactions

Technology license agreement

In March 2018, the Company, Oxford University Innovation Limited, or OUI, and the Medical Research Council of United Kingdom Research and Innovation, or MRC (or collectively the Licensors), entered into a license of technology agreement, or the License Agreement, which was subsequently amended in December 2018 and further amended and restated in November 2020. The Licensors and affiliates hold shares of Series A-1 and Series A-2 preferred stock, Series B preferred stock and Class A common stock. The License Agreement provides the Company with an exclusive world-wide license to licensed data and technology owned by OUI and MRC in respect of cell penetrating peptides for treatment of Duchenne muscular dystrophy, spinal muscular atrophy, and other conditions. The License Agreement provides the Company with the rights to grant and authorize sublicenses to make, use, sell, and import products and otherwise exploit the patent rights.

As consideration for the license, the Company made an initial upfront payment in 2018 of $0.1 million upon transfer of the license technology and data and in 2020 upon amending and restating the License Agreement made two additional payments of $19,000 for a Restatement Completion Fee and License Data Fee. The Company determined that the upfront payment and subsequent Restatement Completion Fee and License Data Fee as part of the license agreement would be expensed upon execution of the original contract and subsequent amendment as the license was acquired for research and development purposes which does not have alternative future uses, and the underlying technology has not reached technological feasibility.

The Company could be required to make milestone payments to the Licensors upon completion of certain patent and commercial milestones related to the patents and commercialization of certain of the Company's product candidates. The aggregate potential milestone payments are $0.1 million. The Company also agreed to pay the Licensors low single digit royalties on net sales of any licensed products that are commercialized by the Company or sublicensees in excess of a threshold amount between £20 million and £30 million ($27.0 million and $40.5 million as of December 31, 2021), subject to certain adjustments. The term of the License Agreement continues until the later of (i) the date on which all the patents and patent applications covered thereunder have been abandoned or allowed to lapse or expired or been rejected or revoked or (ii) 20 years from the date of the original agreement.

Additionally, the Company could be required to pay OUI an exit fee between 0.5% to 2% of the value determined in an acquisition or IPO, not to exceed £5 million ($6.8 million as of December 31, 2020 and 2021), if the Company enters into a transaction with a third-party whereby the party obtains direct or indirect control of the Company, or the Company sells shares on an exchange in an IPO. In lieu of paying the exit fee, the Company has the option to pay a buy out fee, which can be paid at any time to release the Company from its obligation to pay the exit fee. As of December 31, 2020 and 2021, the Company concluded the exit event was not probable and therefore no obligation was recorded.

Additionally, the Company pays office space rent to OUI. For the years ended December 31, 2020 and 2021, total rent payments were $0.1 million and $0.2 million, respectively. As of December 31, 2020 and 2021, $26,000 and $30,000, respectively, was due to OUI by the Company.

Services agreement

In November 2020, the Company entered into an agreement, or the Services Agreement, with Carnot Pharma, LLC, or Carnot, under which Carnot provides research and other services to the Company. Carnot is an entity controlled by RA Capital Management, L.P. Entities affiliated with RA Capital Management, L.P. purchased shares of Series A-2 convertible preferred stock in the Company's preferred stock financing in November of 2020 and May and July of 2021. In addition, entities affiliated with RA Capital Management, L.P. purchased shares of our Series B convertible preferred stock in the Company's preferred stock financing in July 2021. Two members of the Company's Board of Directors are also affiliated with RA Capital Management, L.P.

Under the terms of the Services Agreement, the Company compensates Carnot on a fully burdened cost basis for personal time devoted to Company projects. In addition, the Company reimburses Carnot on a costs basis for any subcontractor costs incurred. The Company pays Carnot on a quarterly basis, in arrears, for services performed and costs incurred. The Services Agreement is for a term of the later of (A) two (2) years and (B) the later of (a) completion of the Services or (b) latest-to-occur delivery of a final report or any other items required to be delivered to the Company under the last ongoing project as part of the services, if any. The Company may terminate the services agreement by giving 30 days' prior notice and either party can terminate the services agreement for a material breach, if not cured within 30 days following notice by the nonbreaching party.

Expenses incurred by the Company under the Services Agreement with Carnot for the year ended December 31, 2020 and 2021, totaled $0 and $0.8 million, respectively. As of December 31, 2020 and 2021, approximately $31,000 and $2,600 was due to Carnot by the Company for services rendered under the Services Agreement, respectively.

8. Commitments and Contingencies

Legal proceedings

From time to time, the Company may have certain contingent liabilities that arise in the ordinary course of its business activities. The Company accrues a liability for such matters when it is probable that future expenditures will be made and that such expenditures can be reasonably estimated.

The Company is not party to any litigation and does not have contingency reserves established for any litigation liabilities.

Leases

In December 2021, the Company entered into a lease for lab and office space in Massachusetts of approximately 31,668 square feet. The lease term is for 110 months with one optional renewal period of five years. The initial monthly lease payment is $0.2 million which increases on an annual basis at three percent. The lease is expected to commence in the second half of 2022.

Other

The Company enters into standard indemnification agreements in the ordinary course of business. Pursuant to the agreements, the Company agrees to indemnify, hold harmless, and to reimburse the indemnified party for losses suffered or incurred by the indemnified party, including in connection with any U.S. patent or any copyright or other intellectual property infringement claim by any third-party with respect to the Company's products. Further, the Company indemnifies its directors and officers who are, or were, serving at the Company's request in such capacities. The Company's maximum exposure under these arrangements is unknown as of December 31, 2021. The Company does not anticipate recognizing any significant losses relating to these arrangements. The term of these indemnification agreements is generally perpetual any time after execution of the agreement. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements may be unlimited. The Company has never incurred costs to defend lawsuits or settle claims related to these indemnification agreements.

9. Convertible Preferred Stock and Stockholders' Equity

Series A-1 convertible preferred stock and Series A-2 convertible preferred stock

In connection with the November 24, 2020, Stock Purchase Agreement, the Company agreed to issue an aggregate of 3,939,069 shares of Series A-2 convertible preferred stock to new and existing investors at a price of $11.42 per share, in three closings, and elected to convert 1,372,970 shares of outstanding Class A and Class B common stock into shares of Series A-1 convertible preferred stock. A total of 1,051,720 shares of Class A common stock held by certain founding investors and employees were not modified and continue to exist as Class A common stock.

The Company concluded the terms of the Stock Purchase Agreement, whereby certain pre-existing Class A and Class B common stock was modified and exchanged for Series A-1 convertible preferred stock, represented a modification as these previous Class A and Class B Common stockholders received incremental value through the enhanced rights and preferences associated with the Series A-1 convertible preferred stock. Consequently, in connection with this exchange, the Company recorded a deemed dividend of $2.2 million to reflect the difference between the fair value of the Series A-1 convertible preferred stock and the Class A and Class B common stock, on the date of the exchange, based upon a valuation performed by an independent valuation specialist.

In November 2020, the Company issued 700,278 shares of Series A-2 convertible preferred stock in the initial closing for gross proceeds of $8.0 million. The Stock Purchase Agreement contains provisions that

potentially obligate the Company to sell, outside of its control, an additional 3,238,791 shares of Series A-2 convertible preferred stock at $11.42 per share for expected gross proceeds of $37.0 million, upon the occurrence of two subsequent milestone closings, or the Milestone Closings, or earlier, at the option of any holder of the Series A-2 convertible preferred stock. If the defined milestones are not achieved prior to the Company's IPO, the holders may elect to purchase these shares prior to the completion of the IPO. If the shares are not purchased prior to the completion of the IPO, then this right to purchase these shares automatically expires. If any holder of the Series A-2 convertible preferred stock does not elect to participate in the two subsequent Milestone Closings, the holder's shares of Series A-2 convertible preferred stock automatically convert into shares of common stock at a ratio of ten shares of Series A-2 convertible preferred stock to one share of common stock. In addition, to the extent any Series A-1 convertible preferred stock stockholder participated in the Series A-2 preferred stock financing and does not elect to participate in the two subsequent Milestone Closings, the holder's shares of Series A-1 convertible preferred stock automatically convert into shares of common stock on a one-to-one basis.

In May 2021, upon the completion of the first of two defined Milestone Closings outlined in the Stock Purchase Agreement, the Company sold 1,400,558 shares of Series A-2 convertible preferred stock at $11.42 per share for aggregate gross proceeds of $16.0 million.

In July 2021, in advance of the Series B convertible preferred stock financing, the existing Series A-2 convertible preferred stockholders exercised their right to purchase the remaining Milestone Closing shares and the Company sold 1,838,233 shares of Series A-2 convertible preferred stock at $11.42 per share for aggregate gross proceeds of $21.0 million.

Series B convertible preferred stock

In July 2021 the Company entered into the Series B Stock Purchase Agreement, whereby the Company agreed to issue and sold an aggregate of 7,234,766 shares of Series B convertible stock to new and existing investors at a per share price of $15.55 per share for aggregate gross proceeds of $112.5 million.

The Company's convertible preferred stock has the following characteristics:

Dividends

Each holder of convertible preferred stock is entitled to receive dividends when and if declared by the board of directors at the rate of 6% of the original issue price per annum. The original issuance price, or Original Issuance Price, with respect to the Series A-1 convertible preferred stock is $4.64 per share, with respect to the Series A-2 convertible preferred stock is $11.42 per share and with respect to the Series B convertible preferred stock is $15.55 per share. Dividends are noncumulative, and no cash dividends have been declared to date.

Conversion

Each share of convertible preferred stock is convertible without payment of additional consideration at the option of the holder any time after the issuance date into shares of common stock determined by dividing the Original Issuance Price by the conversion price. The conversion price of the convertible preferred stock is initially equal to the Original Issuance Price and is subject to adjustment if the Company issues additional shares of common stock after the applicable original issue date of such series of convertible preferred stock without consideration or for consideration per share less than the conversion price for such series of convertible preferred stock, subject to customary exceptions. The convertible preferred stock is subject to a mandatory conversion in the event (i) that there is a closing of the sale of shares of common stock to the public at a price of at least $23.32 per share (subject to adjustment), resulting in at least $75 million of gross proceeds in an underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, and in connection with such offering the common stock is listed for trading on the Nasdaq Stock Market's National Market, the New York Stock Exchange or another exchange or marketplace approved by the board of directors or

(ii) upon the vote or written consent for such conversion from the Requisite Holders (defined as a majority of the outstanding shares of preferred stock voting as a single class and on an as-converted basis). As of December 31, 2020 and 2021, all series of convertible preferred stock are convertible into shares of common stock on a one-to-one basis.

Liquidation

Holders of the convertible preferred stock are entitled to receive liquidation preferences at the Series A-1, Series A-2 and Series B Original Issue Price, plus all accrued and declared but unpaid dividends. After full payment of the liquidation preference to the holders of the Series A-1, Series A-2 and Series B convertible preferred stock, the remaining assets, if any, will be distributed ratably to the holders of the common stock provided, however, that each holder of convertible preferred stock shall be entitled to receive upon such liquidation the greater of (i) the amount distributed pursuant to above and (ii) the amount such holder would have received if all shares of convertible preferred stock had been converted into common stock immediately prior to such liquidation.

Redemption rights

The holders of Series A-1, Series A-2 and Series B convertible preferred stock do not have any redemption rights, except upon certain liquidation and dissolution events that are outside of the Company's control.

Voting rights

The holder of each share of convertible preferred stock is entitled to one vote for each share of common stock into which it would convert and to vote as one class with the common stockholders on all matters.

Classification

Upon the occurrence of certain change in control events that are outside the Company's control, including liquidation, sale or transfer of the Company, holders of the convertible preferred stock can effectively cause redemption for cash. As a result, the Company has classified the convertible preferred stock as mezzanine equity on the consolidated balance sheets as the stock is contingently redeemable. The Company has elected not to adjust the carrying values of the convertible preferred stock to the liquidation preferences of such shares because it is uncertain whether or when an event would occur that would obligate the Company to pay the liquidation preferences to holders of shares of convertible preferred stock. Subsequent adjustments to the carrying values to the liquidation preferences will be made only when it becomes probable that such a liquidation event will occur.

Common stock

Under the Amended and Restated Certificate of Incorporation, dated July 30, 2021, the Company has the authority to issue a total of 16,000,000 shares of Class A common stock (par value of $0.0001 per share) and 12,582,334 shares of preferred stock (par value of $0.0001 per share).

In 2018, the Company issued 1,000,000 shares of Class A common stock to certain founders of the Company with a stated value of $0.001 per share, under PepGen Limited. From March 2018 through December 2019, the Company issued 1,372,970 shares of Class A common stock and Class B common stock with a stated value of $4.64 per share under, PepGen Limited. In addition, in November of 2020, the Company issued 51,720 shares of Class A common stock in connection with the exercise of stock options, under the PepGen Limited 2020 Share Scheme. In connection with the Reorganization, the Class A and Class B common stock of PepGen Limited were converted into shares of PepGen Inc. on a one-to-one basis into the same Class of common stock originally held.

Each share of common stock has the right to one vote. The holders of common stock are also entitled to receive dividends whenever funds are legally available and when declared by the board of directors, subject to the prior rights of holders of all classes of stock outstanding having priority rights as to dividends. No cash dividends have been declared by the board of directors during the years ended December 31, 2020 and 2021.

The Company has reserved the following shares of common stock for issuance, on an as-converted basis, as follows:

	December 31,	
	2020	2021
Convertible preferred stock	2,073,248	12,546,805
Stock options issued and outstanding	—	1,932,273
Preferred stock warrants issued and outstanding	35,529	35,529
Vesting conditions placed on previously issued common shares	141,560	70,780
Authorized for future stock awards or option grants	392,391	464,609
Total	2,642,728	15,049,996

Shares of Common Stock Subject to Repurchase

In November 2020, in connection with the Series A-2 convertible preferred stock financing, two founding stockholders entered into Stock Restriction Agreements, or Restriction Agreements, whereby 141,560 shares that were previously vested and not subject to repurchase became restricted and subject to repurchase. The repurchase rights lapse 50% on the one-year anniversary of the Restriction Agreements and 50% on the second anniversary of the Restriction Agreements. Shares subject to repurchase by the Company are not deemed, for accounting purposes, to be outstanding until those shares vest and therefore are not included in the shares outstanding on the consolidated balance sheet.

In connection with the vesting restrictions placed on these previously vested shares, the Company was required to determine the measurement date fair value of the shares, which was $2.32 per share or $0.3 million in aggregate. The measurement date fair value of the restricted stock will be recognized as stock-based compensation expense over the vesting period. For the year ended December 31, 2020 and 2021, 141,560 and 70,780 shares were subject to repurchase by the Company, respectively.

10. Stock-Based Compensation

2020 Stock Plan

In November 2020, the Company's board of directors adopted the 2020 Stock Plan, or 2020 Plan. Upon the adoption of the 2020 Plan and in accordance with the Reorganization, the Company's previous plan was cancelled and no shares under the plan remained outstanding. The 2020 Plan provides for the granting of incentive stock options, non-statutory stock options, restricted stock awards, and other forms of stock awards to its employees, directors, and consultants. The exercise price of incentive stock options and nonqualified stock options will be no less than 100% of the fair value per share of the Company's common stock on the date of grant. If an individual owns common stock representing more than 10% of the voting shares and the grant is an incentive stock option, the price of each share will be at least 110% of the fair value on the date of grant. Options expire after 10 years (five years for incentive stock options granted to stockholders owning greater than 10% of the voting stock). The term and vesting periods for options granted under the 2020 Plan are determined by the Company's board of directors. Options granted generally vest over four years. Options must be exercised within a 10-year period or sooner if specified within the option agreement. Under the 2020 Plan, the Company initially reserved 392,391 shares of common stock for issuance. As of December 31, 2021, 1,932,273 options under the 2020 Plan were outstanding and 464,609 shares were available for future grant.

In March of 2021, the Company granted options subject to both a service-based condition and a performance-based condition that required the achievement of two Milestone Closings (Note 9) before the options could be eligible for service based vesting conditions. The first performance-based condition was achieved in May of 2021 and the second performance-based condition was considered probable as of June 2021.

The Company granted additional options in September 2021, subject to both a service-based condition and a performance-based condition that required the achievement of certain hiring milestones. As of December 31, 2021, the Company determined two of the three hiring milestones was considered probable.

Stock Option Activity

Stock option activity under the Plan, is as follows:

	Stock Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (In Years)	Aggregate Intrinsic Value (In Thousands)
Outstanding as of December 31, 2020	—	$ —	—	$ —
Granted	2,015,923	7.39	9.6	—
Exercised	—	—	—	—
Canceled/Forfeited	(83,650)	8.85	9.7	—
Outstanding as of December 31, 2021	1,932,273	$ 7.33	9.6	$ 7,157
Vested and exercisable as of December 31, 2021	110,291	$ 1.17	9.2	$ 1,088
Vested and expected to vest as of December 31, 2021	1,932,273	$ 7.33	9.6	$ 7,157

As of December 31, 2021, 464,609 shares were available for future grants under the 2020 Plan.

In August of 2020, the Company granted options to certain employees and non-employees for Class A common shares, with an exercise price of $0.001 per share, whereby the vesting was contingent upon the achievement of a performance condition related to a financing goal. In November of 2020, the performance condition was satisfied, and 51,720 options became vested and were subsequently exercised. No options were exercised during the year ended December 31, 2021.

The total intrinsic value of the options exercised during the year ended December 31, 2020 was $0.1 million. The intrinsic value is the difference between the estimated fair value of the Company's common stock at the time of exercise, as determined by the board of directors, and the exercise price of the stock option.

The total fair value of options that vested during the year ended December 31, 2020 and 2021 was $0.1 million and $1.2 million, respectively. The weighted-average grant date fair value of options granted during the year ended December 31, 2020 and 2021 was $2.04 and $5.13 per share, respectively.

Stock-Based Compensation Expense

Stock based compensation expense recognized for stock option grants included in the accompanying consolidated statements of operations and comprehensive loss is as follows (in thousands):

	Year Ended December 31,	
	2020	2021
Research and development	$ 94	$ 394
General and administrative	25	1,140
Total stock-based compensation expense	$119	$1,534

As of December 31, 2020, there were no outstanding options and no unrecognized compensation cost related to options. As of December 31, 2021, 1,821,982 unvested options were outstanding with unrecognized compensation costs of $8.5 million expected to be recognized over a weighted-average period of approximately 3.6 years.

In determining the fair value of the stock options granted, the Company uses the Black-Scholes option-pricing model and assumptions discussed below. Each of these inputs is subjective and generally requires significant judgment.

Expected Term—The Company's expected term represents the period that the Company's stock- based awards are expected to be outstanding.

Expected Volatility—Since the Company is privately held and does not have any trading history for its common stock, the expected volatility was estimated based on the average historical volatilities for comparable publicly traded pharmaceutical companies over a period equal to the expected term of the stock option grants. The comparable companies were chosen based on their similar size, stage in the life cycle and area of specialty. The Company will continue to apply this process until a sufficient amount of historical information regarding the volatility of its own stock price becomes available.

Risk-Free Interest Rate—The risk-free interest rate is based on the U.S. Treasury zero coupon issues in effect at the time of grant for periods corresponding with the expected term of option.

Expected Dividend Yield—The Company has never paid dividends on its common stock and has no plans to pay dividends on its common stock. Therefore, the Company used an expected dividend yield of zero.

The fair value of stock options was estimated using the following weighted average assumptions:

	Year Ended December 31,	
	2020	2021
Risk-free interest rate	0.09%	1.10%
Expected volatility	52%	77%
Expected term (in years)	0.25	6.03
Expected dividend yield	—	—

Restricted Stock

For the year ended December 31, 2020 and 2021, the Company recognized $0 and $0.2 million in stock-based compensation, respectively, related to the restricted stock issued to certain founders. As of December 31,

2021, the total unrecognized compensation related to the 70,780 unvested restricted stock awards granted was $0.2 million, which the Company expects to recognize over a weighted-average period of approximately 0.9 years.

11. Income Taxes

The Company's loss before for income taxes for the years ended December 31, 2020 and 2021 were generated in the following jurisdictions (in thousands):

	Year Ended December 31,	
	2020	2021
Domestic	$ (80)	$ (6,181)
Foreign	(1,809)	(21,100)
Worldwide	$ (1,889)	$ (27,281)

The components of net deferred income taxes consisted of the following as of December 31, 2020 and 2021 (in thousands):

	December 31,	
	2020	2021
Deferred tax assets:		
Net operating loss carryforwards	$ 820	$ 3,103
Research and development credits	—	36
Accrued expenses	—	234
Stock compensation accruals	—	264
Other	—	—
Deferred tax assets	820	3,637
Deferred tax liabilities		
Fixed Assets	—	(13)
Deferred tax liabilities	—	(13)
Net deferred tax assets	820	3,624
Valuation allowance	(820)	(3,624)
Net deferred tax assets	$ —	$ —

A reconciliation of income tax expense to the amount computed by applying the statutory federal income tax rate to the loss from operations is summarized for the years ended December 31, 2020 and 2021, as follows:

	Year Ended December 31,	
	2020	2021
Tax at statutory rate	21.0%	21.0%
State tax (net of federal benefit)	(3.0)%	0.7%
Permanent differences	0.0%	(0.6)%
Research and development credit	0.0%	0.2%
UK R&D credit	0.0%	(9.4)%
Foreign rate differential	0.0%	(1.5)%
Change in valuation allowance	(18.0)%	(10.3)%
Other	0.0%	(0.1)%
Income tax expense (benefit)	0%	0%

The Company had federal net operating loss (NOLs) carryforwards available of approximately $3.5 million as of December 31, 2021, before consideration of limitations under Section 382 of the Internal Revenue Code or Section 382, as further described below. The Company had state NOLs of $1.8 million as of December 31, 2021, which will begin expiring in 2041.

The Company has generated UK NOLs of $11.9 million which are subject to utilization criteria and restrictions (including those that limit the percentage of profits that can be reduced by carried forward losses and those that can restrict the use of carried forward losses where there is a change of ownership of more than half the ordinary shares of the company and a major change in the nature, conduct or scale of the trade), and which, subject to the above restrictions and potential future changes in law, and to any potential restructuring or changes in the nature of our operations, may be eligible for carry forward against future operating profits and/or other taxable profits or gains.

For U.S. federal income tax purposes, the future utilization of the Company's NOLs to offset future taxable income may be subject to a substantial annual limitation as a result of changes in ownership by stockholders that hold 5% or more of the Company's common stock. An assessment of such ownership changes under Section 382 was not completed through December 31, 2021. To the extent that an assessment is completed in the future, the Company's ability to utilize tax attributes could be restricted on a year-by-year basis and certain attributes could expire before they are utilized. The Company will examine the impact of any potential ownership changes in the future.

The Company is subject to taxation in the U.S. and the UK. The Company's federal and state returns since inception are subject to examination due to the carryover of net operating losses. The Company has not been, nor is it currently, under examination by any tax authorities. The UK tax returns from 2019 and forward are subject to examination by the UK tax authorities.

12. Subsequent Events

The Company evaluated subsequent events for recognition and measurement purposes through April 8, 2022, the date the financial statements were available for issuance.

Intellectual Property Transfer

In January 2022, the Company's wholly-owned subsidiary, PepGen Limited, transferred all intellectual property assets to the parent Company, PepGen Inc., pursuant to an asset transfer agreement. The transfer of the intellectual property assets will result in a tax liability to Her Majesty's Revenue & Customs in the range of $2.0 million to $3.8 million. The Company expects to record the tax liability in the first quarter of 2022.

Option Grants

During February and March 2022, the Company granted an aggregate of 180,150 stock options to employees under the 2020 Plan with an exercise price of $11.03.

Through and including , 2022 (25 days 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 delivery requirement is in addition to the obligation of dealers to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

Shares

Common Stock

PROSPECTUS

BofA Securities

SVB Leerink

Stifel

Wedbush PacGrow

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 expenses	*
Legal fees and expenses	*
Accounting fees and expenses	*
Transfer agent and registrar fees and expenses	*
Miscellaneous	*
Total	$ *

* To be completed by amendment.

Item 14. Indemnification of Directors and Officers.

Section 145 of the Delaware General Corporation Law, or 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 amended and restated certificate of incorporation to be in effect upon the closing of this offering and amended and restated bylaws to be in effect upon the effectiveness of this registration statement of which this prospectus forms a part 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, the bylaws to be in effect upon the effectiveness of this registration statement 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 intend to enter into indemnification agreements with each of our directors and executive officers. These agreements will provide that we will indemnify each of our directors, certain of 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 will agree 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 will 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, or the 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 November 2020, we elected to convert 1,372,970 shares of Class A and Class B common stock that were previously sold for aggregate proceeds of $6.4 million into shares of Series A-1 convertible stock at a price of $4.6372 per share. Each share of our Series A-1 Convertible Preferred Stock will convert automatically into one share of our common stock immediately prior to the completion of this offering.

In November 2020, with subsequent closings in May 2021 and July 2021, we sold an aggregate of 3,939,069 shares of Series A-2 Convertible Preferred Stock at a purchase price of $11.4240 per share for aggregate proceeds of $45.0 million. Each share of our Series A-2 Convertible Preferred Stock will convert automatically into one share of our common stock immediately prior to the completion of this offering.

In connection with the Series A-2 Convertible Preferred Stock financing, we also issued to RA Capital Healthcare Fund, L.P., Blackwell Partners LLC—Series A and RA Capital Nexus Fund II, L.P. warrants to purchase, in the aggregate, up to 35,529 shares of Series A-2 Convertible Preferred Stock.

In July 2021, we sold an aggregate of 7,234,766 shares of Series B Convertible Preferred Stock at a purchase price of $15.5499 per share for aggregate proceeds of $112.5 million. Each share of our Series B Convertible Preferred Stock will convert automatically into one share of our common stock immediately prior to the completion of this offering.

No underwriters were involved in the foregoing sales of securities. 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

As of December 31, 2021, we have granted stock options to purchase an aggregate of 1,932,273 shares of our common stock, with an exercise price of $0.00 to $11.56 per share, to employees, directors and consultants pursuant to the 2020 Plan. No shares of common stock have been issued upon the exercise of stock options pursuant to the 2020 Plan; provided, however, prior to the reorganization of PepGen Limited and PepGen Inc. in November 2020, options to purchase 51,720 ordinary shares that had previously been granted under the PepGen Limited 2020 Share Scheme were exercised and issued. In connection with the reorganization, the exercised ordinary shares were converted into Class A common stock of PepGen Inc. on a one-to-one basis.

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**	Second Amended and Restated Certificate of Incorporation of Registrant, as currently in effect
3.2*	Form of Third Amended and Restated Certificate of Incorporation of Registrant, to be effective upon the closing of this offering
3.3**	Bylaws of Registrant, as currently in effect
3.4*	Form of Amended and Restated Bylaws of Registrant, to be effective upon the closing of this offering
4.1**	Amended and Restated Investors' Rights Agreement, dated July 30, 2021, among the Registrant and certain of its stockholders
4.2*	Specimen Common Stock Certificate
5.1*	Opinion of Goodwin Procter LLP
10.1**	2020 Stock Plan, as amended, and forms of award agreements thereunder
10.2*	2022 Stock Option and Incentive Plan, and forms of award agreements thereunder
10.3*	2022 Employee Stock Purchase Plan
10.4*	Senior Executive Cash Incentive Bonus Plan
10.5*	Non-Employee Director Compensation Policy
10.6*	Form of Indemnification Agreement between the Registrant and each of its directors and executive officers
10.7**	Employment Agreement, dated January 21, 2021, between James McArthur and the Registrant
10.8**	Employment Agreement, dated September 29, 2021, between Noel Donnelly and the Registrant
10.9**	Employment Agreement, dated September 17, 2021, between Jaya Goyal and the Registrant
10.10**	Employment Agreement, dated November 1, 2018, between Caroline Godfrey and the Registrant
10.11†**	License of Technology, dated November 23, 2020, among Oxford University Innovation Limited, Medical Research Counsel as part of United Kingdom Research and Innovation and PepGen Limited
10.12**	Lease, dated December 1, 2021, between B9 LS Harrison & Washington LLC and the Registrant
21.1**	Subsidiaries of Registrant
23.1*	Consent of KPMG LLP, independent registered public accounting firm
23.2*	Consent of Goodwin Procter LLP (included in Exhibit 5.1)
24.1*	Power of Attorney (included on signature page)

* To be filed by amendment.
** Previously filed.
† Portions of this exhibit (indicated by asterisks) will be omitted in accordance with the rules of the Securities and Exchange Commission.

(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.

The undersigned Registrant hereby undertakes to provide to the underwriters at the closing specified in the Underwriting Agreement certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act of 1933, as amended, or the Securities Act, may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The Registrant hereby undertakes that:

(i) For purposes of determining any liability under the Securities Act, 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, shall be deemed to be part of this registration statement as of the time it was declared effective.

(ii) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act, the PepGen Inc. 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 Cambridge, Commonwealth of Massachusetts, on the day of , 2022.

PEPGEN INC.

By: _____
Name: James McArthur, Ph.D.
Title: President and Chief Executive Officer

POWER OF ATTORNEY AND SIGNATURES

Each individual whose signature appears below hereby constitutes and appoints James McArthur, Ph.D. and Noel Donnelly 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 have been signed by the following persons in the capacities and on the date indicated.

Name	Title	Date
_____ James McArthur, Ph.D.	President, Chief Executive Officer and Director (*Principal Executive Officer*)	, 2022
_____ Noel Donnelly, M.B.A.	Chief Financial Officer (*Principal Financial Officer and Principal Accounting Officer*)	, 2022
_____ Christopher Ashton, Ph.D.	Director	, 2022
_____ Heidi Henson	Director	, 2022
_____ Laurie B. Keating, J.D.	Director	, 2022
_____ Joshua Resnick, M.D., M.B.A	Director	, 2022