Risk Factors Comparison 2024-03-01 to 2023-03-09 Form: 10-K

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~~The following~~ **Investing in our common stock involves a high degree of** risk ~~factors and~~ **. You should carefully consider the risks described below, together with all the** other information ~~included~~ in this Annual Report on Form 10- K ~~should be carefully considered~~ **, including the section titled " Management' s Discussion and Analysis of Financial Condition and Results of Operations " and our financial statements and related notes, before you make an investment decision with respect to our securities** . The risks and uncertainties described below ~~are~~ **and in our other filings with the SEC may** not **be** the only **ones** ~~risks and uncertainties~~ we face. **The occurrence** ~~Additional risks and uncertainties not presently known to us or that we presently deem less significant may also impair our business operations. Please see page ii~~ of ~~this Annual Report on Form 10- K for a discussion of some of the forward- looking statements that are qualified by these risk factors. If~~ any of the ~~following risks~~ **events or developments described below, if they actually** occur, **could harm** our business, financial condition, results of operations and ~~future~~ growth prospects **. As a result, the market price of our common stock** could ~~be materially decline,~~ and ~~adversely affected~~ **you may lose all or part of your investment in our common stock** . Risks Related To Our Financial Position and Need for Additional Capital We have incurred significant losses since inception. We expect to incur losses for the foreseeable future and may never achieve or maintain profitability. Since inception, we have incurred significant operating losses. Our net loss was $ **198. 1 million and $** 121. 8 ~~million, $ 165. 4 million, and $ 3. 4~~ million for the years ended December 31, **2023, and** 2022, ~~2021, and 2020~~ respectively. As of December 31, ~~2022~~ **2023** , we had an accumulated deficit of $ ~~293~~ **491** . ~~2~~ **3** million. To date, we have financed our operations primarily through proceeds from our ~~initial~~ **IPO, follow- on** public offering ~~of common stock, or IPO~~ , and private placements of our preferred stock. Substantially all of our losses have resulted from expenses incurred in connection with our research and development and from general and administrative costs associated with our operations. We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future. The net losses we incur may fluctuate significantly from year to year such that a period- to- period comparison of our results of operations may not be a good indication of our future performance. We anticipate that our expenses will increase substantially if and as we: • continue our current research programs and preclinical development of any product candidates we **have identified or may** identify **in the future** ; • seek to identify and progress additional research programs and product candidates; • initiate preclinical studies and clinical trials for any product candidates we **have identified or** may identify **in the future** ; • experience any delays or interruptions due to **global health crises** ~~the ongoing COVID- 19 pandemic~~ , including delays in preclinical testing and clinical trials or interruptions in the supply chain for any **current or** future product candidates; • further develop our in- licensed and company- owned gene editing platform, which we call our Prime Editing platform; • maintain, expand, enforce, defend and protect our intellectual property portfolio and provide reimbursement of third- party expenses related to our patent portfolio; • seek marketing approvals for any product candidates that successfully complete clinical trials; • ~~develop, maintain and enhance a sustainable, scalable, reproducible and transferable manufacturing process for the product candidates we may develop; •~~ ultimately establish a sales, marketing and distribution infrastructure to commercialize any therapies for which we may obtain marketing approval **; • develop, maintain and enhance a sustainable, scalable, reproducible and transferable manufacturing process for the product candidates we may develop** ; • hire additional research and development personnel beyond our current projections; • hire clinical, operations, regulatory and commercial personnel; • add operational, financial and management information systems and personnel, including personnel to support our product development; • acquire or in- license product candidates, intellectual property and technologies and / or work with strategic partners to support and expand our scientific and clinical programs; • establish and maintain collaborations; • should we decide to do so, build and maintain a commercial- scale current good manufacturing practices, or cGMP, manufacturing facility; • operate as a public company; and • identify new opportunities to expand the use of Prime Editing beyond those currently available scientifically and clinically. We have not **yet** initiated clinical development of any ~~potential~~ product candidate and 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 develop and, either directly or through collaborators, eventually commercialize a therapy or therapies with market potential. This will require us to be successful in a range of challenging activities, including identifying product candidates, completing preclinical studies and clinical trials of product candidates, obtaining marketing approval for these product candidates, manufacturing, marketing and selling those therapies for which we may obtain marketing approval and satisfying any post- marketing requirements. We may never succeed in these activities and, even if we do, may never generate revenues that are significant or large enough to achieve profitability. We have transitioned from research and development to ~~early~~ preclinical development for our most advanced ~~potential~~ product candidates. Because of the numerous risks and uncertainties associated with developing Prime Editing product candidates, we are unable to predict the extent of any future losses or when we will become profitable, if at all. 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 would decrease the value of our company and could impair our ability to raise capital, maintain our research and development efforts, expand our business or continue our operations. A decline in the value of our company could also cause you to lose all or part of your investment. We will need substantial additional funding. If we are unable to raise capital when needed, we will be forced to delay, reduce, eliminate or prioritize among our research and product development programs or future commercialization efforts. We expect our expenses to continue to increase in connection with our ongoing activities, particularly as we identify, continue the research and development of, initiate preclinical studies and clinical trials of, and seek marketing approval for,

product candidates. Because we have limited financial and managerial resources, we have prioritized our research programs and lead optimization efforts in specific indications among many potential options. Specifically, our ~~initial development programs target~~ **four areas of focus are** blood, liver, eye, and neuromuscular indications ~~, amongst others~~. As a result of this prioritization, we may forego or delay pursuit of opportunities with other product candidates or for other indications that later prove to have greater clinical or commercial potential and we may need to reprioritize our focus in the future. 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 therapies. In addition, if we obtain marketing approval for any product candidates we may develop, we expect to incur significant commercialization expenses related to product sales, marketing, manufacturing and distribution to the extent that such sales, marketing, manufacturing and distribution are not the responsibility of a collaborator. Furthermore, we have incurred, and will continue to incur, costs associated with operating as a public company. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. If we are unable to raise capital when needed or on attractive terms, we would be forced to delay, reduce or eliminate our research and product development programs or future commercialization efforts. As of December 31, **2023, our cash, cash equivalents, and investments were $ 121. 7 million, excluding restricted cash, or $ 135. 2 million, including restricted cash. In connection with our IPO, completed in October** 2022, **we issued and sold 11, 721, 456 shares of** our **common stock, including 1, 427, 338 shares pursuant to the exercise of the underwriters' option to purchase additional shares, at a price to the public of $ 17. 00 per share. As a result of the IPO, we received $ 180. 2 million in net proceeds, after deducting underwriting discounts, commissions and offering costs of $ 19. 1 million. Based on our current operating plan, we believe that our existing** cash and cash equivalents and short- term investments ~~were $ 293. 9 million~~ , **together** ~~excluding restricted cash, or $ 307. 4 million, including restricted cash. In connection~~ with ~~our IPO, completed in October 2022, we issued and sold 11, 721, 456 shares of our common stock, including 1, 427, 338 shares pursuant to the exercise of the underwriters' option to purchase additional shares, at a price to the public of $ 17. 00 per share. As a result of the IPO, the Company received $ 180. 2 million in~~ net proceeds **from our follow- on public** ~~, after deducting underwriting discounts, commissions and~~ offering **in February 2024** ~~costs of $ 19. 1 million. Based on our current operating plan, we believe that our existing cash and cash equivalents and short- term investments~~ , will be sufficient to fund our operating expenses and capital expenditure requirements into **the third quarter of** 2025. However, our operating plan may change as a result of factors currently unknown to us, and we may need to seek funding sooner than planned. Our future capital requirements will depend on many factors, including those discussed in the risk factor entitled " We have incurred significant losses since inception. We expect to incur losses for the foreseeable future and may never achieve or maintain profitability. " Any additional fundraising efforts may divert our management from their day- to- day activities, which may adversely affect our ability to develop and commercialize any product candidates we may develop. We cannot be certain that additional funding will be available on acceptable terms or at all. We have no committed source of additional capital and, if we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we may have to significantly delay, scale back or discontinue the development or commercialization of any product candidates or other research and development initiatives. Our license and collaboration agreements and any future collaboration agreements may also be terminated if we are unable to meet the payment or other obligations under the agreements. We could be required to seek collaborators for **current or future** potential product candidates earlier than we would otherwise plan or on terms that are less favorable than might otherwise be available. We could also be required to relinquish or license our rights to product candidates on unfavorable terms in certain markets where we otherwise would seek to pursue development or commercialization ourselves. Raising additional capital may cause dilution to our stockholders restrict our operations or require us to relinquish rights to our technologies or product candidates we may develop. 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 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. Debt 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, declaring dividends and possibly other restrictions. In addition, if we raise funds through additional license and collaboration agreements, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our intellectual property, technologies, future revenue streams, research programs or product candidates we may develop, or we may have to grant licenses on terms that may not be favorable to us. Our short operating history may make it difficult for you to evaluate the success of our business to date and to assess our future viability. We are an early- stage company. We were founded in September 2019 and commenced operations in July 2020. Our operations to date have been limited to organizing and staffing our company, business planning, raising capital, acquiring and developing our platform and technology and identifying and ~~beginning to advance~~ **advancing** preclinical testing of ~~potential~~ **current and future** product candidates. All of our programs are still in the research or preclinical stage of development and their risk of failure is high. We have not yet demonstrated an ability to initiate or successfully complete any clinical trials, including large- scale, pivotal clinical trials, obtain marketing approvals, manufacture a commercial- scale therapy, arrange for a third party to do so on our behalf or conduct sales and marketing activities necessary for successful commercialization. Typically, it takes about 10 to 15 years to develop a new therapy from the time it is discovered to when it is available for treating patients. Our limited operating history, particularly in light of the rapidly evolving gene editing field, may make it difficult to evaluate our technology and industry and predict our future performance. Our very short 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 very early stage companies in rapidly evolving fields. If we do not address these risks successfully, our business

will suffer. In addition, as a new business, we may encounter other unforeseen expenses, difficulties, complications, delays, and other known and unknown factors. We will need to transition from a company with a research focus to a company capable of supporting commercial activities. We may not be successful in such a transition. We have never generated revenue from product sales and may never become profitable. Our ability to generate revenue from product sales and achieve profitability depends on our ability, alone or with collaborative partners, to successfully complete the development of, and obtain the regulatory approvals necessary to commercialize, product candidates we may identify for development. We do not anticipate generating revenues from product sales for many years, if ever. Our ability to generate future revenues from product sales depends heavily on our, or our collaborators', ability to successfully: • identify product candidates and successfully complete research development of any product candidates we may identify; • seek and obtain regulatory and marketing approvals for any product candidates for which we complete clinical trials; • launch and commercialize any product candidates for which we may obtain regulatory and marketing approval by establishing a sales force, marketing and distribution infrastructure, or alternatively, collaborating with a commercialization partner; • qualify for adequate coverage and reimbursement by government and third-party payors for any product candidates for which we may obtain regulatory and marketing approval; • establish and maintain supply and manufacturing relationships with third parties that can provide adequate, in both amount and quality, products and services to support clinical development and the market demand for any product candidates for which we obtain regulatory and marketing approval; • address competing technological and market developments; • negotiate favorable terms in any collaboration, licensing or other arrangements into which we may enter and performing our obligations in such collaborations; • receive market acceptance by physicians, patients, healthcare payors, and others in the medical community; • maintain, protect, enforce, defend and expand our portfolio of intellectual property and other proprietary rights, including patents, trade secrets and know- how; • defend against third party intellectual property claims of infringement, misappropriation or other violation; and • attract, hire and retain qualified personnel. Our expenses could increase beyond expectations if we are required by the U. S. Food and Drug Administration, or the FDA, the European Medicines Agency, or the EMA, or other regulatory authorities to perform clinical and other studies in addition to those that we currently anticipate. Even if one or more of the product candidates we may develop are approved for commercial sale, we anticipate incurring significant costs associated with commercializing any approved product candidate. Additionally, such products may become subject to unfavorable pricing regulations, third-party reimbursement practices or healthcare reform initiatives. Even if we are able to generate revenues from the sale of any approved product candidates, we may not become profitable and may need to obtain additional funding to continue operations. Our future ability to utilize our net operating loss carryforwards and certain other tax attributes may be limited. Since our inception, we have incurred losses and we may never achieve profitability. To the extent that we continue to generate taxable losses, under current law, our unused U. S. federal net operating losses, or NOLs, may be carried forward to offset a portion of future taxable income, if any. Additionally, we continue to generate business tax credits, including research and development tax credits, which generally may be carried forward to offset a portion of future taxable income, if any, subject to expiration of such credit carryforwards. Under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, or the Code, if a corporation undergoes an " ownership change, " generally defined as one or more ~~shareholders~~ **stockholders** or groups of ~~shareholders~~ **stockholders** who own at least 5 percent of the corporation' s equity increasing their equity ownership in the aggregate by more than 50 percentage points (by value) over a three- year period, the corporation' s ability to use its pre- change NOLs and other pre- change tax attributes (such as research and development tax credits) to offset its post- change income or taxes may be limited. Similar rules may apply under state tax laws. Our prior equity offerings and other changes in our stock ownership may have resulted in such ownership changes in the past. In addition, we may experience ownership changes in the future due to shifts in our stock ownership, some of which are outside of our control. As a result, if we earn net taxable income, our ability to use our pre- change NOLs or other pre- change tax attributes to offset U. S. federal taxable income may be subject to limitations, which could potentially result in increased future tax liability to us. Additional limitations on our ability to utilize our NOLs to offset future taxable income may arise as a result of our corporate structure whereby NOLs generated by our subsidiary may not be available to offset taxable income earned by our subsidiary. There is a risk that due to changes under the tax law, regulatory changes or other unforeseen reasons, our existing NOLs or business tax credits could expire or otherwise be unavailable to offset future income tax liabilities. At the state level, there may also be periods during which the use of NOLs or business tax credits is suspended or otherwise limited, which could accelerate or permanently increase state taxes owed. For these reasons, we may not be able to realize a tax benefit from the use of our NOLs or tax credits, even if we attain profitability. **Unfavorable macroeconomic conditions** ~~We face risks related to health epidemics, pandemics and other widespread outbreaks of contagious disease, including the ongoing COVID- 19 pandemic, which could significantly disrupt our~~ **or market volatility** ~~operations, impact our financial results or otherwise adversely impact our business. Significant outbreaks of contagious diseases and other adverse public health developments could have a material impact on our business operations and operating results. For example, the spread of COVID- 19 has and identification of new variants of COVID- 19 have affected segments of the global economy and our operations. As a result~~ **resulting** of the ongoing COVID- 19 pandemic..... supplies of drug substance and drug product from **national** ~~our~~ **or** ~~contract manufacturing organizations, or CMOs, to preclinical or clinical research sites or delays or disruptions in any preclinical studies or clinical trials performed by contract research organizations, or CROs; • limitations imposed on our business operations by local, state or federal authorities to address a pandemic or similar public health crises; and • business disruptions caused by potential workplace, laboratory and office closures and an increased reliance on employees working from home, disruptions to or delays in ongoing laboratory experiments and operations, staffing shortages, travel limitations, and cybersecurity and data accessibility or security issues. For example, our laboratory- based personnel may not be able to maximize use of our existing laboratory space due to restrictions on density of people and other aspects of our work have been limited by the need for our staff to isolate. In addition, the trading prices for biopharmaceutical companies have been highly volatile as a result of the ongoing COVID- 19 pandemic and we may face similar volatility in our stock price. We cannot~~

~~predict the scope and severity of any economic recovery after the COVID- 19 pandemic abates, including following any additional " waves " or other intensifying of the pandemic. If we or any of the third parties with whom we engage were to experience additional shutdowns or other business disruptions, our ability to conduct our business in the manner and on the timelines presently planned could be materially and negatively affected, which could have a material adverse impact on our business, financial condition, our results of operations and prospects. Furthermore, the COVID- 19 pandemic could exacerbate the other risks described in this section. For additional information regarding the impact of the ongoing COVID- 19 pandemic, see the section entitled " Management' s Discussion and Analysis of Financial Condition and Results of Operations — Impact of COVID- 19 on Our Operations. " Unfavorable~~ global economic conditions **, including those affecting the financial services industry,** could adversely affect our business, financial condition or results of operations. ~~Our~~ **Adverse macroeconomic conditions or market volatility resulting from national or global economic developments, political unrest, high inflation, rising interest rates, changes in international trade relationships and military conflicts, such as the ongoing conflict between Russia and Ukraine and the conflict in Israel, the post- COVID environment or other factors, could materially and adversely affect our business operations. For instance, actual events involving limited liquidity, defaults, non- performance or other adverse developments that affect financial institutions, transactional counterparties or other companies in the financial services industry or the financial services industry generally, or concerns or rumors about any events of these kinds or other similar risks, have in the past and may in the future lead to market- wide liquidity problems. Investor concerns regarding the U. S. or international financial systems could result in less favorable commercial financing terms, including higher interest rates or costs and tighter financial and operating covenants, or systemic limitations on access to credit and liquidity sources, thereby making it more difficult for us to acquire financing on acceptable terms or at all. In addition, any further deterioration in the macroeconomic economy or financial services industry could lead to losses or defaults by our suppliers, which in turn, could have a material adverse effect on our current and / or planned business operations and our current or projected** results of operations ~~could be adversely affected by general conditions in the global economy~~ and ~~in the global~~ financial ~~markets~~ **condition** . A severe or prolonged economic downturn or additional global financial crises could result in a variety of risks to our business, including weakened demand for any product candidates we develop or our ability to raise additional capital when needed on acceptable terms, if at all. ~~A weak~~ **Further, U. S. government appropriations have been affected by larger U. S. government budgetary issues and related legislation. Government spending levels are difficult to predict beyond the near term due to numerous factors, including the external threat environment, future government priorities and the state of government finances. Significant changes in government spending** or ~~declining economy~~ **changes in U. S. government priorities, policies and requirements** could ~~also strain~~ **have a material adverse effect on our results of operations, financial condition** ~~our~~ **or liquidity** ~~suppliers, possibly resulting in supply disruption~~ . Any of the foregoing could harm our business and we cannot anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact our business. Risks Related To Discovery, Development and Commercialization Gene editing, including platforms such as Prime Editing, is a ~~novel~~ **relatively new** technology that ~~is~~ **has** not ~~yet~~ **been extensively** clinically validated for human therapeutic use. The approach we are taking to discover and develop novel therapeutics is unproven and may never lead to marketable products. We may incur unexpected costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of any product candidates. We are focused on developing therapies utilizing gene editing technology, which is **relatively** new and ~~largely unproven~~ **has not been extensively clinically validated** . The Prime Editing technologies that we have licensed and that we are utilizing in our research programs have not yet been clinically tested, nor are we aware of any clinical trials for safety or efficacy having been completed by third parties using Prime Editing or similar technologies. The scientific evidence to support the feasibility of developing product candidates based on gene editing technologies is both preliminary and limited. Successful development of product candidates will require us to safely deliver a gene editor into target cells, optimize the efficiency and specificity of such product candidates and ensure the therapeutic selectivity of such product candidates. We may need to address other safety issues as well, and to demonstrate the full value of these products, we will need to achieve these goals with single administration and demonstrate a permanent correction. There can be no assurance that our Prime Editing platform will achieve these goals, lead to the development of genetic therapies or be successful in solving any or all of these issues. Our future success is highly dependent on the successful development of gene editing technologies, cellular delivery methods and therapeutic applications of that technology. We may decide to alter or abandon our initial programs as new data become available and we gain experience in developing gene editing therapeutics. We cannot be sure that our technologies will yield satisfactory products that are safe and effective, scalable or profitable in our initial indications or any other indication we pursue. Adverse developments in the clinical development efforts of other gene editing **or gene therapy** technology companies could adversely affect our efforts or the perception of any product candidates we may develop by both investors and regulatory authorities. Similarly, other gene therapy approaches may be determined to be more attractive than Prime Editing. Moreover, if we decide to develop gene editing technologies other than those involving Prime Editing, we cannot be certain we will be able to obtain rights to such technologies. Although both of our co- founders have entered into agreements with us pursuant to which they assign any inventions to us with respect to the services they perform for us, such assignment obligations are subject to certain limitations, and do not extend to their work in other fields or to the intellectual property arising from their employment with their respective academic and research institutions. To obtain intellectual property rights assigned by our co- founders to such institutions, we would need to enter into license agreements with such institutions, such as the Broad Institute, Inc., or Broad Institute, Howard Hughes Medical Institute, or HHMI, and Harvard University, or Harvard, which may not be available on commercially reasonable terms or at all. Additionally, our consulting agreement with David Liu is subject to (i) the policies and regulations of certain institutions and (ii) certain agreements between such co- founder and certain third parties, including Beam Therapeutics Inc., or Beam Therapeutics. Any of these factors could reduce or eliminate our commercial opportunity and could

have a material adverse effect on our business, financial condition, results of operations and prospects. ~~Development activities in the field of gene editing are currently subject to a number of risks, including risks related to the ownership and use of certain intellectual property rights that are subject to patent interference proceedings in the United States and opposition proceedings in Europe. For additional information regarding the risks that may apply to our and our licensors' intellectual property rights, see the section entitled " — Risks Related To Our Intellectual Property. "~~ Additionally, public perception and related media coverage relating to the adoption of new therapeutics or novel approaches to treatment, as well as ethical concerns related specifically to gene editing, may adversely influence the willingness of subjects to participate in clinical trials, or, if any therapeutic is approved, of physicians and patients to accept these novel and personalized treatments. Physicians, health care providers and third- party payors often are slow to adopt new products, technologies and treatment practices, particularly those that may also require additional upfront costs and training. Physicians may not be willing to undergo training to adopt these novel and potentially personalized therapies, may decide the particular therapy is too complex or potentially risky to adopt without appropriate training, and may choose not to administer the therapy. Furthermore, due to health conditions, genetic profile or other reasons, certain patients may not be candidates for the therapies. In addition, responses by federal and state agencies, Congressional committees and foreign governments to negative public perception, ethical concerns or financial considerations may result in new legislation, regulations or medical standards that could limit our ability to develop or commercialize any product candidates, obtain or maintain regulatory approval or otherwise achieve profitability. New government requirements may be established that could delay or prevent regulatory approval of any product candidates we may develop. It is impossible to predict whether legislative changes will be enacted, regulations, policies or guidance changed, or interpretations by agencies or courts changed, or what the impact of such changes, if any, may be. Based on these and other factors, health care providers and payors may decide that the benefits of these new therapies do not or will not outweigh their costs. Clinical drug development involves a lengthy and expensive process, with an uncertain outcome. Because gene editing is ~~novel~~ **relatively new** and the regulatory landscape that will govern **any** ~~our potential~~ product candidates **we may develop** is uncertain and may change, we cannot predict the time and cost of obtaining regulatory approval, if we receive it at all, for **any** ~~our potential~~ product candidates. The time required to obtain approval for any of our ~~potential~~ **current or future** product candidates from the FDA, the EMA or other comparable foreign regulatory authorities is unpredictable but typically takes many years following the commencement of clinical trials and depends upon numerous factors, including the substantial discretion of regulatory authorities. Clinical trials may fail to demonstrate that our product candidates are safe for humans and effective for indicated uses. Even if initial clinical trials in any of our product candidates we may develop are successful, such product candidates may fail to show the desired safety and efficacy in later stages of clinical development despite having successfully advanced through preclinical studies and initial clinical trials. There is a high failure rate for drugs and biologics proceeding through clinical trials. A number of companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in later stage clinical trials even after achieving promising results in earlier stage clinical trials. Because gene editing is ~~novel~~ **relatively new** , the regulatory requirements that will govern any novel gene editing product candidates we develop may continue to evolve. Within the broader genetic therapy field, a limited number of gene therapy products have received marketing authorization from the FDA and the EMA to date. Even with respect to more established products that fit into the categories of gene therapies or cell therapies, the regulatory landscape is still developing. Regulatory requirements governing the development of gene therapy products and cell therapy products have changed frequently and may continue to change in the future. Moreover, there is substantial, and sometimes uncoordinated, overlap in those responsible for regulation of existing gene therapy products and cell therapy products. **The** ~~In 2016, the~~ FDA **' s** ~~has established the~~ Office of **Therapeutic Products** ~~Tissues and Advanced Therapies~~ , ~~or OTAT, within its Center for~~ - **or OTP** ~~Biologics Evaluation and Research~~ , ~~or CBER, to consolidate the review~~ **reviews** ~~of~~ gene **and cell** ~~therapy~~ **therapies** and related products ~~,~~ and **has been elevated** ~~the Cellular, Tissue and Gene Therapies Advisory Committee to advise CBER on its review. In September 2022, the FDA announced retitling of OTAT to the Office of Therapeutic Products, or OTP, and the elevation of OTP~~ to a " Super Office " to meet its growing cell and gene therapy workload. Gene therapy clinical trials may also be subject to review and oversight by an institutional biosafety committee, or IBC, a local institutional committee that reviews and oversees certain basic and clinical research conducted at the institution participating in the clinical trial. Although the FDA decides whether individual gene therapy protocols may proceed, the review process and determinations of other reviewing bodies, such as an IBC, can impede or delay the initiation of a clinical trial, even if the FDA has reviewed the trial and approved its initiation. For example, more recently, some gene editing companies have seen significant delays in receiving FDA authorization to allow the initiation of their clinical trials, and has suspended ongoing trials, due to the FDA' s placement of clinical holds on their ~~investigational new drug, or~~ IND ~~,~~ applications. The same applies in the **EU** ~~European Union~~ . The EMA' s Committee for Advanced Therapies, or CAT, is responsible for assessing the quality, safety and efficacy of advanced- therapy medicinal products (i. e. gene therapy, somatic-cell therapy or tissue- engineered medicines). The role of the CAT is to prepare a draft opinion on an application for marketing authorization for a gene therapy medicinal candidate that is submitted to the Committee for Medicinal Products for Human Use, or CHMP, before the CHMP adopts its opinion which is submitted to the European Commission for the final decision on whether to grant a marketing authorization or not. In the **EU** ~~European Union~~ , the EMA publishes guidelines for the development and evaluation of gene therapy medicinal products to assist in preparing marketing authorization applications, however these are continually under review. The EMA may issue new guidelines concerning the development and marketing authorization for gene therapy medicinal products and require that we comply with these new guidelines. Adverse developments in post- marketing experience or in clinical trials conducted by others of gene therapy products, cell therapy products or products developed through the application of gene editing technology may cause the FDA, the EMA and other regulatory bodies to revise the requirements for development or approval of our ~~potential~~ **current or future** product candidates or limit the use of products utilizing gene editing technologies, either of which could materially harm our business. In addition, the clinical trial

requirements of the FDA, the EMA and other regulatory authorities and the criteria these regulators use to determine the safety and efficacy of a product candidate vary substantially according to the type, complexity, novelty and intended use and market of the potential products. The regulatory approval process for novel product candidates can be more expensive and take longer than for other, better known or more extensively studied pharmaceutical or other product candidates. Regulatory agencies administering existing or future regulations or legislation may not allow production and marketing of products utilizing gene editing technology in a timely manner or under technically or commercially feasible conditions. In addition, regulatory action or private litigation could result in expenses, delays or other impediments to our research programs or the commercialization of resulting products. We and our collaborators, if any, may experience numerous unforeseen events during, or as a result of, clinical trials that could delay or prevent our ability to receive marketing approval or commercialize any product candidates we may identify and develop, including regulatory delays, negative or inconclusive results from our clinical trials, difficulty in designing well- controlled clinical trials, lack of regulatory authorization for our clinical trials, and patients or clinical trial sites dropping out of a trial. The regulatory review committees and advisory groups described above and the new guidelines they promulgate may lengthen the regulatory review process, require us to perform additional studies or trials, increase our development costs, lead to changes in regulatory positions and interpretations, delay or prevent approval and commercialization of these treatment candidates or lead to significant post- approval limitations or restrictions. As we advance our research programs and develop future product candidates, we will be required to consult with these regulatory and advisory groups and to comply with applicable guidelines. If we fail to do so, we may be required to delay or discontinue development of any product candidates we identify and develop. Because we are developing product candidates in the field of genetic medicines in which there is little clinical experience, there is increased risk that the FDA, the EMA or other regulatory authorities may not consider the endpoints of our clinical trials to provide clinically meaningful results and that these results may be difficult to analyze. In order to proceed into clinical development of any product candidates we identify, we will need to submit **applications to regulatory authorities, such as** ~~INDs~~ **IND** ~~or~~ **applications and** clinical trial applications ~~to regulatory authorities~~ **, or CTAs,** and obtain regulatory clearance to commence clinical development. Because the product candidates we identify are based on novel gene- editing technology, we may be unsuccessful in obtaining clearance from regulatory authorities to proceed into clinical development. In order to commence clinical development, we will need to identify success criteria and endpoints such that the FDA, the EMA or other regulatory authorities will be able to determine the clinical efficacy and safety profile of any product candidates we may develop. As we are initially seeking to identify and develop product candidates to treat diseases in which there is little clinical experience using new technologies, and while we may have opportunities to discuss our clinical development plans with regulatory authorities prior to commencing clinical development, there is heightened risk that the FDA, the EMA or other regulatory authorities may not consider the clinical trial endpoints that we propose to provide clinically meaningful results (reflecting a tangible benefit to patients), or may ask for additional endpoints to assess patient safety. In addition, the resulting clinical data and results may be difficult to analyze. Even if the FDA does find our success criteria to be sufficiently validated and clinically meaningful, we may not achieve the pre- specified endpoints to a degree of statistical significance. This may be a particularly significant risk for many of the genetically defined diseases for which we plan to develop product candidates because many of these diseases such as Friedreich' s Ataxia have small patient populations, and designing and executing a rigorous clinical trial with appropriate statistical power is more difficult than with diseases that have larger patient populations. Furthermore, even if we do achieve the pre- specified criteria, we may produce results that are unpredictable or inconsistent with the results of the non- primary endpoints or other relevant data. The FDA also weighs the benefits of a product against its risks, and the FDA may view the efficacy results in the context of safety as not being supportive of regulatory approval. Other regulatory authorities in the European Union and other countries may make similar comments with respect to these endpoints and data. Any product candidates we may develop will be based on a ~~novel~~ **relatively new** technology that makes it difficult to predict the time and cost of development and of subsequently obtaining regulatory approval. ~~No~~ **Further, we expect our clinical trials to include surrogate endpoints, which may be novel or for which the FDA or regulatory authorities lack familiarity or experience, and which may increase the risk that the FDA or other regulatory authorities may disagree that such endpoints are sufficient, and could require that additional trials are conducted. Very few gene therapy products have received marketing authorization or marketing approval from the European Commission or the FDA, and only one** gene editing therapeutic product has been approved in the United States ~~or~~ **and** in Europe. ~~Within~~ **Some of** ~~the~~ **these** ~~broader genome product field, only a limited number of~~ gene therapy ~~products, such as uniQure N. V.' s Glybera and Abecma from Bristol Myers Squibb and bluebird bio, have received marketing authorization or marketing approval from the European Commission or the FDA. Some of these~~ products have taken years to register and have had to deal with significant issues in their post- marketing experience. We are very early in our development efforts and we have not yet ~~completed IND- enabling studies or~~ initiated clinical development of a product candidate. As a result, we expect it will be many years before we commercialize any product candidate, if ever. If we are unable to advance our current or future product candidates into and through clinical trials, obtain marketing approval and ultimately commercialize our product candidates or experience significant delays in doing so, our business will be materially harmed. The success of our business depends primarily upon our ability to identify, develop and commercialize product candidates. We are ~~very~~ early in our development efforts and have focused our research and development efforts to date on our Prime Editing platform, developing our Prime Editors and identifying **and advancing** our initial targeted disease indications **to IND- enabling studies and towards initiating clinical trials** . Although we believe we can demonstrate many of the key advantages of Prime Editing, because we are very early in our development efforts, we are not yet certain of the results we may achieve, which may be important for registration and commercialization of our products. Such uncertainties include but are not limited to the actual size of the set of pathogenic mutations we can address, the level of editing efficiency we can produce, the degree of unwanted byproducts we may encounter, our ability to achieve editing success in a single administration or the permanence of our edits. We have also not

yet shown that preclinical editing efficacy can result in clinically important effects, nor that results of biomarker studies in our preclinical models can translate into positive results in clinical trials. One particular form of Prime Editing that uses recombinases to insert targeted " gene- sized " DNA into the genome, is in an even earlier stage of research and development than our immediate target indications and our differentiation indications. We believe this promising form of Prime Editing needs more than one source of DNA as a template and may deliver with less efficacy. All of our product development programs are still in the research or preclinical stage of development. **We have announced our first product candidate, PM359 for the treatment of CGD, and are currently conducting IND- enabling studies.** Our research methodology may be unsuccessful in identifying ~~potential~~ **other** product candidates, our ~~potential~~ product candidates may be shown to have harmful side effects in preclinical in vitro experiments or animal model studies, they may not show promising signals of therapeutic effect in such experiments or studies or they may have other characteristics that may make the product candidates impractical to manufacture, unmarketable, or unlikely to receive marketing approval. We may experience delays in conducting or completing preclinical studies due to supply chain interruptions that could lead to shortages in materials or animals required for such ~~studied~~ **studies** . For example, ~~recently~~ it has been reported that there is a shortage of non- human primates for biomedical research, which are used in preclinical studies. We have not achieved preclinical proof of concept for many of our programs and there is no guarantee that we will achieve it for any specific program. Our proposed delivery methods with ~~potential~~ **current or future** product candidates have never been evaluated in human clinical trials. Moreover, we are not aware of any clinical trials involving Prime Editing technology. Our ability to generate product revenue, which we do not expect will occur for many years, if ever, will depend heavily on the successful development and eventual commercialization of any product candidates we may develop, 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. In addition, although we believe Prime Editing will position us to rapidly expand our portfolio of product candidates beyond the initial product candidates we may develop after only minimal changes to the product candidate construct, we have not yet successfully developed any product candidate and our ability to expand our portfolio may never materialize. Commencing clinical trials in the United States is also subject to acceptance by the FDA of our IND application and finalizing the trial design based on discussions with the FDA and other regulatory authorities. 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 our 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 studies or trials or impose stricter approval conditions than we currently expect. **For example, gene therapy companies have been subject to a clinical hold before IND acceptance, in which the FDA has requested further information such as additional control data for preclinical studies and further analyses of certain off- target editing experiments. Accordingly, we may not obtain an immediate IND acceptance on submission and the FDA may request additional information or studies.** There are equivalent processes and risks applicable to clinical trial applications in other countries, including in Europe. Some of our approaches may require interaction and approval from regulatory authorities beyond the specific requirements for individual product candidates. For example, our " march up the chromosome " personalized medicine approach may require the use of **umbrella or** basket clinical studies, studies where more than one mutation in a **disease or more than one** disease are studied in a single clinical trial or even studies where mutations in different diseases are studied in a single clinical trial. Some of our approaches may also require studying more than one Prime Editor under a single IND or applying for registration for a suite of Prime Editor products to allow broad therapeutic coverage for a wide range of mutations in a single disease. ~~It is also possible that using Prime Editing approaches in a wider, healthier population, as we propose in our " Blue Sky " approaches, may require different safety and regulatory thresholds from those required for smaller, more critically ill groups of patients.~~ Even if we complete the necessary clinical trials, we cannot predict when, or if, we will obtain regulatory approval to commercialize our ~~potential~~ **current or future** product candidates in the United States or any other jurisdiction, if at all, and any such approval may be for a ~~more narrow~~ **narrower** indication than we seek. In addition, clinical trials conducted in one country may not be accepted by regulatory authorities in other countries, and regulatory approval in one country does not guarantee regulatory approval in any other country. We may conduct one or more of our clinical trials with one or more trial sites that are located outside the United States. Although the FDA may accept data from clinical trials conducted outside the United States, acceptance of these data is subject to conditions imposed by the FDA, and there can be no assurance that the FDA will accept data from trials conducted outside of the United States. If the FDA does not accept the data from any trial that we conduct outside the United States, it would likely result in the need for additional trials, which would be costly and time- consuming and could delay or permanently halt our development of the applicable product candidates. Similarly, marketing approval by the FDA in the United States, if obtained, does not ensure approval by regulatory authorities in other countries or jurisdictions. Approval processes vary among countries and can involve additional product candidate testing and validation and additional administrative review periods. Commercialization of any product candidates we may develop will also require preclinical and clinical development ; regulatory and marketing approval in multiple jurisdictions, including by the FDA and the EMA ; manufacturing supply, capacity and expertise; building of a commercial organization; and significant marketing efforts. The success of product candidates we may identify and develop 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 ; • effective ~~INDs~~ **IND applications** or comparable foreign applications that allow commencement of our planned clinical trials or future clinical trials for any product candidates we may develop ; • successful enrollment and completion of clinical trials, including under the FDA' s current good clinical practices, or GCPs, current good laboratory practices, or GLPs, and any additional regulatory requirements from foreign regulatory authorities ; • positive results from our future clinical trials that support a finding of safety and effectiveness and an acceptable risk- benefit profile in the intended populations ; • receipt of marketing approvals from applicable regulatory authorities ; • 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 any product candidates we may develop ; • commercial launch of any product candidates we may develop, if approved, whether alone or in collaboration with others ; • acceptance of the benefits and use of our product candidates we may develop, including method of administration, if and when approved, by patients, the medical community and third- party payers ; • effective competition with other therapies; • maintenance of a continued acceptable safety, tolerability and efficacy profile of any product candidates we may develop following approval ; and • establishment and maintenance of healthcare coverage and adequate reimbursement by payers. If we do not successfully commercialize any product candidates we may develop, we could experience a material harm to our business. We may find it difficult to enroll patients in our clinical trials given the limited number of patients who have the diseases any product candidates we identify or develop are intended to target. If we experience delays or difficulties in the enrollment of patients in clinical trials, our clinical development activities and our receipt of necessary regulatory approvals could be delayed or prevented. Although we are currently in preclinical development, as we progress our programs we may not be able to initiate or continue clinical trials for any product candidates we identify or develop if we are unable to locate and enroll a sufficient number of eligible patients to participate in these trials as required by the FDA, the EMA or other analogous regulatory authorities outside the United States, or as needed to provide appropriate statistical power for a given trial. Enrollment may be particularly challenging for some of the rare genetically defined diseases we are targeting in our most advanced programs. In addition, if patients are unwilling to participate in our gene editing trials because of negative publicity from adverse events related to the biotechnology, gene therapy or gene editing fields, competitive clinical trials for similar patient populations, clinical trials in competing products or for other reasons, the timeline for recruiting patients, conducting studies and obtaining regulatory approval of our potential product candidates may be delayed. Moreover, some of our competitors may have ongoing clinical trials for product candidates that would treat the same indications as our ~~potential~~ **current or future** product candidates, and patients who would otherwise be eligible for our clinical trials may instead enroll in clinical trials of our competitors' product candidates. Patient enrollment is also affected by other factors, some of which may include: • severity of the disease under investigation; • size of the patient population and process for identifying patients, including proximity and availability of clinical trial sites for prospective patients with conditions that have small patient pools; • design of the trial protocol, including efforts to facilitate timely enrollment in clinical trials; • availability and efficacy of approved medications for the disease under investigation; • availability of genetic testing for potential patients and ability to monitor patients adequately during and after treatment; • ability to obtain and maintain patient informed consent; • risk that enrolled patients will drop out before completion of the trial; • eligibility and exclusion criteria for the trial in question; • perceived risks and benefits of the product candidate under ~~trial~~ **investigation** and gene editing as a therapeutic approach; and • patient referral practices of physicians. In addition, our ability to successfully initiate, enroll and complete a clinical trial in any foreign country is subject to numerous risks unique to conducting business in foreign countries, some of which may include: • difficulty in establishing or managing relationships with CROs and physicians; • different standards for the conduct of clinical trials; • different standard- of- care for patients with a particular disease; • difficulty in locating qualified local consultants, physicians and partners; and • potential burden of complying with a variety of foreign laws, medical standards and regulatory requirements, including the regulation of pharmaceutical and biotechnology products and treatment and of gene editing technologies. Enrollment delays in our clinical trials may result in increased development costs for our ~~potential~~ **current or future** product candidates, which would cause the value of our Company to decline and limit our ability to obtain additional financing. If we or our collaborators have difficulty enrolling a sufficient number of patients to conduct our clinical trials as planned, we may need to delay, limit or terminate ongoing or planned clinical trials or entire clinical programs, any of which would have an adverse effect on our business, financial condition, results of operations and prospects. The gene editing field is relatively new and is evolving rapidly, making us subject to additional development challenges and risks. We are focusing our research and development efforts on gene editing using Prime Editing technology, but other gene editing technologies may be discovered that provide significant advantages over Prime Editing, which could materially harm our business. To date, we have focused our efforts on our Prime Editing platform. However, there are numerous other companies advancing gene editing and gene therapy product candidates that are in preclinical or clinical development. Some of these other companies have previously undertaken research and development of gene editing technologies using clustered regularly interspaced short palindromic repeats, or CRISPR, or other forms such as base editing, zinc finger nucleases, or ZFNs, engineered meganucleases and transcription activator- like effector nucleases, or TALENs, but to date none has obtained marketing approval for a product candidate. There can be no certainty that Prime Editing technology will lead to the development of genetic therapies or that other gene editing technologies will not be considered better or more attractive for the development of therapies. For example, transposons, or " jumping genes, " can insert themselves into different places in the genome and carry specific DNA sequences to specific sites without the need for making double- stranded breaks in DNA, although such methods currently cannot target specific locations. Multiple companies are also developing alternative gene editing technologies, including Tessera Therapeutics, which states it is pioneering Gene Writing ™, a new genome engineering technology that writes therapeutic messages into the genome to treat diseases at their source ~~,~~ **;** Metagenomi, which states it is using metagenomics – the study of genetic material recovered from organisms found in the world' s natural microbial environments) – and machine learning to discover novel genome editing systems for therapeutics development **;** ~~, and~~ Arbor Biotechnologies, which states it is developing genetic medicines through the discovery of programmable DNA editors to enable curative outcomes for patients **; and Chroma Medicine and Moonwalk Therapeutics, both of which are focused on epigenetic editing to treat disease** . In addition, Beam Therapeutics is developing novel base editing technology. We have entered into a collaboration and license agreement with Beam Therapeutics, under which we grant Beam Therapeutics certain exclusive and non- exclusive rights in our Prime Editing technology in certain fields. Our license grant to Beam Therapeutics does not cover all fields and applications of

Prime Editing and we retain the majority of rights to use the licensed Prime Editing technology outside of the fields licensed to Beam Therapeutics. It is possible that base editing or other gene editing technology developed by Beam Therapeutics will be competitive with our business, and it is also possible that such editing technology may be considered more attractive than Prime Editing. Therefore, Beam Therapeutics may develop competing products using such technology. For more information regarding our agreement with Beam Therapeutics, see " Business — Our License and Collaboration Agreements — Strategic relationship with Beam Therapeutics. " Similarly, other new gene editing technologies that have not been discovered yet may be determined to be more attractive than Prime Editing. Moreover, if we decide to develop gene editing technologies other than those involving Prime Editing, we cannot be certain we will be able to obtain rights to such technologies. Although both of our co- founders who currently provide consulting and advisory services to us in the area of gene editing technologies have entered into agreements with us pursuant to which they assign to us any inventions with respect to the services they perform for us, such obligations are subject to limitations and do not extend to their work in other fields or to the intellectual property arising from their employment with their respective academic and research institutions. To obtain intellectual property rights assigned by these co- founders to such institutions, such as Broad Institute, HHMI and Harvard, we would need to enter into license agreements with such institutions, which may not be available on commercially reasonable terms or at all. Additionally, our consulting agreement with David Liu is subject to (i) the policies and regulations of certain institutions and (ii) certain agreements between such co- founder and certain third parties, including Beam Therapeutics. Furthermore, although our co- founders have long- term supporting or employment roles with us, a financial stake in our success and, in certain cases, non- competition clauses in their consulting or employment agreements, such non- competition obligation is limited to the field of any and all gene editing and technology. Therefore it is possible that they may in the future develop new technologies that are outside of the field of their non- competition obligations but may be competitive to our business. In addition, other companies may use Prime Editing to develop product candidates in areas they believe are not covered under our foundational licensed issued ~~patent~~ **patents** , patent applications or know- how. There are also 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 the disease indications for which we have research programs, using approaches other than gene editing approaches. Any of these factors could reduce or eliminate our commercial opportunity, and could have a material adverse effect on our business, financial condition, results of operations and prospects. Moreover, because our in vivo technology may involve gene editing across multiple cell and tissue types, we are subject to many of the challenges and risks that other gene editing therapeutics and gene therapies face, including evolving regulatory guidance governing gene and gene editing therapy products, the potential risk of improper modulation of a gene sequence and extended follow- up observation periods that may be required by regulatory agencies. We have not tested any of our proposed delivery methods or gene editing approaches in clinical trials and any favorable results we may have may not be predictive of results that may be observed in later preclinical studies or clinical trials. If our **current or** potential product candidates, our Prime Editing technology or the delivery modes we rely on to administer them lack efficacy or cause serious adverse events, undesirable side effects or unexpected characteristics, such results could delay or prevent regulatory approval of the product candidates, limit the commercial potential or result in significant negative consequences following any potential marketing approval. We are developing a broad set of delivery technologies to support our Prime Editing programs. This will lead to significant challenges to develop a corresponding set of technical capabilities in support of these programs. In particular, a variety of serious adverse events, undesirable side effects or unexpected characteristics may occur. Such events, side effects or characteristics could delay or prevent regulatory approval of any product candidates we may develop, limit the commercial potential or result in significant negative consequences following any potential marketing approval. In addition, our Prime Editing technology itself, may lead to other issues, such as inability to deliver the desired efficacy or safety- related consequences as it is tested in clinical trials. We have not tested any of our proposed delivery methods in clinical trials and any favorable results we may have may not be predictive of results that may be observed in later preclinical studies or clinical trials. Furthermore, we have not generated any clinical trial results to date. 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 product candidates. Many product candidates that initially showed promise in early stage testing for treating a variety of diseases have later been found to lack efficacy or to cause side effects that prevented further clinical development of the product candidates. Moreover, there have been only a very limited number of clinical trials involving the use of any gene editing technologies and none involving gene editing technology similar to our Prime Editing technology. It is impossible to predict when or if any product candidates we may develop will prove safe in humans. In the ~~genetic~~ **gene** therapy field, there have been several significant adverse events from gene therapy treatments in the past, including both the impact of the technology for editing, as well as the delivery methods used to convey the gene editing technology. These include a variety of safety concerns, including reported cases of leukemia, other cancers, significant morbidities and death. There can be no assurance that gene editing technologies such as our Prime Editing technology or the delivery methods we plan to use will not cause such undesirable side effects. We cannot be sure that our Prime Editing technology or any of our planned delivery methods will not result in adverse effects in the long- term, such as improper editing of a patient' s DNA that leads to lymphoma, leukemia, other cancers or other aberrantly functioning cells or other as yet unidentified findings. Many times, side effects manifest or are only detectable after investigational products are tested in larger scale, pivotal clinical trials or, in some cases, after they are made available to patients on a commercial scale after approval. FDA guidance advises that patients treated with gene therapies undergo long- term follow- up observation for identification of potential adverse events for as long as 15 years. If additional clinical or long- term follow- up experience indicates that any of our ~~potential~~ **current or future** product candidates have side effects or cause serious or life- threatening side effects, the development of the product candidate may fail or be delayed, or, if the product candidate has received regulatory approval, such approval may be revoked or limited. It is also

possible that serious or life- threatening side effects may cause significant delay or altered perception of any product candidates we may develop, even if we are able to later show these effects are unrelated to our product candidates. Any adverse events may cause us to delay, limit or terminate other planned clinical trials, for example any that use a similar delivery method or those that use similar aspects of Prime Editing, any of which would have a material adverse effect on our business, financial condition, results of operations and prospects. In addition, many product candidates that initially showed promise in early- stage testing have later been found to cause later side effects that prevented further clinical development of the product candidates. Additionally, a significant risk in any gene editing product candidate is that " off- target " edits, or edits far from the intended site of gene editing, or unintended consequences of on- and off- target editing may occur, which could cause serious adverse events, undesirable side effects or unexpected characteristics. One major causative factor leading to " off target " edits is the formation of double- strand breaks during gene editing. If double- strand breaks were to occur, they can also lead to decreased cell viability in edited cells, and an increase **in** large deletions or structural rearrangements of DNA, chromosomal translocations or joining of one chromosome to another. In certain uses of Prime Editing, such as the use of dual flaps methods, or in some cases of use of nick- guide RNAs, more than one edit occurs along the target site ~~. Although our preliminary data suggests otherwise~~ , **and** it is possible that the use of these variations of Prime Editing could result in adverse effects similar to those observed with double- strand breaks. **It** ~~However, our current understanding of our mechanism of action, which is designed to prevent double- strand breaks with Prime Editing, and preliminary data in our experiments suggest this risk may be low. We have performed initial experiments using assays that can detect off- target edits, even when such edits occur at very low frequencies. Using these assays, as well as reviewing published results, off- target edits have been noted. Except for initial experiments, we have not yet performed these experiments with our potential product candidates, so it~~ is possible that we will detect ~~more~~ such off- target edits or other unintended consequences of on- or off- target edits **in** ~~. However,~~ our current **or future product candidates. Our preclinical** information **for our current or future product candidates** is limited, and we cannot be certain that Prime Editing with any product candidates we may develop will not cause rare double- strand breaks or that off- target editing or other unintended consequences of on- or off- target editing will not occur and cause serious adverse events in any of our future clinical trials. Furthermore, the lack of observed serious side effects in any preclinical studies to date does not guarantee that such side effects will not occur in human clinical trials of any product candidates we may develop, which would adversely impact our product development programs and business. There is also the potential risk of delayed adverse events following exposure to Prime Editing therapy due to the permanence of edits to DNA or due to other components of product candidates used to carry the genetic material. In addition, because Prime Editing makes a permanent change, the therapy cannot be withdrawn, even after a side effect is observed. These risks also apply to " on- target " mis- edits, also often called " indels, " or edits that are not intended but occur at the target site of gene correction, which might also have all of the above consequences, as well as yet unforeseen adverse effects. **Within our blood programs, we are developing next generation CAR- T cell product (s) for autoimmune or oncology indication (s). While we believe our potential CAR- T product is differentiated from current products, our approach uses PASSIGE technology, which requires the use of a recombinase enzyme and Prime Editing. The use of recombinase enzymes in a human therapeutic is new, and has the potential to result in off- target insertions in the genome. The FDA has recently placed black box warnings on all CAR- T products based on their oncological risks, including secondary T- cell malignancies, caused by integrating vectors such as lentiviral or retroviral vectors. We cannot be sure that our approach will not result in adverse events or be subject to future black box warnings.** Although we and others have demonstrated the ability to engineer gene editors which are designed to improve the specificity of their edits in a laboratory setting, we cannot be sure that our engineering efforts will be effective in any product candidates that we may develop. For example, we might not be able to engineer an editor to make the desired change, could diminish the effectiveness of an edit that we make or lead to adverse effects. To date, these types of adverse effects have not been observed in our ongoing experiments and programs. Some Prime Editing approaches, such as those that use mismatch repair, or MMR, inhibition, may potentially also lead to adverse effects. Since our inhibition of MMR for use in Prime Editing is likely to be transient, lasting at most hours to days, we believe the risk related to MMR inhibition is small. We also cannot be sure that our Prime Editing technology or any of our planned delivery methods will not result in adverse effects including allergic reactions, other changes in safety parameters, increases in liver function tests or many other potential concerns noted in clinical trials. It is also possible that our Prime Editors or our delivery methods will result in significant immunogenicity that may lead to adverse effects and could also prevent any chance of reapplication of a delivery method, or gene editing method in the future, if needed. In certain of our programs ~~,~~ we plan to use lipid nanoparticles, or LNPs, to deliver our Prime Editors. **LNPs have been reported to result in liver toxicity in clinical trials, and in preclinical studies** LNPs have been shown to induce oxidative stress in the liver at certain doses ~~, as well as initiate systemic inflammatory responses that can be fatal in some cases~~ . While we aim to continue to optimize our LNPs, there can be no assurance that our LNPs will not have undesired effects. Our LNPs could contribute, in whole or in part, to one or more of the following: immune reactions, infusion reactions, complement reactions, opsonization reactions, antibody reactions including IgA, IgM, IgE or IgG or some combination thereof, or reactions to the PEG from some lipids or PEG otherwise associated with the LNP. Certain aspects of our investigational therapies may induce immune reactions from either the mRNA or the lipid as well as adverse reactions within liver pathways or degradation of the mRNA or the LNP, any of which could lead to significant adverse events in one or more of our future clinical trials. Many of these types of side effects have been seen for legacy LNPs. There may be uncertainty as to the underlying cause of any such adverse event, which would make it difficult to accurately predict side effects in future clinical trials and would result in significant delays in our programs. ~~Our viral vectors including~~ **We plan to use** adeno- associated viruses, or AAVs, ~~or lentiviruses,~~ which ~~are~~ **is a** relatively new ~~approaches~~ -- **approach** ~~used~~ for disease treatment ~~, also~~ **. AAV vectors** have known side effects ~~,~~ and ~~for which~~ additional risks could develop in the future. In past clinical trials that were conducted by others with ~~non-~~ AAV vectors, several significant side effects were caused by gene therapy treatments, including **, among others,** reported

cases of ~~leukemia~~ **neurotoxicity, hepatotoxicity** and death. Other potential side effects could include ~~an~~ immunologic ~~reaction~~ **reactions** and insertional oncogenesis, which is the process whereby the insertion of a functional gene near a gene that is important in cell growth or division results in uncontrolled cell division, which could potentially enhance the risk of malignant transformation. AAV vectors may also persist in the cell for long periods, potentially permanently, and may result in long- term adverse effects. If the **AAV** vectors we use demonstrate ~~a~~ similar side ~~effect~~ **effects** or other adverse events, we may be required to halt or delay further clinical development of any ~~potential~~ **of our current or future** product candidates. Furthermore, the FDA has stated that ~~lentiviral~~ **non- AAV** vectors possess characteristics that may pose high risks of delayed adverse events. Such delayed adverse events may occur in other viral vectors, including AAV vectors, at a lower rate. In addition to side effects and adverse events caused by any product candidates we may develop, the conditioning, administration process or related procedures which may be used in our electroporation pipeline also can cause adverse side effects and adverse events. A gene therapy patient is generally administered cytotoxic drugs to remove stem cells from the bone marrow to create sufficient space in the bone marrow for the modified stem cells to engraft and produce new cells. This procedure compromises the patient' s immune system. In the future, if we are unable to demonstrate that such adverse events were caused by the conditioning regimens used, administration process or related procedure, the FDA, the EMA or other regulatory authorities could order us to cease further development of, or deny approval of, any product candidates we may develop for any or all target indications. Even if we are able to demonstrate that adverse events are not related to the drug product or the administration of such drug product, such occurrences could affect patient recruitment, the ability of enrolled patients to complete the clinical trial or the commercial viability of any product candidates that obtain regulatory approval **. While we are developing a cell shielding approach which, combined with antibody depletion of bone marrow stem cells, has the potential to be a benign method to condition patients for hematopoietic stem cell transplant, antibody- mediated conditioning with cell shielding is at the preclinical stage, and may not be successful or may have unexpected safety concerns** . We may also consider additional delivery modes, which may carry additional known and unknown risks. We may also consider additional delivery modes, which may carry additional known and unknown risks. For example, we intend to use novel split intein technology for AAV gene therapy that allows us to deliver the Prime Editor and guide RNA construct by co- infection with two viruses, where each virus contains one half of the editor. The scientific evidence to support the feasibility of developing product candidates based on this technology is ~~both preliminary and~~ limited. We also intend to use LNPs to deliver some of our Prime Editors. While LNPs have been used to deliver smaller molecules, such as RNAi, **there is limited** ~~they have not been clinically~~ -- **clinical** ~~proven~~ **evidence of their ability** to deliver large RNA molecules, such as the ones we intend to use for our Prime Editors. Furthermore, as with many AAV- mediated gene therapy approaches, certain patients' immune systems might prohibit the successful delivery, thereby potentially limiting treatment outcomes of these patients. Even if initial clinical trials in any of our ~~potential~~ **current or future** product candidates we may develop are successful, these product candidates we may develop may fail to show the desired safety and efficacy in later stages of clinical development despite having successfully advanced through preclinical studies and initial clinical trials. In the future, if we are unable to demonstrate that any of the above adverse events were caused by factors other than our product candidates or our delivery methods, the FDA, the EMA or other regulatory authorities could order us to cease further development of, or deny approval of, any product candidates we are able to develop for any or all targeted indications. Even if we are able to demonstrate that all future serious adverse events are not product- and / or delivery- related, such occurrences could affect patient recruitment or the ability of enrolled patients to complete the trial or may cause significant delays to our programs and potential registration. Moreover, if we elect, or are required, to delay, suspend or terminate any clinical trials, the commercial prospects of such product candidates may be harmed and our ability to generate product revenues from any of these product candidates may be delayed or eliminated. Any of these occurrences may harm our ability to identify and develop product candidates, and may harm our business, financial condition, result of operations and prospects significantly. We face significant competition in an environment of rapid technological change, and there is a possibility that our competitors may achieve regulatory approval before us or develop therapies that are safer or more advanced or effective than ours, which may harm our financial condition and our ability to successfully market or commercialize any product candidates we may develop. The development and commercialization of new drug products is highly competitive. Moreover, the gene editing field is characterized by rapidly changing technologies, significant competition and a strong emphasis on intellectual property. We will face competition with respect to any product candidates that we may seek to develop or commercialize in the future from major pharmaceutical companies, specialty pharmaceutical companies and biotechnology companies worldwide. Potential competitors also include academic institutions, government agencies and other public and private research organizations that conduct research, seek patent or other intellectual property protection and establish collaborative arrangements for research, development, manufacturing and commercialization. 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 the disease indications for which we have research programs. Some of these competitive products and therapies are based on scientific approaches that are the same as or similar to our approach, while others are based on entirely different approaches. There are several companies utilizing CRISPR / Cas9 nuclease technology, including Caribou Biosciences, Inc., Editas Medicine, Inc., CRISPR Therapeutics AG, Intellia Therapeutics, Inc. and ~~Graphite Bio~~ **Kamau Therapeutics** , Inc., among others. Several additional companies such as Sangamo Therapeutics, Inc., Precision BioSciences, Inc. and bluebird bio, Inc. utilize alternative nuclease- based genome editing technologies, including ZFNs, engineered meganucleases and TALENs. Beam Therapeutics **and Verve Therapeutics, Inc. are among a number of companies that** ~~utilizes~~ **utilize** base editing technology. In addition, other private companies such as Tessera Therapeutics, Inc. and Tome Biosciences, Inc. have announced their work in recombinase DNA and RNA gene writers, although little is known publicly about their science or portfolio. Other companies have announced intentions to enter the gene editing field, such as Moderna, Inc. and Pfizer Inc. Most recently, new epigenetic editing companies have emerged, such as **Moonwalk Biosciences, Inc.,**

Chroma Medicine, Inc. and Tune Therapeutics, Inc. In addition, we face competition from companies utilizing gene therapy, oligonucleotides and cell therapy therapeutic approaches. Several companies such as Arbor Biotechnologies, Inc., Scribe Therapeutics Inc., Mammoth Biosciences, Inc. and Metagenomi, Inc. are actively searching for novel genome editing components ~~and ,~~ have reported the discovery of new DNA- cutting enzymes **, and have announced gene editing programs** . Other companies are active in LNP delivery technologies and advancing those into therapeutics using genetic therapies, including Recode Therapeutics, Inc., Verve Therapeutics, Inc., Generation Bio Co. and Beam Therapeutics, among others. Any product candidates that we successfully develop and commercialize will compete with existing therapies and new therapies that may become available in the future that are approved to treat the same diseases for which we may obtain approval for any product candidates we may develop. This may include other types of therapies, such as small molecule, antibody and / or protein therapies. Many of our current or potential competitors, either alone or with their collaboration partners, may have significantly greater financial resources and expertise in research and development, manufacturing, conducting preclinical studies and clinical trials, obtaining regulatory approvals and marketing approved products than we do. Mergers and acquisitions in the pharmaceutical, biotechnology and gene therapy industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller or early- stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs. Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize product candidates that are safer, more effective, have fewer or less severe side effects, are more convenient, or are less expensive than any product candidates that we may develop or that would render any product candidates that we may develop obsolete or non- competitive. Our competitors also may obtain FDA or other regulatory approval for their product candidates 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~~ **current or future** product candidates uneconomical or obsolete, and we may not be successful in marketing any product candidates we may develop against competitors. In addition, as a result of the expiration or successful challenge of our patent or other intellectual property rights, we could face risks relating to our ability to successfully prevent or delay launch of competitors' products. The availability of our competitors' products could limit the demand and the price we are able to charge for any product candidates that we may develop and commercialize. Adverse public perception of genetic therapies and of gene editing and Prime Editing in particular, may negatively impact regulatory approval of, and / or demand for, our potential products. Our potential therapeutic products involve editing the human genome and making permanent changes that may not be reversible. The clinical and commercial success of our potential products will depend in part on public understanding and acceptance of the use of gene editing therapy for the prevention or treatment of human diseases. Public attitudes may be influenced by claims that gene editing is unsafe, unethical or immoral, and, consequently, any product candidates we may develop may not gain the acceptance of the public or the medical community. For example, the ~~disclosure of a~~ death of a patient with an ultra- rare form of Duchenne Muscular Dystrophy enrolled in a clinical trial assessing a personalized, CRISPR- based gene therapy product candidate initiated by Cure Rare Disease, a non- profit organization, **was** ~~or the report~~ **reported** ~~of~~ **to be caused by an immune response to the vector used in the gene therapy. In addition,** a serious adverse event **was reported** in the first patient dosed in a clinical trial of an investigational gene therapy conducted by Graphite Bio, Inc., **and Graphite Bio, Inc. later announced the discontinuation of further development of its gene therapy product candidate after the company concluded that the event was likely related to study treatment. These reports** have raised concerns about gene editing approaches that may persist until, or after, details are available. Moreover, our success will depend upon physicians prescribing, and their patients being willing to receive, treatments that involve the use of product candidates we may develop in lieu of, or in addition to, existing treatments with which they are already familiar and for which greater clinical data may be available. In addition, gene editing technology is subject to public debate and heightened regulatory scrutiny due to ethical concerns relating to the application of gene editing technology to human embryos or the human germline. For example, academic scientists in several countries, including the United States, have reported on their attempts to edit the gene of human embryos as part of basic research. ~~In addition, in November 2018, Dr. Jiankui He, a Chinese biophysics researcher who was an associate professor in the Department of Biology of the Southern University of Science and Technology in Shenzhen, China, reportedly claimed he had created the first human genetically edited babies, twin girls. This claim, and another that Dr. He had helped create a second gene- edited pregnancy, was subsequently confirmed by Chinese authorities and was negatively received by the public, in particular those in the scientific community. News reports indicate that Dr. He was sentenced to three years in prison and fined $ 430, 000 in December 2019 by the Chinese government for illegal medical practice in connection with such activities. In the wake of the claim, the World Health Organization established a new advisory committee to create global governance and oversight standards for human gene editing. The Alliance for Regenerative Medicine also released principles for the use of gene editing in therapeutic applications endorsed by a number of companies that use gene editing technologies. Moreover, in an annual worldwide threat assessment report delivered to the U. S. Congress in February 2016, the U. S. Director of National Intelligence stated that research into gene editing that is conducted under different regulatory standards than those of Western countries probably increases the risk of the creation of potentially harmful biological agents or products, including weapons of mass destruction. He noted that given the broad distribution, low cost and accelerated pace of development of gene editing technology, its deliberate or unintentional misuse could have far- reaching economic and national security implications.~~ Although we do not, and will not use our technologies to edit human embryos or the human germline, such public debate about the use of gene editing technologies in human embryos and heightened regulatory scrutiny on this issue, could prevent or delay our development of product candidates. More restrictive government regulations or negative public opinion would have a negative effect on our business or financial

condition and may delay or impair our development and commercialization of product candidates or demand for any product candidates we may develop. Adverse events in our preclinical studies or clinical trials or those of our competitors or of academic researchers utilizing gene editing technologies, even if not ultimately attributable to product candidates we may identify and develop, and negative publicity could result in increased governmental regulation, unfavorable public perception, potential regulatory delays in the testing or approval of ~~potential~~ **current or future** product candidates ~~we may identify and develop,~~ stricter labeling requirements for those product candidates that are approved, and a decrease in demand for any such product candidates. If the market opportunities for any product candidates we may develop are smaller than we believe they are, our potential revenues may be adversely affected and our business may suffer. Because the target patient populations for many of the product candidates we may develop are small, we must be able to successfully identify patients and achieve market acceptance in the medical community in order to secure a significant market share to maintain profitability and growth. We focus our research and product development on treatments for rare genetically defined diseases. Many of the product candidates we may develop are expected to target a single, often predominant mutation; as a result, the relevant patient population may therefore be small. Although we are aiming to expand beyond our immediate target indications, including into broader populations, these approaches will require regulatory approval as discussed in the risk factor entitled " We are very early in our development efforts and we have not yet ~~completed IND- enabling studies or~~ initiated clinical development of any product candidate. As a result, we expect it will be many years before we commercialize any product candidate, if ever. If we are unable to advance our current or future product candidates into and through clinical trials, obtain marketing approval and ultimately commercialize our product candidates or experience significant delays in doing so, our business will be materially harmed **.**" In rare genetically defined 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 product candidates we may develop, are based on estimates. These estimates may prove to be incorrect and new studies may change the estimated incidence or prevalence of these diseases. The number of patients in the United States, Europe and elsewhere may turn out to be lower than expected, and patients may not be amenable to treatment with the product candidates we may develop, or may become increasingly difficult to identify or gain access to, all of which would adversely affect our business, financial condition, results of operations and prospects. Additionally, because of the potential that any product candidates we develop could cure a target disease, we may not receive recurring revenues from patients and may deplete the patient population prevalence through curative therapy. Clinical trial and product liability lawsuits against us could divert our resources and could cause us to incur substantial liabilities and to limit commercialization of any products that we may develop. We will face an inherent risk of clinical trial and product liability exposure related to the testing of our product candidates in human clinical trials, and we will face an even greater risk if we commercially sell any products that we may develop. While we currently have no products in clinical trials or 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 any product candidates or products that we may develop ; • termination of clinical trials ; • 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 any products that we may develop. We currently do not hold any clinical trial liability insurance coverage. We plan to obtain insurance coverage as we expand our clinical trials and / or if we commence commercialization of our product candidates. Insurance coverage is increasingly expensive. We may not be able to obtain and 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. 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 costs that could have a material adverse effect on the success of our business. 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 and biological and radioactive materials. 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 our current or past facilities and 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 carry specific biological or hazardous waste insurance coverage (under which we currently have an aggregate of approximately $ 2. 0 million in coverage). However, 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, which could have a material adverse effect on our business, financial condition, results of operations, and prospects. 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, which could have a material adverse effect on our business, financial condition, results of operations, and prospects. 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 have a material adverse effect on our business, financial condition, results of operations, and prospects. Genetic therapies are novel, and any product candidates we develop may be complex and difficult to manufacture. We could experience delays in satisfying regulatory authorities or production problems that result in delays in our development programs, limit the supply of the product candidates we may develop or otherwise harm our business. Any product candidates we may develop will likely require processing steps that are more complex than those required for most chemical pharmaceuticals. For example, one component of our Prime Editors is guide RNA, known as a Prime Editing guide RNA, or pegRNA we currently obtain from partners and vendors; future needs could require additional pegRNA lengths or increased purity, potentially beyond what our partners and vendors can currently supply. Moreover, unlike chemical pharmaceuticals, the physical and chemical properties of a biologic such as the product candidates we intend to develop generally cannot be fully characterized. As a result, assays of the finished product candidate may not be sufficient to ensure that the product candidate will perform in the intended manner. Problems with the manufacturing process, even minor deviations from the normal process, could result in product defects or manufacturing failures that result in lot failures, product recalls, product liability claims, insufficient inventory or potentially delay progression of our potential IND filings. If we successfully develop product candidates, we may encounter problems achieving adequate quantities and quality of clinical- grade materials that meet the FDA, the EMA or other comparable applicable foreign standards or specifications with consistent and acceptable production yields and costs. For example, the current approach of manufacturing AAV vectors may fall short of supplying required number of doses needed for advanced stages of preclinical studies or clinical trials, and the FDA may ask us to demonstrate that we have the appropriate manufacturing processes in place to support the higher- dose group in our preclinical studies or clinical trials. In addition, any product candidates we may develop will require complicated delivery methods, such as electroporation, LNPs or viral vectors, each of which will introduce additional complexities in the manufacturing process. We may also have similar issues to other companies that have had difficulties in receiving FDA, or other regulatory agency approval for key potency assays needed for regulatory approval and / or drug release from the manufacturer. In addition, the FDA, the EMA and other regulatory authorities may require us to submit samples of any lot of any approved product together with the protocols showing the results of applicable tests at any time. Under some circumstances, the FDA, the EMA or other regulatory authorities may require that we not distribute a lot until the agency authorizes its release. Slight deviations in the manufacturing process, including those affecting quality attributes and stability, may result in unacceptable changes in the product that could result in lot failures or product recalls. Lot failures or product recalls could cause us to delay clinical trials or product launches, which could be costly to us and otherwise harm our business, financial condition, results of operations and prospects. Furthermore, we intend to use novel technology for gene editing. Our novel Prime Editors have two main components that act together to edit DNA: (i) a Prime Editor protein, comprising a fusion between a Cas protein and a reverse transcriptase enzyme, and (ii) a pegRNA, that targets the Prime Editor to a specific genomic location and provides a template for making the desired edit to the target DNA sequence. **In addition, we are broadening the types of edits that we can make by incorporating innovations in** Prime Editing **, including dual** ~~leverages the established DNA~~ **flap Prime Editing** ~~targeting capabilities of CRISPR- Cas proteins modified to nick, but not cause double- stranded DNA breaks,~~ and **PASSIGE** ~~combines these with the DNA synthesis capabilities of reverse transcriptase enzymes, which have been engineered to efficiently and precisely copy a pegRNA- encoded edited sequence into target DNA~~ . The scientific evidence to support the feasibility of developing product candidates based on ~~this~~ **these** ~~technology~~ **technologies** is both preliminary and limited and has yet to be produced at a clinical scale. We also may encounter problems hiring and retaining the experienced scientific, quality control and manufacturing personnel needed to manage our manufacturing process, which could result in delays in our production or difficulties in maintaining compliance with applicable regulatory requirements. Given the nature of biologics manufacturing there is a risk of contamination during manufacturing. Any contamination could materially harm our ability to produce product candidates on schedule and could harm our results of operations and cause reputational damage. Some of the raw materials that we anticipate will be required in our manufacturing process are derived from biologic sources. Such raw materials are difficult to procure and may be subject to contamination or recall. A material shortage, contamination, recall or restriction on the use of biologically derived substances in the manufacture of any product candidates we may develop could adversely impact or disrupt the commercial manufacturing or the production of clinical material, which could materially harm our development timelines and our business, financial condition, results of operations and prospects. Any problems in our manufacturing process or the facilities with which we contract could make us a less attractive collaborator for potential partners, including larger pharmaceutical companies and academic research institutions, which could limit our access to additional attractive development programs. Problems in third-party manufacturing process or facilities also could restrict our ability to ensure sufficient clinical material for any clinical trials we may be conducting or are planning to conduct and meet market demand for any product candidates we develop and commercialize. If preclinical studies or clinical trials of any product candidates we may identify and develop fail to demonstrate safety and efficacy to the satisfaction of regulatory authorities or do not otherwise produce positive results, we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of such product candidates. Before obtaining marketing approval from regulatory authorities for the sale of

any product candidates we may identify and develop, we must complete preclinical development and then conduct extensive clinical trials to demonstrate the safety and efficacy in humans. Clinical testing is expensive, difficult to design and implement, can take many years to complete, and is uncertain as to outcome. A failure of one or more clinical trials can occur at any stage of testing. The outcome of preclinical testing and early clinical trials may not be predictive of the success of later clinical trials, and interim results of a clinical trial do not necessarily predict final results. Moreover, preclinical and clinical data are often susceptible to varying interpretations and analyses. 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 product candidates. We and our collaborators, if any, may experience numerous unforeseen events during, or as a result of, clinical trials that could delay or prevent our ability to receive marketing approval or commercialize any product candidates we may identify and develop, including: • delays in reaching a consensus with regulators on trial design; • regulators, institutional review boards, or IRBs, or independent ethics committees may not authorize us or our investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site; • delays in reaching or failing to reach agreement on acceptable clinical trial contracts or clinical trial protocols with prospective CROs and clinical trial sites; • clinical trials of any product candidates we may develop may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon product development or research programs **; • delays if a clinical trial is suspended or terminated by us, by the IRBs or their ethics committees, the data review committee or data safety monitoring board for such trial or by the FDA, EMA or other foreign regulatory authorities 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 regulatory authorities** ; • difficulty in designing well- controlled clinical trials due to ethical considerations which may render it inappropriate to conduct a trial with a control arm that can be effectively compared to a treatment arm; • difficulty in designing clinical trials and selecting endpoints for diseases that have not been well- studied and for which the natural history and course of the disease is poorly understood; • the number of patients required for clinical trials of any product candidates we may develop may be larger than we anticipate; enrollment of suitable participants in these clinical trials, which may be particularly challenging for some of the rare genetically defined diseases we are targeting in our most advanced programs, may be delayed or slower than we anticipate; or patients may drop out of these clinical trials at a higher rate than we anticipate; • our third- party contractors may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all; • regulators, IRBs, or independent ethics committees may require that we or our investigators suspend or terminate clinical research or clinical trials of any product candidates we may develop for various reasons, including noncompliance with regulatory requirements, a finding of undesirable side effects or other unexpected characteristics, or that the participants are being exposed to unacceptable health risks or after an inspection of our clinical trial operations or trial sites; • the cost of clinical trials of any product candidates we may develop may be greater than we anticipate; • the supply or quality of any product candidates we may develop or other materials necessary to conduct clinical trials of any product candidates we may develop may be insufficient or inadequate, including as a result of delays in the testing, validation, manufacturing, and delivery of any product candidates we may develop to the clinical sites by us or by third parties with whom we have contracted to perform certain of those functions; • delays in having patients complete participation in a trial or return for post- treatment follow- up; • clinical trial sites 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 any product candidates we may develop that are viewed to outweigh their potential benefits; **or** • occurrence of serious adverse events in trials of the same class of agents conducted by other sponsors; and changes in regulatory requirements and guidance that require amending or submitting new clinical protocols. If we or our collaborators are required to conduct additional clinical trials or other testing of any product candidates we may develop beyond those that we currently contemplate, if we or our collaborators are unable to successfully complete clinical trials or other testing of any product candidates we may develop, or if the results of these trials or tests are not positive or are only modestly positive or if there are safety concerns, we or our collaborators may: • be delayed in obtaining marketing approval for any such product candidates we may develop or not obtain marketing approval 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, including boxed 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 Risk Evaluation and Mitigation Strategy, or REMS, or through modification to an existing REMS; • be sued; or • experience damage to our reputation. Product development costs will also increase if we or our collaborators experience delays in clinical trials or other testing or in obtaining marketing approvals. We do not know whether any clinical trials will begin as planned, will need to be restructured, or will be completed on schedule, or at all. Significant clinical trial delays also could shorten any periods during which we may have the exclusive right to commercialize any product candidates we may develop, could allow our competitors to bring products to market before we do, and could impair our ability to successfully commercialize any product candidates we may develop, any of which may harm our business, financial condition, results of operations, and prospects. Social media campaigns and demand for expanded access to our ~~potential~~ **current and future** product candidates could negatively affect our reputation and harm our business. We are developing product candidates in areas of unmet medical need where there are currently limited or no available therapeutic options and may receive requests in the future for right to try access or expanded access on a compassionate use basis to certain of our ~~potential~~ **current and future** product candidates. It is possible for individuals or groups to target companies with disruptive social media campaigns related to a request for access to unapproved drugs for patients with significant unmet medical need. If we experience a similar social media campaign regarding our decision to provide or not provide access to any of our ~~potential~~ **current and future** product candidates under an expanded access policy, our reputation may be negatively affected and our business may be

harmed. In addition, some patients who receive access to drugs prior to their commercial approval through compassionate use, expanded access programs or right to try access have life- threatening illnesses and have exhausted all other available therapies. The risk for serious adverse events in this patient population is high, which could have a negative impact on the safety profile of our potential product candidates if we were to provide them to these patients, which could cause significant delays or an inability to successfully commercialize our ~~potential~~ **current and future** product candidates, which could materially harm our business. If we were to provide patients with our ~~potential~~ **current and future** product candidates under an expanded access program, we may in the future need to restructure or pause any compassionate use and / or expanded access programs in order to perform the controlled clinical trials required for regulatory approval and successful commercialization of our ~~potential~~ **current and future** product candidates, which could prompt adverse publicity or other disruptions related to current or potential participants in such programs. Risks Related To Our Relationships with Third Parties We **have entered into collaborations, and** may enter into **additional** collaborations **,** with ~~collaborators and strategic partners such as Beam Therapeutics or other~~ third parties for the research, development, delivery, manufacturing and commercialization of Prime Editing technology and certain of the product candidates we may develop. If any such collaborations are not successful, we may not be able to capitalize on the market potential of our Prime Editing platform or product candidates. **As part of our strategy, we have entered into collaborations and intend to seek to enter into additional collaborations with third parties for one or more of our programs or product candidates we may develop. Our likely collaborators for any other collaboration arrangements include pharmaceutical and biotechnology companies, academic institutions, and foundations.** We may seek **such** third-party collaborators and strategic partners for the research, development, delivery, manufacturing and commercialization of certain of the product candidates we may develop. If we enter into any such arrangements with any third parties, we will likely have limited control over the amount and timing of resources that our collaborators dedicate to collaboration, including the development, delivery, manufacturing 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' and strategic partners' 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, development, expansion of our technology or for any product candidates we may develop pose numerous risks to us, including the following: • Collaborators and strategic partners have significant discretion in determining the efforts and resources that they will apply to these collaborations, may not pursue development and commercialization of any product candidates we may develop or may elect not to continue or renew development or commercialization programs based on clinical trial results, changes in the collaborator' s strategic focus or available funding or external factors such as an acquisition that diverts resources or creates competing priorities. • Collaborators and strategic partners may have significant overlap in their areas of interest and capabilities, research and development activities and product candidates with us, which may result in potential conflicts of interest. • The transfer of key technology between our collaborators and strategic partners and us may be incomplete, delayed or not meet our standards of quality. • Collaborators and strategic partners may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial or abandon a product candidate, repeat or conduct new clinical trials or require a new formulation of a product candidate for clinical testing. • Collaborators and strategic partners could independently develop or develop with third parties, products that compete directly or indirectly with our therapies or product candidates we may develop if the collaborators believe that competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours. • Collaborators and strategic partners with marketing and distribution rights to one or more therapies may not commit sufficient resources to the marketing and distribution of such therapy or therapies. • Collaborators and strategic partners may have rights or may believe they have rights to sub- license our Prime Editing technology more broadly than anticipated for the collaboration. • Collaborators and strategic partners may not properly obtain, maintain, enforce or defend our intellectual property or proprietary rights or may use our intellectual property or proprietary information in such a way as to invite litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential litigation. • Collaborators and strategic partners may not properly use our technology, perform activities below quality standards or wrongly interpret results, any of which may result in adverse public perception of Prime Editing or negatively impact the regulatory approval of, and / or demand for, our ~~potential~~ **current and future** product candidates. • There may be areas of ambiguity in the interpretation of obligations and deliverables under any collaboration agreements we have entered or may enter into, including disputes that may arise between the collaborators and strategic partners and us that result in the delay or termination of the research, development or commercialization of our therapies or product candidates or that result in costly litigation or arbitration that diverts management attention and resources. • We may lose certain valuable rights under circumstances identified in our collaborations, including if we undergo a change of control **, and may have a reduced ability to prioritize programs and allocate resources** . • Collaborations may be terminated and, if terminated, may leave incomplete some or all of the goals that were set for such collaboration or result in a need for additional capital to pursue further development or commercialization of the applicable product candidates we may develop. • Collaboration agreements may not lead to development or commercialization of product candidates in the most efficient manner or at all. If a present or future collaborator of ours were to be involved in a business combination, the continued pursuit and emphasis on our product development or commercialization program under such collaboration could be delayed, diminished or terminated. If our collaborations do not result in successful research or delivery approaches or successful development and commercialization of product candidates, or if one of our collaborators or strategic partners terminates its agreement with us, there may be adverse consequences. For example, 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 or strategic partners terminates its agreement with us, we may find it more difficult to find a suitable replacement or attract a new

collaboration, lose access to key technology or 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 apply to the activities of our collaborators and strategic partners. 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, result in a loss of value to our stock or disrupt our management and business. In addition, we could face significant competition in seeking appropriate collaborators and strategic partners 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 and strategic partner' 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 may develop we or our collaborators and strategic partners 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 collaborators or strategic partners, these parties may act in a manner adverse to us and could limit our ability to implement our strategies. If conflicts arise between our corporate or academic collaborators or strategic partners and us, the other party may act in a manner adverse to us and could limit our ability to implement our strategies. Some of our academic collaborators and strategic partners are conducting multiple product development efforts within each area that is the subject of the collaboration with us. Our collaborators or strategic partners, however, may develop, either alone or with others, products in related fields that are competitive with the product candidates we may develop that are the subject of these collaborations with us. Competing products, either developed by the collaborators or strategic partners or to which the collaborators or strategic partners have rights, may result in the withdrawal of partner support for any product candidates we may develop. Some of our collaborators or strategic partners could also become our competitors in the future. For example, Beam Therapeutics, currently one of our strategic partners, may develop product candidates in areas where both companies have freedom to pursue development. For more information regarding our agreement with Beam Therapeutics, see the risk factor entitled " The gene editing field is relatively new and is evolving rapidly, making us subject to additional development challenges and risks. We are focusing our research and development efforts on gene editing using Prime Editing technology, but other gene editing technologies may be discovered that provide significant advantages over Prime Editing, which could materially harm our business. " Our collaborators or strategic partners could develop competing products, preclude us from entering into collaborations with their competitors, fail to obtain timely regulatory approvals, prevent us from obtaining timely regulatory approvals, terminate their agreements with us prematurely or fail to devote sufficient resources to the collaboration efforts, including development, delivery, manufacturing and commercialization of products. Any of these developments could harm our company and product development efforts. We expect to rely on third parties to conduct our clinical trials and some aspects of our research, as well as some aspects of our delivery methods, and those third parties may not perform satisfactorily, including failing to meet deadlines for the completion of such trials, research or testing. We currently, and expect to continue to, rely on third parties, such as CROs, clinical data management organizations, medical institutions, preclinical laboratories and clinical investigators, to conduct some aspects of our research. For example, we may rely on a third party to conduct electroporation, to supply LNPs or AAVs, or to conduct some of our preclinical animal experiments. Any of these third parties may terminate their engagements with us at any time under certain criteria. If we need to enter into alternative arrangements, it may 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 responsibilities. For example, we will remain responsible for ensuring that each of our clinical trials is conducted in accordance with the general investigational plan and protocols for the trial. Moreover, the FDA, the EMA and other regulatory authorities require us and the study sites and investigators we work with to comply with standards, commonly referred to as GLPs and GCPs for conducting, recording and reporting the results of preclinical studies and clinical trials to assure, amongst other things, that data and reported results are credible and accurate and that the rights, integrity and confidentiality of trial participants are protected. In the United States, we also are required to register certain clinical trials and post the results of completed clinical trials on a government- sponsored database, ClinicalTrials. gov, within certain timeframes. Failure to do so can result in fines, adverse publicity and civil and criminal sanctions. Although we intend to design the clinical trials for our ~~potential~~ **current and future** product candidates, CROs will conduct some or all of the clinical trials. As a result, many important aspects of our development programs, including their conduct and timing, will be outside of our direct control. Our reliance on third parties to conduct preclinical studies and future 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. Among other reasons that may delay or impact the development of our ~~potential~~ **current and future** product candidates, 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. If the CROs and other third parties do not perform such preclinical studies and future clinical trials in a satisfactory manner, breach their obligations to us or fail to comply with regulatory requirements, the development, regulatory approval and commercialization of our ~~potential~~ **current and future** product candidates may be delayed, we may not be able to obtain regulatory approval and commercialize our potential 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. We may also expect to rely on other third parties to store and distribute drug supplies for our

future clinical trials. Any performance failure on the part of our distributors could delay clinical development or marketing approval of any product candidates we may develop or commercialization of our therapies, producing additional losses and depriving us of potential product revenue. We contract with third parties for the manufacture of materials for our research programs and **anticipated clinical trials, and** expect to continue to do so for **future** clinical trials and for any commercialization of product candidates that we may develop. This reliance on third parties increases the risk that we will not have sufficient quantities of such materials, product candidates or any therapies that we may develop and commercialize, or that such supply will not be available to us on time or at an acceptable cost. We do not have any manufacturing facilities at the present time. We currently rely on third- party manufacturers to manufacture many of our materials for research and ~~may~~ **expect to** continue to do so for preclinical studies and clinical trials. We have not yet formulated our plans for commercial supply of any product candidates that we may develop or for which we or our collaborators may in the future obtain marketing approval, but our future decisions may be subject to similar risks to the ones discussed below. We may be unable to establish any agreements with third- party manufacturers or to do so on acceptable terms. Even if we are able to establish agreements with third- party manufacturers, reliance on third- party manufacturers entails additional risks, some of which may include: • the possible breach of the manufacturing agreement by the third party; • the possible termination or nonrenewal of the agreement by the third party at a time that is costly or inconvenient for us; and • reliance on the third party for regulatory compliance and quality assurance. Third- party manufacturers may not be able to comply with cGMP regulations or similar regulatory requirements outside the United States. Our failure, or the failure of our third- party manufacturers, to comply with applicable regulations could result in sanctions being imposed on us, including fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, license revocations, seizures or recalls of product candidates or therapies, operating restrictions and criminal prosecutions, any of which could significantly and adversely affect supplies of our therapies and harm our business, financial condition, results of operations and prospects. Any therapies that we may develop may compete with other product candidates and products 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. Any performance failure on the part of our existing or future manufacturers could delay clinical development or marketing approval. We do not currently have arrangements in place for redundant supply for bulk drug substances. If any third party- manufacturer with whom we contract fails to perform its obligations, we may be forced to manufacture the materials ourselves, for which we may not have the facilities or resources, or enter into an agreement with a different third party- manufacturer, which we may not be able to do on reasonable terms, if at all. In either scenario, our clinical trials supply could be delayed significantly as we establish alternative supply sources. In some cases, the technical skills required to manufacture our products or product candidates may be unique or proprietary to the original third party- manufacturer and we may have difficulty, or there may be contractual restrictions prohibiting us from, transferring such skills to a back- up or alternate supplier, or we may be unable to transfer such skills at all. In addition, if we are required to change third party- manufacturers for any reason, we will be required to verify that the new third party- manufacturer maintains facilities and procedures that comply with quality standards and with all applicable regulations. We will also need to verify, such as through a manufacturing comparability study, that any new manufacturing process will produce our ~~potential~~ **current and future** product candidates according to the specifications previously submitted to the FDA or another regulatory authority. 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, which may not be available on commercially reasonable terms, or at all. In addition, changes in manufacturers often involve changes in manufacturing procedures and processes, which could require that we conduct bridging studies between our prior clinical supply used in our clinical trials and that of any new manufacturer. We may be unsuccessful in demonstrating the comparability of clinical supplies which could require the conduct of additional clinical trials. Our current and anticipated future dependence upon others for the manufacture of any product candidates or therapies we may develop may adversely affect our future profit margins and our ability to commercialize any therapies that receive marketing approval on a timely and competitive basis. If we are not able to establish collaborations on a timely basis, on commercially reasonable terms, or at all, we may have to alter, reduce or delay our development and commercialization plans or increase our expenditures to fund development or commercialization activities at our own expense. For some of the product candidates we may develop, we may decide to collaborate with other pharmaceutical and biotechnology companies for the development and potential commercialization of those product candidates, which is a complex and time- consuming process to negotiate and document. Whether we reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the collaborator or strategic partner' s resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator or strategic partner' s evaluation of a number of factors. Those factors may include the design or results of clinical trials, the likelihood of approval by the FDA, the EMA or similar regulatory authorities outside the United States, the potential market for the subject 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 or strategic partner 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. In addition, we and the collaborator or strategic partner may have differences in risk tolerance, which may affect the development and execution of such collaborations with respect to timing and other considerations. We may also be restricted under existing collaboration agreements from entering into future collaboration agreements on certain terms with potential collaborators. 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, which further increases competition we face in seeking potential collaborations. 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 or reduce the scope of any sales or marketing activities or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to increase our expenditures to fund development or commercialization activities on our own, we may need to obtain additional capital, which may not be available to us on acceptable terms or at all. If we do not have sufficient funds, we may not be able to develop product candidates or bring them to market and generate product revenue. **Risks Related To Our Intellectual Property** If we are unable to obtain and maintain patent and other intellectual property protection for any product candidates we develop and for our Prime Editing technology, or if the scope of the patent and other intellectual property protection obtained is not sufficiently broad, third parties could develop and commercialize products and technology similar or identical to ours and our ability to successfully commercialize any product candidates we may develop and our Prime Editing technology may be adversely affected. Our commercial success will depend in large part on our ability to obtain and maintain patent, trademark, trade secret and other intellectual property protection of our Prime Editing technology, product candidates and other technology, methods used to manufacture them and methods of treatment, as well as to successfully defend our patent and other intellectual property rights against third- party challenges. It is difficult and costly to protect our Prime Editing technology and product candidates, and we may not be able to ensure their protection. Our ability to stop unauthorized third parties from making, using, selling, offering to sell, importing or otherwise commercializing our product candidates we may develop is dependent upon the extent to which we have established rights under valid and enforceable patents or trade secrets that cover these activities. We seek to protect our proprietary position by in- licensing intellectual property relating to our platform technology and filing patent applications in the United States and abroad related to our Prime Editing technology and product candidates that are important to our business. If we or our licensors are unable to obtain or maintain patent protection with respect to our Prime Editing technology and product candidates we may develop, or if the scope of the patent protection secured is not sufficiently broad, third parties could develop and commercialize products and technology similar or identical to ours and our ability to commercialize any product candidates we may develop may be adversely affected. The patent prosecution process is expensive, time- consuming and complex, and we may not be able to file, prosecute, maintain, enforce, defend or license all necessary or desirable patent applications at a reasonable cost or in a timely manner. In addition, we may not pursue or obtain patent protection in all relevant markets. It is also possible that we will fail to identify patentable aspects of our research and development output in time to obtain patent protection. Although we enter into non- disclosure and confidentiality agreements with parties who have access to confidential or patentable aspects of our research and development output, such as our employees, corporate collaborators, outside scientific collaborators, CROs, contract manufacturers, consultants, advisors and other third parties, any of these parties may breach the agreements and disclose such output before a patent application is filed, thereby jeopardizing our ability to seek patent protection. In addition, our ability to obtain and maintain valid and enforceable patents depends on whether the differences between our inventions and the prior art allow our inventions to be patentable over the prior art. Furthermore, publications of discoveries in the scientific literature often lag behind the actual discoveries and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we cannot be certain that we or our licensors were the first to make the inventions claimed in our owned or licensed pending patent applications or in- licensed issued ~~patent~~ **patents**, or that we or our licensors 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 rendered unenforceable. The patent position of biotechnology and pharmaceutical companies generally is highly uncertain, involves complex legal and factual questions and has been the subject of much litigation in recent years. The field of genome editing has been the subject of extensive patenting activity and litigation. As a result, the issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain and we may become involved in complex and costly litigation. Our pending and future patent applications may not result in patents being issued which protect our Prime Editing technology and product candidates we may develop or which effectively prevent others from commercializing competitive technologies and product candidates. For example, our provisional applications may never result in issued patents. A provisional patent application is not eligible to become an issued patent until, among other things, we file a non- provisional patent application within 12 months of filing the related provisional patent application. If we do not timely file non- provisional patent applications, we may lose our priority dates with respect to our provisional patent applications and any patent protection on the inventions disclosed in our provisional patent applications. While we intend to timely file non- provisional patent applications relating to our provisional patent applications, we cannot predict whether any of our patent applications for our technology and product candidates will result in the issuance of patents that effectively protect our technology and product candidates. Any failure to obtain or maintain patent protection with respect to our technology and product candidates would have a material adverse effect on our business, financial condition, results of operations and prospects. No consistent policy regarding the scope of claims allowable in the field of genome editing, including for Prime Editing technology, has emerged in the United States. The scope of patent protection outside of the United States is also uncertain. Changes in either the patent laws or their interpretation in the United States and other countries may diminish our ability to protect our inventions, obtain, maintain, enforce and defend our intellectual property rights and, more generally, could affect the value of our intellectual property or narrow the scope of our owned and licensed patent rights. With respect to both in- licensed and owned intellectual property, we cannot predict whether the patent applications we and our licensors are currently pursuing will issue as patents in any particular jurisdiction or whether the claims of any issued patents will be valid and enforceable and

provide sufficient protection from third parties. Moreover, the coverage claimed in a patent application can be significantly reduced before the patent is issued, and its scope can be reinterpreted after issuance. Even if patent applications we license or own currently or in the future issue as patents, they may not issue in a form that will provide us with any meaningful protection, prevent competitors or other third parties from competing with us, or otherwise provide us with any competitive advantage. Any patent applications that we own or in- license may, if issued as patents, be challenged, narrowed, circumvented, or invalidated by third parties. Consequently, we do not know whether any of our platform advances and product candidates we may develop will be protectable or remain protected by valid and enforceable patents. Our competitors or other third parties may be able to circumvent our patents that may be issued from our patent applications by developing similar or alternative technologies or products in a non- infringing manner. In addition, given the amount of time required for the development, testing and regulatory review of new product candidates, patents that may be issued protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our intellectual property may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours. Some of our owned and in- licensed patent applications are, and may in the future be, co- owned with third parties. With respect to any patent applications co- owned by third parties, we may require exclusive licenses to such co- owners ~~'~~ ’ interest to such patents. If we are unable to obtain an exclusive license to any such third- party co- owners ~~'~~ ’ interest in such patent applications, we may be unable to prevent such co- owner from licensing their rights under the patent applications to other third parties, including our competitors, and our competitors may be able to market competing products and technology. In addition, we may need the cooperation of any such co- owners of our future patents in order to enforce such future patents against third parties, and such cooperation may not be provided to us. Our rights to develop and commercialize our Prime Editing platform technology and product candidates are subject to the terms and conditions of licenses granted to us by others. If we fail to comply with our obligations in the agreements under which we license intellectual property rights from third parties or otherwise experience disruptions to our business relationships with our licensors, we could lose license rights that are important to our business. We do not currently own any issued patents and are heavily reliant upon certain patent rights and proprietary technology we have licensed from third parties that are important or necessary to the development of our Prime Editing technology and product candidates. For example, we are a party to two license agreements with Broad Institute. In September 2019, we entered into a license agreement with Broad Institute, or the Broad License Agreement, and in May 2020, February 2021, and December 2022, we entered into amendments to such license agreement. In December 2022, we entered into a new license agreement with Broad Institute, or the 2022 Broad License Agreement. Under ~~each of~~ the amended ~~license agreements, the~~ Broad License Agreement ~~,~~ and ~~the new license agreement, or~~ the 2022 Broad License Agreement, Broad Institute grants us certain rights and licenses under certain patent rights it owns or controls relating to our Prime Editing technology and product candidates. Each license agreement imposes various diligence, milestone payment, royalty, insurance and other obligations on us. Our licenses are subject to Broad Institute’ s inclusive innovation model, pursuant to which Broad Institute retains the right, in certain circumstances, to grant to third parties (other than specified competitors of ours) licenses under the licensed patent rights that would otherwise fall within the scope of the exclusive license granted to us. All gene targets, which are any human genes to which a program is directed, are subject to Broad Institute ~~'~~ ’ s march- in license, which means Broad Institute has the right to terminate our license to gene targets under certain conditions and could make one or more gene targets unavailable to us. However, if we initiate a program for a gene target, in accordance with the terms of each license agreement, we may block a march- in request by making certain showing and by continuing to use commercially reasonable efforts to continue to progress such development. Internally, we determine when a program for a gene target has been initiated by considering factors such as whether a gene target has been identified as the subject of a program, how much time or resources have been dedicated to researching, developing, and / or designing and using reagents for a program, and the amount of preclinical testing in process for such program. If we fail to comply with these or other obligations in our current or future license agreements, our licensors may have the right to terminate our license, in which event we would not be able to develop or market our Prime Editing technology or any other technology or product candidates covered by the intellectual property licensed under this agreement. Our business would be seriously harmed if any current or future licenses terminate, if our licensors fail to abide by the terms of the license, if our licensors fail to enforce licensed patents against infringing third parties, if the licensed patents or other rights are found to be invalid or unenforceable, or if we are unable to enter into necessary licenses on acceptable terms. If our license agreements terminate, or we experience a reduction or elimination of licensed rights under these agreements, we may have to negotiate new or reinstated licenses with less favorable terms or we may not have sufficient intellectual property rights to operate our business. Moreover, if certain of our license agreements terminate, we may be required to continue to license or assign certain of our intellectual property to the applicable counterparty. Certain of the patent rights that we license from Broad Institute under the Broad License Agreement are co- owned by Broad Institute with Harvard and certain of the licensed patent rights under the Broad License Agreement are co- owned by Broad Institute, Harvard, and Massachusetts Institute of Technology, or MIT. The patent rights that we license from Broad Institute under the 2022 Broad License Agreement are co- owned by Broad Institute with Harvard, the Trustees of Princeton University, or Princeton, and the Regents of the University of California, or University of California. In addition, some of the inventors of the licensed patent and patent applications are or were employees of HHMI, which retains certain rights to patents and patent applications invented by their employees. Our rights to our in- licensed ~~patent~~ **patents** and patent applications from Broad Institute are dependent, in part, on inter- institutional or other operating agreements between Broad Institute, Harvard, MIT, University of California, Princeton and HHMI. If Broad Institute, Harvard, MIT, University of California, Princeton or HHMI breaches or terminates such inter- institutional or operating agreements, our rights to such in- licensed ~~patent~~ **patents** and patent applications may be adversely affected. We have also licensed certain improvements to Prime Editing from Dr. Liu’ s laboratory at Broad Institute. For example, Dr. Liu’ s laboratory at Broad Institute ~~recently~~ developed engineered pegRNAs, or epegRNAs, which we have exclusively in- licensed. Dr. Liu has entered into an agreement with us pursuant to which he is

obligated to assign to us any inventions with respect to the services he performs for us. However, such obligations are subject to limitations and do not extend to his work in other fields or to the intellectual property arising from his employment with Harvard, HHMI and Broad Institute. To obtain such intellectual property rights, we would need to enter into license agreements with such institutions, and such license agreements may not be available on commercially reasonable terms or at all. Additionally, in September 2019, we established a strategic relationship with Beam Therapeutics, a biotechnology company developing gene editing products using its proprietary base editing technology. Under our license and collaboration agreement with Beam Therapeutics, or the Beam Collaboration Agreement, each party grants to the other certain exclusive and non-exclusive licenses and rights to certain Prime Editing, CRISPR and delivery technologies for use in certain specified fields. Activities performed by Prime and Beam Therapeutics under the Beam Collaboration Agreement may lead to co- owned patents and patent applications. These and other licenses may not provide exclusive rights to use such intellectual property and technology in all relevant fields of use and in all territories in which we may wish to develop or commercialize our Prime Editing technology and product candidates in the future. Some licenses granted to us are expressly subject to certain preexisting rights held by the licensors or certain third parties. As a result, we may not be able to prevent third parties from developing and commercializing competitive products in certain territories or fields. For example, the rights granted to us under each license agreement are subject to certain retained rights of Broad Institute, MIT, Harvard, Princeton, University of California, HHMI and the U. S. federal government, and the rights granted to us under the Beam Collaboration Agreement are subject to certain third party agreements and certain rights retained by third parties. Additionally, each license agreement with Broad Institute provides that our field of use is limited to the field of prevention or treatment of human disease, and most licenses granted to us under each license agreement with Broad Institute are further limited to the prevention or treatment of human disease by editing (including modifying or converting) or targeting DNA ex vivo, in vivo, or through xeno- transplantation methods and includes other specified exclusions. If we determine that rights to additional fields, including the specifically excluded fields, are necessary to commercialize our product candidates or maintain our competitive advantage, we may need to obtain a license from Broad Institute and / or other third parties in order to continue developing, manufacturing or marketing our product candidates. We may not be able to obtain such a license on an exclusive basis, on commercially reasonable terms, or at all, which could prevent us from commercializing our product candidates or allow our competitors or other third parties the chance to access technology that is important to our business. We do not control the preparation, filing, prosecution and maintenance of the patents and patent applications covering the technology that we license from Broad Institute or Beam Therapeutics. For example, pursuant to our licenses with Broad Institute and Beam Therapeutics, our licensors retain control of preparation, filing, prosecution and maintenance of their wholly- owned patents and patent applications. We rely on such licensors to determine inventorship and perfect priority of their patent applications. We cannot be certain that these patents and patent applications will be prepared, filed, prosecuted, maintained and defended in a manner consistent with the best interests of our business. If Broad Institute or Beam Therapeutics fails to prosecute or maintain such patents and patent applications or loses rights to such patents and patent applications, the rights we have licensed may be reduced or eliminated, our right to develop and commercialize any of our 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 third parties from making, using and selling competing products. In addition, we do not control all enforcement of the patents and patent applications we license from Broad Institute. It is possible that our licensors' 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, or may not be conducted in accordance with our best interests. Our licensors may have relied on third- party consultants or collaborators or on funds from third parties such that our licensors are not the sole and exclusive owners of the patent rights we have in- licensed. If other third parties have ownership rights to our in- licensed issued ~~patent~~ **patents** and patent applications, the license granted to us in jurisdictions where the consent of a co- owner is necessary to grant such a license may not be valid, and such co- owners for which we do not secure exclusive licenses may be able to license such patent rights to third parties, including our competitors, and such third parties may be able to market competing products and technology. Furthermore, inventions contained within some of our in- licensed issued ~~patent~~ **patents** and patent applications were made using U. S. government funding. We rely on our licensors to ensure compliance with applicable obligations arising from such funding, such as timely reporting, an obligation associated with our in- licensed ~~patent~~ **patents** and patent applications. The failure of our licensors to meet their obligations may lead to a loss of rights or the unenforceability of relevant patents that may issue from such applications. For example, the U. S. government could have certain rights in such in- licensed issued patent and patent applications, including a non- exclusive license authorizing the U. S. government to use the invention or to have others use the invention on its behalf. If the U. S. government decides to exercise these rights, it is not required to engage us as its contractor in connection with doing so. The U. S. government' s rights may also permit it to disclose the funded inventions and technology to third parties and to exercise march- in rights to use or allow third parties to use the technology we have licensed that was developed using U. S. government funding. The U. S. government may also exercise its march- in rights if it determines that action is necessary because we or our licensors failed to achieve practical application of the U. S. government- funded technology, because action is necessary to alleviate health or safety needs, to meet requirements of federal regulations, or to give preference to U. S. industry. For example, if the U. S. government determines it is necessary, the U. S. government may exercise its march- in rights and license to third- party manufacturers any or all of our future products or current or future product candidates covered by in- licensed patents and patent applications made using U. S. government funding. In addition, our rights in such in- licensed U. S. government- funded inventions may be subject to certain requirements to manufacture product candidates embodying such inventions in the United States. Any of the foregoing could harm our business, financial condition, results of operations, and prospects significantly. In the event that any of our third- party licensors determines that, in spite of our efforts, we have materially breached a license agreement or have failed to meet certain obligations thereunder, it may elect to terminate the license agreement or, in some cases, one or more license (s) under the

applicable license agreement and such termination would result in us no longer having the ability to develop and commercialize product candidates and technology covered by that license agreement or license. In the event of such termination of a third- party in- license, or if the underlying patent rights under a third- party in- license fail to provide the intended exclusivity, third parties may be able to seek regulatory approval of, and to market, products identical to ours. Moreover, our licensors may own or control intellectual property that has not been licensed to us and, as a result, we may be subject to claims, regardless of their merit, that we are infringing or otherwise violating the licensor' s rights. Any of these events could have a material adverse effect on our competitive position, business, financial conditions, results of operations and prospects. Pursuant to our license agreements with Beam Therapeutics and Broad Institute, we are generally responsible for bringing any actions against any third party for infringing on certain of the patent rights we have licensed from such counterparty, subject to certain conditions. Certain provisions of each license agreement with Broad Institute also require us to meet development thresholds within specified timeframes to maintain the license, including establishing a set timeline for developing and commercializing products, while some provisions of the Beam Collaboration Agreement require us to use commercially reasonable efforts to conduct development activities for collaboration products. In spite of our efforts, Broad Institute, Beam Therapeutics, or any future licensor from whom we may seek to license intellectual property rights might conclude that we have materially breached our obligations under such license agreements and might therefore terminate the license agreements, thereby removing or limiting our ability to develop and commercialize products and technology covered by these license agreements. If these licenses agreements are terminated, or if the underlying patent rights fail to provide the intended exclusivity, competitors or other third parties may be able to seek regulatory approval of, and to market, products identical to ours and we may be required to cease our development and commercialization of our Prime Editing technology or product candidates. Any of the foregoing could have a material adverse effect on our competitive position, business, financial condition, results of operations and growth 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; • the extent to which our technology and processes infringe on intellectual property of the licensor that is not subject to the licensing agreement; • the sublicensing of patent rights to third parties under our collaborative development relationships; • our diligence obligations under the license agreement with respect to the use of the licensed technology in relation to our development and commercialization of our product candidates 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 licensor and us and our partners; and • the priority of invention of patented technology. In addition, the agreements under which we currently license intellectual property rights from Beam Therapeutics and Broad Institute are complex, and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise under our existing license agreements or future license agreements into which we may enter could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology or broaden what we believe to be the scope of the licensor' s rights to our intellectual property and technology, or increase what we believe to be our financial or other obligations under the relevant agreement, any of which could have a material adverse effect on our business, financial condition, results of operations and prospects. For example, we have exclusively licensed and sublicensed certain of our owned and licensed intellectual property rights to Beam Therapeutics under the Beam Collaboration Agreement in certain fields. Such agreement may be susceptible to multiple interpretations and the resolution of any contract interpretation disagreement could expand the field of exclusivity or other rights we have granted to Beam Therapeutics and therefore, narrow our field of exclusivity or rights with respect to such licensed intellectual property rights. Moreover, if disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on commercially acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates. As a result, any termination of or disputes over our intellectual property licenses could result in the loss of our ability to develop and commercialize our Prime Editing technology or other product candidates or we could lose other significant rights, any of which could have a material adverse effect on our business, financial conditions, results of operations and prospects. It is also possible that a third party could be granted limited licenses to some of the same technology, in certain circumstances. Our in- licensed issued ~~patent~~ **patents** and owned and in- licensed patent applications may not provide sufficient protection of our Prime Editing technologies and our future product candidates or result in any competitive advantage. We have in- licensed ~~an~~ **four** issued U. S. **patents, one granted ex- U. S.** patent **,** and own and have in- licensed a number of patent applications that cover Prime Editing **methods** and ~~related technologies~~ **its components and systems** . We and our licensors have filed patent applications intended to specifically cover our Prime Editing technology and uses with respect to treatment of particular diseases and conditions. While we in- license ~~one~~ **four** issued **U. S.** ~~patent~~ **patents** , we do not currently own any, or in- license any other, issued U. S. patents. ~~Our~~ **We have four** in- licensed issued U. S. **patents and one granted ex- U. S.** patent ~~contains claims directed to~~ **, all of which cover Prime Editing** methods ~~of using Prime Editors~~ **and its components and systems** . Our owned and in- licensed patent applications contain claims directed to compositions of matter for our Prime Editing product candidates, as well as methods directed to the use of such product candidates for gene therapy treatment. Method- of- use patents do not prevent a competitor or other third party from developing or marketing an identical product for an indication that is outside the scope of the patented method. Moreover, with respect to method- of- use patents, even if competitors or other third parties do not actively promote their product for our targeted indications or uses for which we may obtain patents, providers may recommend that patients use these products off- label, or patients may do so themselves. The strength of patents in the biotechnology and pharmaceutical field involves complex legal and scientific questions and can be uncertain. The issuance of a patent is not conclusive as to its inventorship, scope, validity, or enforceability, and our or our licensors' current and future patents may be challenged in the courts or patent offices in the United States and abroad. The patent applications that we own or in- license may fail to result in issued patents with claims that cover our product candidates or uses thereof in the United States or in other foreign countries. For example, while our or our licensors' patent applications are

pending, such patent applications may now or in the future be subject to a third- party pre- issuance submission of prior art to the U. S. Patent and Trademark Office, or USPTO, or become involved in interference or derivation proceedings or equivalent proceedings in foreign jurisdictions. For example, prior art was submitted by ~~a~~ **one or more** third ~~party~~ **parties** with respect to certain of our Patent Cooperation Treaty, or PCT, ~~or~~ patent applications **as well as in patent applications filed in the European Patent Office** in- licensed from Broad Institute directed to Prime Editing. Third parties may challenge ~~their~~ -- **the** inventorship, priority of invention, validity, enforceability or scope of our in- licensed ~~patent~~ **patents** and our or our licensors' patent applications that successfully issue, including through opposition, revocation, reexamination, post- grant and inter partes review proceedings and litigation. 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. An adverse determination in any such submission, proceeding or litigation may result in loss of patent rights, loss of 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, allow third parties to commercialize our technology or product candidates and compete directly with us, without payment to us, limit the duration of the patent protection of our technology and product candidates, or result in our inability to manufacture or commercialize products without infringing third- party patent rights. Furthermore, even if they are unchallenged, our patent rights may not adequately protect our intellectual property or prevent others from designing around our platform technology or product candidates. If the breadth or strength of protection provided by our in- licensed ~~patent~~ **patents** or patents that may issue from the patent applications we own or in- license with respect to our Prime Editing technology and product candidates is threatened, it could dissuade companies from collaborating with us to develop, and threaten our ability to commercialize, our product candidates. Further, if we encounter delays in development, testing and regulatory review of new product candidates, the period of time during which we could market our product candidates under patent protection would be reduced. Given that patent applications in the United States and other countries are confidential for a period of time after filing, at any moment in time, we cannot be certain that we or our licensors were in the past or will be in the future the first to file any patent application related to our Prime Editing technology or product candidates. In addition, some patent applications in the United States may be maintained in secrecy until the patents are issued. As a result, there may be prior art of which we or our licensors are not aware that may affect the validity or enforceability of a patent claim, and we or our licensors may be subject to priority disputes. For our in- licensed patent portfolios, we rely on our licensors to determine inventorship and to obtain and file inventor assignments of priority applications before their conversion as PCT applications. A failure to do so in a timely fashion may give rise to a challenge to entitlement of priority for foreign applications nationalized from such PCT applications. We or our licensors may in the future become a party to proceedings or priority disputes in Europe or other foreign jurisdictions. The loss of priority for, or the loss of, any European or other foreign patent rights could have a material adverse effect on the conduct of our business. We may be required to disclaim part or all of the term of certain patents that may issue from our owned or in- licensed patent applications. There may be prior art of which we are not aware that may affect the validity or enforceability of a patent claim. There also may be prior art of which we or our licensors are aware, but which we or our licensors do not believe affects the validity or enforceability of a claim, which may, nonetheless, ultimately be found to affect the validity or enforceability of a claim. No assurance can be given that, if challenged, our in- licensed ~~patent~~ **patents** and patent applications, if issued, would be declared by a court, patent office or other governmental authority to be valid or enforceable, or that even if the patent claims were found to be not invalid or unenforceable, a third party' s technology or product would be found by a court to infringe our patent rights. Moreover, even if our in- licensed ~~patent~~ **patents** and patent applications, if issued, are declared to be valid and enforceable and a third party' s technology or product found to infringe our patent rights, a court or other governmental authority may refuse to prevent a third party' s technology or product from being marketed, and the court or governmental authority would determine the royalty rate to be paid by the third party to us. We analyze patents or patent applications of third parties that we believe are relevant to our activities, but third parties may achieve issued claims, including in patents we consider to be unrelated, that block our efforts or potentially result in our product candidates or our activities infringing such claims. It is possible that third parties may have filed, and may in the future file, patent applications covering our products or gene editing technology similar to ours. Those patent applications may have priority over our in- licensed ~~patent~~ **patents** and owned and in- licensed patent applications, which could require us to obtain rights to issued patents covering such technologies. The possibility also exists that others will develop products that have the same effect as our product candidates on an independent basis that do not infringe our in- licensed ~~patent~~ **patents** or patents that may issue from our own or in- licensed patent applications, or other intellectual property rights, or will design around the claims of our in- licensed ~~patent~~ **patents** or our patents that may issue from our owned or in- licensed patent applications that cover our product candidates. Likewise, our in- licensed issued ~~patent~~ **patents** and currently owned and in- licensed patent applications, if issued as patents, directed to our in- licensed and company- owned Prime Editing technologies and our product candidates are expected to expire between 2040 and ~~2044~~ **2045**, without taking into account any possible patent term adjustments or extensions. Our in- licensed issued ~~patent~~ **patents**, or owned or in- licensed patent applications, if issued as patents, may expire before, or soon after, our first product candidate achieves marketing approval in the United States or foreign jurisdictions. Additionally, no assurance can be given that the USPTO or relevant foreign patent offices will grant any of the pending patent applications we own or in- license currently or in the future. Upon the expiration of such patents that may issue from our current owned or in- licensed patent applications, we may lose the right to exclude others from practicing these inventions. The expiration of these patent rights could also have a similar material adverse effect on our business, financial condition, results of operations and prospects. Our in- licensed issued ~~patent~~ **patents** and owned and in- licensed patent applications and other intellectual property may be subject to priority, inventorship or ownership disputes and similar proceedings. If we or our licensors are unsuccessful in any of these proceedings, we may be required to obtain licenses from third parties, which may not be available on commercially

reasonable terms or at all, or to cease the development, manufacture and commercialization of one or more of our product candidates, which could have a material adverse impact on our business. We or our licensors may be subject to claims that former employees, collaborators, or other third parties have an interest in our in- licensed issued ~~patent~~ **patents** or owned or in-licensed patent applications or other intellectual property as an inventor or co- inventor. If we or our licensors are unsuccessful in any interference proceedings or other priority, validity (including any patent oppositions), inventorship or ownership disputes to which we or they are subject, we may lose valuable intellectual property rights through the loss of part or all of our owned or licensed patent rights, the loss of exclusive ownership of or the exclusive right to use our owned or in- licensed patent rights, or the narrowing, invalidation, or unenforceability of our or our licensors' patent claims. In the event of loss of patent rights as a result of any of these disputes, we may be required to obtain and maintain licenses from third parties, including parties involved in any such interference proceeding or other priority, inventorship or ownership disputes. Such licenses may not be available on commercially reasonable terms or at all, or may be non- exclusive. If we are unable to obtain and maintain such licenses, we may need to cease the development, manufacture and commercialization of one or more of our product candidates. The loss of exclusivity or the narrowing of our patent rights could limit our ability to stop others from using or commercializing similar or identical technology and product candidates. Even if we or our licensors are successful in an inventorship or ownership dispute, it could result in substantial costs and be a distraction to management and other employees. Any of the foregoing could result in a material adverse effect on our business, financial condition, results of operations, or prospects. We have limited foreign intellectual property rights and may not be able to protect our intellectual property and proprietary rights throughout the world. We **currently have in- licensed one ex- U. S. granted patent that covers Prime Editing components and methods of use. Although we own and have in- licensed numerous ex- U. S. patent applications, we** have limited intellectual property rights outside the United States. Filing, prosecuting and defending patents on our Prime Editing technologies and product candidates in all countries throughout the world would be prohibitively expensive and our intellectual property rights in some countries outside the United States can be less extensive than those in the United States. The laws of foreign countries do not protect intellectual property rights to the same extent as federal and state laws of the United States, even in jurisdictions where we or our licensors do pursue patent protection. In addition, our intellectual property license agreements may not always include worldwide rights. Consequently, we or our licensors may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Third parties may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and, further, may export otherwise infringing products to territories where we have patent protection but where enforcement is not as strong as that in the United States. These products may compete with our product candidates and patents that may issue from our or our licensors' pending patent applications or other intellectual property rights may not be effective or sufficient to prevent them from competing. Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets and other intellectual property protection, particularly those relating to biotechnology and pharmaceutical products, which could make it difficult for us to stop the infringement of our future patents or marketing of competing products by third parties in violation of our intellectual property and proprietary rights generally. Proceedings to enforce our future patents or our licensors' patent or future patents and 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 future patents or our licensors' patent or future patents at risk of being invalidated or interpreted narrowly and our or our licensors' patent applications at risk of not issuing and could provoke third parties to assert claims against us or our licensors. We 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. Moreover, the initiation of proceedings by third parties to challenge the scope or validity of our or our licensors' patent rights in foreign jurisdictions could result in substantial cost and divert our efforts and attention from other aspects of our business. Accordingly, our or our licensors' efforts to enforce our or our licensors' intellectual property and proprietary rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license. Many countries have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. In addition, many countries limit the enforceability of patents against government agencies or government contractors. In these countries, the patent owner may have limited remedies, which could materially diminish the value of such patent. If we or our licensors are forced to grant one or more licenses to third parties with respect to any patent or future 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 not be successful in acquiring or in- licensing necessary rights to key technologies or any product candidates we may develop. We currently have rights to intellectual property, through licenses from third parties, to identify and develop product candidates, and we expect to seek to expand our product candidate pipeline in part by in- licensing additional rights to key technologies. The future growth of our business will depend in part on our ability to in- license or otherwise acquire the rights to additional product candidates and technologies. Although we have succeeded in licensing technologies from Beam Therapeutics and Broad Institute in the past, we cannot guarantee that we will be able to in- license or acquire additional rights to any product candidates or technologies from Beam Therapeutics, Broad Institute, or other third parties on acceptable terms or at all. For example, Broad Institute is developing improvements to the Prime Editing technology for which we may find it necessary or useful to obtain a license. In addition, our agreements with Beam Therapeutics and Broad Institute provide that our fields of use exclude particular fields. If we determine that rights to such fields are necessary to commercialize our technology or product candidates or maintain our competitive advantage, we may need to obtain a license from Beam Therapeutics or Broad Institute in order to continue developing, manufacturing or marketing our technology or product candidates. 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 (potentially including our competitors) to receive licenses to a portion of the intellectual property that is subject to our existing licenses. Additionally, upon our finalization of our product candidates, we may determine that there are third parties who possess technologies related to gene editing or other technologies which we may need to in- license, including intellectual property covering the use of Cas proteins and reverse transcriptases. We may not be able to obtain such a license on an exclusive basis, on commercially reasonable terms, or at all, which could prevent us from commercializing our product candidates or allow our competitors or other third parties the chance to access technology that is important to our business. Furthermore, there has been extensive patenting activity in the field of gene editing. Pharmaceutical companies, biotechnology companies and academic institutions are competing with us or are expected to compete with us in the in the field of gene editing technology and filing patent applications potentially relevant to our business and we are aware of certain third- party patent applications that, if issued, may allow the third party to circumvent our patent rights. For example, we are aware of several third- party patents and patent applications ~~,~~ that ~~if issued,~~ may be construed to cover or be relevant to our Prime Editing **and PASSIGE** ~~technology~~ **technologies** and product candidates. In order to market our product candidates, we may find it necessary or prudent to obtain licenses from such third- party intellectual property holders. However, we may be unable to secure such licenses or otherwise acquire or in- license any compositions, methods of use, processes, or other intellectual property rights from third parties that we identify as necessary for product candidates we may develop and our Prime Editing technology. We may also require licenses from third parties for certain additional technologies, including technologies relating to Prime Editing, such as guide RNA modification, target sequences, Cas proteins such as Cas9, reverse transcriptases **such as Moloney murine leukemia virus reverse transcriptase** , as well as delivery technologies for product candidates we may develop **. For our PASSIGE technology, we may require additional licenses from third parties for recombinase technologies** . Additionally, we may collaborate with academic institutions to accelerate our research or development under written agreements with these institutions. In certain cases, these institutions may provide us with an option to negotiate a license to any of the institution' s rights in technology resulting from the collaboration. Even if we hold such an option, we may be unable to negotiate a license from the institution within the specified timeframe or under terms that are acceptable to us. If we are unable to do so, such institution may offer the intellectual property rights to others, potentially blocking our ability to pursue our program. The licensing or acquisition of third- party intellectual property rights is a highly competitive area, and a number of more established companies are also pursuing strategies to license or acquire third- party intellectual property rights that we may consider attractive or necessary. These established companies may have a competitive advantage over us due to their size, capital resources and greater clinical development and commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. We also may be unable to license or acquire third- party intellectual property rights on terms that would allow us to make an appropriate return on our investment or at all. If we are unable to successfully obtain rights to required third party intellectual property rights or maintain the existing intellectual property rights we have, we may have to abandon development of the relevant program or product candidate, which could have a material adverse effect on our business, financial condition, results of operations and prospects. The intellectual property landscape around the technologies we use or plan to use, including gene editing technology, is highly dynamic, and 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 may prevent, delay or otherwise interfere with our product discovery and development efforts. The field of gene editing is still **relatively new** ~~in its infancy~~ , and ~~no such~~ **only one** therapeutic **gene editing** product **has** ~~candidates have~~ reached the market. Due to the intense research and development that is taking place by several companies, including us and our competitors, in this field, the intellectual property landscape is evolving and in flux, and it may remain uncertain for the coming years. There may be significant intellectual property related litigation and administrative proceedings relating to our owned and in- licensed, and other third- party, intellectual property and proprietary rights in the future. Our commercial success depends upon our ability and the ability of our collaborators and present and future licensees to develop, manufacture, market and sell any product candidates that we may develop and use our proprietary technologies without infringing, misappropriating, or otherwise violating the intellectual property and proprietary rights of third parties. The biotechnology and pharmaceutical industries are characterized by extensive litigation regarding patents and other intellectual property rights as well as administrative proceedings for challenging patents, including interference, derivation, inter partes review, post grant review and reexamination proceedings before the USPTO or oppositions and other comparable proceedings in foreign jurisdictions. We may be subject to and may in the future become party to, or threatened with, adversarial proceedings or litigation regarding intellectual property rights with respect to our Prime Editing **and PASSIGE** ~~technology~~ **technologies** and product candidates we may develop, including interference proceedings, post- grant review, inter partes review, derivation proceedings and reexamination proceedings before the USPTO and similar proceedings in foreign jurisdictions such as oppositions before the European Patent Office, or EPO. Numerous U. S. and foreign issued patents and pending patent applications that are owned by third parties exist in the fields in which we are developing our product candidates and they may assert infringement claims against us based on existing patents or patents that may be granted in the future, regardless of their merit. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our Prime Editing technology and product candidates may give rise to claims of infringement of the patent rights of others. Moreover, it is not always clear to industry participants, including us, which patents cover various types of therapies, products or their methods of use or manufacture. There may be third- party patents of which we are currently unaware with claims to technologies, methods of manufacture or methods for treatment related to the use or manufacture of our product candidates. Because patent applications can take many years to issue, there may be currently pending patent applications that may later result in issued patents that our product candidates may infringe. In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents. Numerous third- party U. S. and foreign issued patents and pending patent

applications exist in the fields in which we are developing product candidates. Our product candidates make use of CRISPR-based technology, which is a field that is highly active for patent filings. As of ~~June 2019~~ **March 2022** , it was reported that ~~approximately 2072~~ **over 11, 000** patent families worldwide related to CRISPR gene editing inventions and their uses. The extensive patent filings related to CRISPR make it difficult for us to assess the full extent of relevant patents and pending applications that may cover our Prime Editing technology and product candidates and their use or manufacture. There may be third- party patents or patent applications with claims to materials, formulations, methods of manufacture or methods for treatment related to the use or manufacture of our Prime Editing platform technology and product candidates. We are aware of multiple patents and patent applications directed to CRISPR technologies, Cas proteins, including Cas9, and their uses in gene editing. For example, we are aware of a patent portfolio that is co- owned by the University of California, University of Vienna and Emmanuelle Charpentier, which we refer to together as CVC, which contains multiple patents and pending applications directed to gene editing. We are also aware of patents and patent applications directed to gene editing **, including ones that may be relevant to our Prime Editing and PASSIGE technologies,** owned or co- owned by Broad Institute, MIT, Rockefeller University, Harvard, Toolgen Inc. and Sigma- Aldrich. Additional patents and patent applications that we are aware of and directed to gene- editing **, including ones that may be relevant to our Prime Editing and PASSIGE technologies,** are owned or co- owned by The General Hospital Corporation, BASF, SNIPR Technologies Ltd., Novartis, Columbia University, Agilent Technologies, Thermo Fisher Scientific, Life Technologies Corporation, University of California, ~~and~~ Intellia **, Editas Medicine, Tome Biosciences, Flagship Pioneering Innovations, Caribou Biosciences, University of Washington, University of California, Stanford University, Cellectis, and Inscripta** . Our ability to commercialize our product candidates may be adversely affected if we require but cannot obtain a license to these patents. 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 nonexclusive, 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. If we are unable to obtain a necessary license to a third- party patent on commercially reasonable terms, we may be unable to commercialize our Prime Editing technology or product candidates or such commercialization efforts may be significantly delayed, which could in turn significantly harm our business. Several patents and pending applications with claims directed to foundational aspects of CRISPR- Cas9 gene editing are currently involved in interference proceedings at the USPTO. The Patent Trial and Appeal Board, or PTAB, of the USPTO declared a second interference between 14 pending applications co- owned by the CVC and 13 patents and one pending application co- owned by Broad Institute, MIT, Rockefeller University and Harvard, which we refer to as the Boston Licensing Parties, in 2019 after the first interference between the two parties was terminated in 2018. In February 2022, the PTAB issued a decision in the second interference, granting priority to the patents and pending application co- owned by the Boston Licensing Parties over the pending applications co- owned by the CVC. In September 2022, the CVC appealed the PTAB' s decision, at the U. S. Court of Appeals for the Federal Circuit and the appeal is ongoing. While the second interference was in progress, Toolgen joined the patent dispute and two more interferences were declared in December 2020, between a pending application owned by Toolgen and several pending applications co- owned by the CVC or patents and pending applications co- owned by the Boston Licensing Parties. In June 2021, two additional interferences were declared between patents and applications co- owned by the Boston Licensing Parties or pending applications co- owned by the CVC and pending applications owned by Sigma- Aldrich. The PTAB subsequently suspended the interferences involving Toolgen and Sigma- Aldrich until the Federal Circuit issues a decision in the appeal between the CVC and the Boston Licensing Parties over the PTAB' s decision in the second interference. It is presently unclear who will prevail in these proceedings and own or partially own the patents subject to such interferences. If it is necessary for us to obtain a license to one or more of the patents currently involved in such interference proceedings, such patents may not be available to license on commercially reasonable terms or at all. For example, we are aware that the Boston Licensing Parties and CVC have previously licensed certain of such patents to third parties. Our ability to commercialize our product candidates in the United States and abroad may be adversely affected if we cannot obtain a license on commercially reasonable terms to relevant third- party patents that cover our product candidates or Prime Editing technology. Because of the large number of patents issued and patent applications filed in our field, third parties may allege they have patent rights encompassing our product candidates, technologies or methods. Third parties may assert that we are employing their proprietary technology without authorization and may file patent infringement claims or lawsuits against us, and if we are found to infringe such third- party patents, we may be required to pay damages, cease commercialization of the infringing technology, or obtain a license from such third parties, which may not be available on commercially reasonable terms or at all. In addition, we have in the past, and may in the future, receive an offer for license from third parties regarding their proprietary intellectual property for which they may believe encompass our product candidates and technologies. We will evaluate such offers for relevance to our business. Even if we believe third- party claims that we or our technology or product candidates are infringing, misappropriating or otherwise violating such third party' s intellectual property are without merit, there is no assurance that a court would find in our favor on questions of infringement, validity, enforceability, or priority. A court of competent jurisdiction could hold that these third- party patents are valid, enforceable and infringed, which could materially and adversely affect our ability to commercialize our product candidates and any other 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. Further, even if we were successful in defending against any such claims, such claims could require us to divert substantial financial and management resources that we would otherwise be able to devote to our business. If we are found to infringe a third party' s intellectual property rights, and we are unsuccessful in demonstrating that such patents are invalid or unenforceable, 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 significant monetary damages, including treble damages and attorneys' fees, if we are found to have willfully infringed a patent or other intellectual property right. We also could be required to obtain a license from such third party to continue developing, manufacturing and marketing product candidates we may develop 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. If we are unable to obtain a necessary license to a third- party patent on commercially reasonable terms, we may be unable to commercialize our Prime Editing technology or product candidates or such commercialization efforts may be significantly delayed, which could in turn significantly harm our business. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar material adverse effect on our business, financial condition, results of operations and prospects. In addition, our agreements with certain suppliers **and other third parties** with whom we do business require us to defend or indemnify such parties to the extent they become involved in patent infringement claims. We could also voluntarily agree to defend or indemnify third parties in instances where we are not obligated to do so if we determine it would be important to our business relationships. If we are required or agree to defend or indemnify third parties in connection with any infringement claims, we could incur significant costs and expenses that could adversely affect our business, operating results or financial condition. Defense of third- party claims of infringement of misappropriation, or violation of intellectual property rights involves substantial litigation expense and would be a substantial diversion of management and employee time and resources from our business. Some third parties may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources. In addition, any uncertainties resulting from the initiation and continuation of any litigation could have a material adverse effect on our ability to raise the funds necessary to continue our operations or could otherwise have a material adverse effect on our business, financial condition, results of operations and prospects. There could also 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. Any of the foregoing events could have a material adverse effect on our business, financial condition, results of operations and prospects. We may become involved in lawsuits to protect or enforce our future patents, or the issued patents or future patents of our licensors, which could be expensive, time consuming and unsuccessful and could result in a finding that such patents are unenforceable or invalid. Competitors and other third parties may infringe, misappropriate or otherwise violate our future patents or the ~~patent~~ **issued** or future patents of our licensors, or we may be required to defend against claims of infringement, misappropriation or other violation. In addition, our future patents, or the issued or future patents of our licensors also may become involved in inventorship, priority, validity or enforceability disputes. Countering or defending against such claims can be expensive and time consuming. In an infringement proceeding, a court may decide that a patent owned or in- licensed by us is invalid or unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our future owned patents and in- licensed ~~patent~~ **patents** and future patents do not cover the technology in question. An adverse result in any litigation proceeding could put one or more of our future owned patents or in- licensed ~~patent~~ **patents** or future patents at risk of being invalidated or interpreted narrowly. In patent litigation in the United States, defendant counterclaims alleging invalidity and / or unenforceability are commonplace, and there are numerous grounds upon which a third party can assert invalidity or unenforceability of a patent. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness, or non- enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO, or made a misleading statement, during prosecution. Third parties may also raise similar claims before administrative bodies in the United States or abroad, even outside the context of litigation. These types of mechanisms include re- examination, post- grant review, inter partes review, interference proceedings, derivation proceedings and equivalent proceedings in foreign jurisdictions (e. g., opposition proceedings). These types of proceedings could result in revocation or amendment to our in- licensed ~~patent~~ **patents** or future patents such that they no longer cover our product candidates. The outcome for any particular patent 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 we, our licensor, our patent counsel and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity and / or unenforceability, or if we are otherwise unable to adequately protect our rights, we would lose at least part, and perhaps all, of the patent protection on our technology and / or product candidates. Defense of these types of claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business. Conversely, we may choose to challenge the patentability of claims in a third party' s U. S. patent by requesting that the USPTO review the patent claims in re- examination, post- grant review, inter partes review, interference proceedings, derivation proceedings and equivalent proceedings in foreign jurisdictions (e. g., opposition proceedings). We may choose to challenge third- party patents in patent opposition proceedings in the EPO or another foreign patent office. Even if successful, the costs of these opposition proceedings could be substantial and may consume our time or other resources. If we fail to obtain a favorable result at the USPTO, EPO or other patent office then we may be exposed to litigation by a third party alleging that their patent may be infringed by our product candidates, Prime Editing technology or other proprietary technologies. Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses and could distract our personnel from their normal responsibilities. 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, and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our

common stock. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing, or distribution activities. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. Certain third parties, including our competitors, may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources and more mature and developed intellectual property portfolios. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace. **Even if we established infringement of any of our future patents or issued or future in- licensed patents by a competitive product, a court may decide not to grant an injunction against further infringing activity, thus allowing the infringing product to continue to be marketed by the competitor. It is difficult to obtain an injunction in U. S. patent litigation and a court could decide that the competitor should instead pay us a " reasonable royalty " as determined by the court, and / or other monetary damages. A reasonable royalty or other monetary damages may or may not be an adequate remedy. Loss of exclusivity and / or competition from a competitive product would have a material adverse impact on our business.** Obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by government patent agencies, and our patent protection could be reduced or eliminated for non- compliance with these requirements. Periodic maintenance fees, renewal fees, annuity fees and various other government fees on patents and applications are due to be paid to the USPTO and foreign patent agencies outside of the United States over the lifetime of our in- licensed ~~patent~~ **patents** , owned or licensed patent applications and patents that may issue from such applications. In certain circumstances, we rely on our licensors to pay these fees due to U. S. and non- U. S. patent agencies. The USPTO and foreign patent agencies require compliance with several procedural, documentary, fee payment and other similar provisions during the patent application process. We are also dependent on our licensors to take the necessary action to comply with these requirements with respect to our licensed intellectual property. While an inadvertent lapse or non- compliance with such requirements can sometimes be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which non- compliance can result a partial or complete loss of patent rights in the relevant jurisdiction. Were a noncompliance event to occur, third parties might be able to enter the market with similar or identical products or technology, which could have a material adverse effect on our business, financial condition, results of operations and prospects. Changes in patent law in the United States and in non- U. S. jurisdictions could diminish the value of patents in general, thereby impairing our ability to protect our Prime Editing platform technology and product candidates. As is the case with other biotech and pharmaceutical companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biopharmaceutical industry involve both technological and legal complexity, and is therefore costly, time- consuming and inherently uncertain. Changes in either the patent laws or interpretation of the patent laws could increase the uncertainties and costs surrounding the prosecution of patent applications and the enforcement or defense of our issued in- licensed ~~patent~~ **patents** and future issued patents. **The U. S. Congress is responsible** ~~For example, in March 2013, under the Leahy- Smith America Invents Act, or~~ **for passing laws establishing patentability standards. Interpretation of** ~~the America Invents Act, the United States transitioned from a " first to invent " to a " first- to- file "~~ patent **standards** ~~system. Under a " first- to- file " system, assuming that other requirements for patentability are met, the first inventor to file a patent application generally will be entitled to a patent on an~~ **can change significantly over** ~~invention regardless of whether another inventor had made the invention earlier. A third party that files a patent application in the USPTO after March 2013, but before us could therefore be awarded a patent covering an invention of ours even if we had made the invention before it was made by such third party. This will require us to be cognizant going forward of the~~ time ~~from invention to filing of a patent application . 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 file any patent application related to our technology or product candidates or invent any of the inventions claimed in our or our licensors' patent applications. The America Invents Act also includes a number of other significant changes to U. S. patent law, including provisions that affect the way patent applications will be prosecuted, allowing third party submission of prior art and establishing a new post- grant review system 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 U. S. federal courts necessary to invalidate a patent claim, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a district court action. Accordingly, a third party may attempt to use the USPTO procedures to invalidate our patent claims that would not have been invalidated if first challenged by the third party as a defendant in a district court action. The effects of these changes are currently unclear as the USPTO continues to promulgate new regulations and procedures in connection with the America Invents Act and many of the substantive changes to patent law, including the " first- to- file " provisions, only became effective in March 2013. In addition, the courts have yet to address many of these provisions and the applicability of the act and new regulations on the specific patents. However, the America Invents Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued in- licensed patent and future issued patents. In addition, recent** **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. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, 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 weaken our ability to obtain new patents or to enforce patents that we or our licensors have obtained or might obtain in the future. For example, in the case ~~,~~ Assoc. for Molecular Pathology v. Myriad Genetics, Inc., the U. S. Supreme Court held that certain claims to DNA molecules are not patentable. ~~We cannot predict how this~~ **The application of Myriad to biotechnology**

inventions has continued to develop and ~~future decisions~~ **may continue to change over time. In addition, the U. S. Supreme Court recently decided the case Amgen Inc. v. Sanofi, which pertained to patent claims that defined a class of antibodies solely** by ~~the~~ **their** ~~courts, the~~ **binding to a particular antigen. The** U. S. **Supreme** ~~Congress or the USPTO may impact the value of our~~ **Court** ~~or our licensors~~ **determined that Amgen** ' **s claims broadly covered an entire class of antibodies while the** patent ~~or~~ **specification described only a few antibodies and a trial and error approach to make and use all of the claimed antibodies. The U. S. Supreme Court held that the** patent ~~applications~~ **claims were invalid because Amgen' s patent specification did not enable the claims over their broad scope. Certain claims in our patent portfolio relate to broad classes of gene editors. To the extent that a court finds that our patent specifications do not enable such broad classes of gene editors, a court could find such claims invalid** . Similarly, foreign courts have made, and will likely continue to make, changes in how the patent laws in their respective jurisdictions are interpreted. We cannot predict future changes in the interpretation of patent laws or changes to patent laws that might be enacted into law by ~~U. S. and~~ foreign legislative bodies. Any similar adverse changes in the patent laws of other jurisdictions could also have a material adverse effect on our business, financial condition, results of operations and prospects **. For example, a new court system relating solely to patent cases recently became operational in the EU. The Unified Patent Court, or the UPC, began accepting patent cases on June 1, 2023. The UPC is a common patent court with jurisdiction over patent infringement and revocation proceedings effective for multiple member states of the EU. The broad geographic reach of the UPC could enable third parties to seek revocation of any of our European patents that are subject to the jurisdiction of the UPC in a single proceeding at the UPC. Under the UPC, a successful revocation proceeding for a European Patent under the UPC could result in the partial or complete loss of patent protection in numerous EU countries. Such a loss of patent protection could have a material adverse impact on our business, including our ability to commercialize our technology and product candidates. Moreover, the controlling laws and regulations of the UPC will develop over time and we cannot predict what the outcomes of cases tried before the UPC will be. The case law of the UPC may adversely affect our ability to enforce or defend the validity of our European patents. Patent owners have the option to opt- out their European Patents from the jurisdiction of the UPC, defaulting to pre- UPC enforcement mechanisms. We have decided to opt out all of our European patents and patent applications from the UPC at this time. However, if certain formalities and requirements are not met, our European patents and patent applications could be subject to the jurisdiction of the UPC. Further, our future European patents and patent applications may not be subject to the opt- out provisions** . Patent terms may be inadequate to protect our competitive position on our product candidates for an adequate amount of time. Patents have a limited lifespan. The terms of individual patents depend upon the legal term for patents in the countries in which they are granted. In most countries, including the United States, if all maintenance fees are timely paid, the natural expiration of a patent is generally 20 years from its earliest non- provisional filing date in the applicable country. However, the actual protection afforded by a patent varies 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. Various extensions including patent term extensions, or PTEs, and patent term adjustments, or PTAs, may be available, but the life of a patent and the protection it affords is limited. Even if patents covering our product candidates are obtained, once the patent life has expired, we may be open to competition from competitive products, including generics or biosimilars. Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting our product candidates might expire before or shortly after we or our partners commercialize those candidates. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours. If we do not obtain PTE ~~and data exclusivity~~ for any product candidates we may develop, our business may be materially harmed. Depending upon the timing, duration and specifics of any FDA marketing approval of product candidates we may develop, one or more of our U. S. patents may be eligible for limited PTE under the Drug Price Competition and Patent Term Restoration Act of 1984, or the Hatch- Waxman Amendments. The Hatch-Waxman Amendments provides a PTE term of up to five years as compensation for patent term lost during the FDA regulatory review process. A PTE cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval, only one patent per product 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. However, even if we were to seek a PTE, it may not be granted because of, for example, the failure to exercise due diligence during the testing phase or regulatory review process, the failure **or inability** to apply within applicable deadlines, the failure to apply prior to expiration of relevant patents, or any other failure 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 a PTE based on a patent that we in- license from a third party, we would need the cooperation of that third party, which may not be available. If we are unable to obtain PTE or term of any such extension is less than we request, third parties may obtain approval of competing products following our patent expiration, and our business, financial condition, results of operations and prospects could be materially harmed. If we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be harmed. In addition to seeking patent protection for our technology and product candidates, we also rely on know- how and trade secret protection, as well as confidentiality agreements, non- disclosure agreements and invention assignment agreements with our employees, consultants and third- parties, to protect our confidential and proprietary information, especially where we do not believe patent protection is appropriate or obtainable. It is our policy to require our employees, corporate collaborators, outside scientific collaborators, CROs, contract manufacturers, consultants, advisors and other third parties to execute confidentiality agreements upon the commencement of employment or consulting relationships with us. These agreements generally provide that all confidential information concerning our business or financial affairs developed by or made known to the individual or entity during the course of the party' s relationship with us is to be kept confidential and not disclosed to third parties, except in certain specified

circumstances. In the case of employees, the agreements generally provide that all inventions conceived by the individual, and that are related to our current or planned business or research and development or made during normal working hours, on our premises or using our equipment or proprietary information, are our exclusive property. In the case of consultants and other third parties, the agreements generally provide that all inventions conceived in connection with the services provided are our exclusive property. However, we cannot guarantee that we have entered into such agreements with each party that may have or have had access to our trade secrets or proprietary technology and processes or who were involved in the development of intellectual property. Additionally, 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. Any of these parties may breach the agreements and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. 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 technology will be effective. 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 to contractual measures, we try to protect the confidential nature of our proprietary information through other appropriate precautions, such as physical and technological security measures. However, trade secrets and know-how can be difficult to protect and we do not have a formal trade secret policy at this time. These measures may not, for example, in the case of misappropriation of a trade secret by an employee or third party with authorized access, provide adequate protection for our proprietary information. Our security measures may not prevent an employee or consultant from misappropriating our trade secrets and providing them to a third party, and any recourse we might take against this type of misconduct may not provide an adequate remedy to protect our interests fully. In addition, trade secrets may be independently developed by others in a manner that could prevent us from receiving legal recourse. If any of our confidential or proprietary information, such as our trade secrets, were to be disclosed or misappropriated, or if any of that information was independently developed by a third party, our competitive position could be harmed. In addition, some courts inside and outside the United States are sometimes less willing or unwilling to protect trade secrets. If we choose to go to court to stop a third party from using any of our trade secrets, we may incur substantial costs. Even if we are successful, these types of lawsuits may consume our time and other resources. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects. Third parties may assert that our employees, consultants, or advisors have wrongfully used or disclosed confidential information or misappropriated trade secrets. As is common in the biotechnology and pharmaceutical industries, we employ individuals who were previously employed at universities, research institutions, or other biotechnology and pharmaceutical companies, including our competitors or potential competitors. Although no claims against us are currently pending, and although we try to ensure that our employees, consultants, independent contractors or other third parties do not use the proprietary information or know- how of others in their work for us, we may be subject to claims that we or our employees, consultants, independent contractors or other third parties have inadvertently or otherwise used or disclosed intellectual property, including trade secrets or other proprietary information, of a former employer or other third parties. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are successful in defending against such claims, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses and could distract our technical and management personnel from their normal responsibilities. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments, and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. This type of litigation or proceeding could substantially increase our operating losses and reduce our resources available for development activities. We may not have sufficient financial or other resources to adequately conduct such litigation or proceedings. Certain third parties, including our competitors, may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their substantially greater financial resources. Uncertainties resulting from the initiation and continuation of patent litigation or other intellectual property related proceedings could adversely affect our ability to compete in the marketplace. If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected. We do not currently own any registered trademarks. Our unregistered trademarks or trade names may be challenged, infringed, circumvented or declared generic or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks and trade names, which we need to build name recognition among potential partners or customers in our markets of interest. At times, competitors or other third parties may adopt trade names or trademarks similar to ours, thereby impeding our ability to build brand identity and possibly leading to market confusion. In addition, there could be potential trade name or trademark infringement claims brought by owners of other registered trademarks or trademarks that incorporate variations of our 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 and could adversely affect our business, financial condition, results of operations and growth 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: • our product candidates, if approved, will eventually become commercially available in generic or biosimilar product forms; • others may be able to make gene therapy products that are similar to our product candidates or utilize similar gene editing technology but that are not

covered by the claims of the issued ~~patent~~ **patents** or patent applications that we own or license or the patents that we may own or license in the future; • we, our licensors, or our current or future collaborators, might not have been the first to make the inventions covered by the issued ~~patent~~ **patents** or pending patent applications that we license or may own in the future; • we, our licensors, or our current or future collaborators, might not have been the first to file patent applications covering certain of our or their inventions; • we, our licensors, or our current or future collaborators, may fail to meet our obligations to the U. S. government regarding any in- licensed ~~patent~~ **patents** or patent applications funded by U. S. government grants, leading to the loss or unenforceability of patent rights; • others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our owned or licensed intellectual property rights; • it is possible that our pending, owned or licensed patent applications or those that we may own in the future will not lead to issued patents; • it is possible that there are prior public disclosures that could invalidate our owned or in- licensed patent rights, or parts of our owned or in- licensed patent rights; • it is possible that there are unpublished patent applications or patent applications maintained in secrecy that may later issue with claims covering our product candidates or technology similar to ours; • it is possible that our owned or in- licensed ~~patent~~ **patents** or patent applications omit individual (s) that should be listed as inventor (s) or include individual (s) that should not be listed as inventor (s), which may cause the patent or patents issuing from these patent applications to be held invalid or unenforceable; • patents, if and when issued, that we obtain in the future may be held invalid, unenforceable, or narrowed in scope, including as a result of legal challenges by third parties, including our competitors; • the claims of our owned or in- licensed patents, if and when issued, may not cover our product candidates; • the laws of foreign countries may not protect our proprietary rights or the proprietary rights of license partners or current or future collaborators to the same extent as the laws of the United States; • the inventors of our owned or in- licensed patent or patent applications may become involved with competitors, develop products or processes that design around our patent or patent applications, or become hostile to us or the patent, patent applications or patents that may issue from such patent applications on which they are named as inventors; • third parties might conduct research and development activities in countries where we do not have patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets; • we have engaged in scientific collaborations in the past and will continue to do so in the future and our collaborators may develop adjacent or competing products that are outside the scope of our patent or patent applications; • we may not develop additional proprietary technologies that are patentable; • any product candidates we develop may be covered by third- parties' patents or other exclusive rights; • the patents of others may harm our business; or • we may choose not to file a patent in order to maintain 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 have a material adverse effect on our business, financial condition, results of operations and prospects. Risks Related To Regulatory and Other Legal Compliance Matters The FDA, the EMA and the National Institutes of Health, or NIH, have demonstrated caution in their regulation of gene therapy treatments, and ethical and legal concerns about gene therapy and genetic testing may result in additional regulations or restrictions on the development and commercialization of any product candidates we may develop, which may be difficult to predict. The FDA, the EMA and the NIH have each expressed interest in further regulating biotechnology, including gene therapy and genetic testing. For example, the EMA advocates a risk- based approach to the development of a gene therapy product. Agencies at both the federal and state level in the United States, as well as the U. S. congressional committees and other governments or governing agencies, have also expressed interest in further regulating the biotechnology industry. Such action may delay or prevent commercialization of any product candidates we may develop. Additionally, gene therapies may be associated with undesirable or unacceptable side effects, unexpected characteristics or other serious adverse events, including death, off- target cuts of DNA, or the introduction of cuts in DNA at locations other than the target sequence. These off- target cuts could lead to disruption of a gene or a genetic regulatory sequence at an unintended site in the DNA, or, in those instances where we also provide a segment of DNA to serve as a repair template, it is possible that following off- target cut events, DNA from such repair template could be integrated into the genome at an unintended site, potentially disrupting another important gene or genomic element. There also is the potential risk of delayed adverse events following exposure to gene therapies due to persistent biologic activity of the genetic material or other components of products used to carry the genetic material. Due to concerns from regulatory agencies on the development of gene therapies and their potential for unknown long- term effects, participants in gene- therapy clinical trials may also require long- term follow- up for as long as 15 years. Regulatory requirements in the United States and in other jurisdictions governing the development of gene therapy products have changed frequently and may continue to change in the future. **Recently** ~~In January 2020~~, the FDA issued several new guidance documents on gene therapy products, and in ~~March~~ **January** ~~2022~~ **2024**, the FDA **finalized its** ~~published a draft~~ guidance document providing recommendations for human genome editing gene therapy products. In ~~September 2022, the FDA announced retitling of OTAT to OTP and the elevation of OTP to a " Super Office " to meet its growing cell and gene therapy workload. In~~ addition to the government regulators, the IBC and IRB of each institution at which we will conduct clinical trials of our ~~potential~~ **current or future** product candidates, or a central IRB if appropriate, would need to review the proposed clinical trial to assess the safety of the trial. In addition, adverse developments in clinical trials of gene therapy product candidates conducted by others may cause the FDA or other oversight bodies to change the requirements for approval of any of our potential product candidates. Similarly, the EMA governs the development of gene therapies in the European Union and may issue new guidelines concerning the development and marketing authorization for gene therapy products and require that we comply with these new guidelines. These regulatory review agencies and committees and the new requirements or guidelines they promulgate may lengthen the regulatory review process, require us to perform additional studies or trials, increase our development costs, lead to changes in regulatory positions and interpretations, delay or prevent approval and commercialization of any product candidates we may develop or lead to significant post- approval limitations or restrictions. As we advance our ~~potential~~ **current and future** product candidates, we will be required to consult with these regulatory agencies and committees and comply with applicable requirements and guidelines. If we fail to do so, we

may be required to delay or discontinue development of such product candidates. These additional processes may result in a review and approval process that is longer than we otherwise would have expected. Delays as a result of an increased or lengthier regulatory approval process or further restrictions on the development of our ~~potential~~ **current and future** product candidates can be costly and could negatively impact our or our collaborators' ability to complete clinical trials and commercialize our current and future product candidates in a timely manner, if at all. Even if we, or any of our collaborators or strategic partners, obtain marketing approvals for any product candidates we may develop, the terms of approvals and ongoing regulation of such product candidates could require the substantial expenditure of resources and may limit how we, or they, manufacture and market such product candidates, which could materially impair our ability to generate revenue. Any product candidate for which we obtain marketing approval, along with the manufacturing processes, post- approval clinical data, labeling, advertising and promotional activities for such product, will be subject to continual requirements of and review by the FDA, the EMA and other regulatory authorities. These requirements include submissions of safety and other post- marketing information and reports, facility registration and drug listing requirements, cGMP requirements relating to quality control, quality assurance and corresponding maintenance of records and documents, applicable product tracking and tracing requirements and requirements regarding the distribution of samples to physicians and recordkeeping. In addition, our manufacturing and testing facilities will be required to undergo pre- license inspections and pre- approval inspections. Even if marketing approval of a product candidate is granted, the approval may be subject to limitations on the indicated uses for which the products may be marketed or to the conditions of approval, or contain requirements for costly post- marketing testing and surveillance to monitor the safety or efficacy of the products. Accordingly, assuming we, or any collaborators we may have, receive marketing approval for one or more product candidates we develop, we, and such collaborators, and our and their contract manufacturers will continue to expend time, money and effort in all areas of regulatory compliance, including manufacturing, production, product surveillance and quality control. If we and such collaborators are not able to comply with post- approval regulatory requirements, we and such collaborators could have the marketing approvals for our products withdrawn by regulatory authorities and our, or such collaborators', ability to market any future products could be limited, which could adversely affect our ability to achieve or sustain profitability. Furthermore, the cost of compliance with post- approval regulations may have a negative effect on our business, operating results, financial condition and prospects. Reductions in government operations may **also** delay necessary manufacturing facility inspections by regulators and adversely affect the supply of any product candidates we may develop ~~. Since March 2020 when foreign and domestic inspections of facilities were largely placed on hold, the FDA has been working to resume pre- pandemic levels of inspection activities, including routine surveillance, bioresearch monitoring and pre- approval inspections. 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 U. S. may adopt similar restrictions or other policy measures in response to the ongoing COVID- 19 pandemic and may experience delays in their regulatory activities~~ . 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. Inadequate funding for the FDA, the SEC and other government agencies, including from government shut downs, or other disruptions to these agencies' operations, could hinder their ability to hire and retain key leadership and other personnel, prevent new products and services from being developed or commercialized in a timely manner or otherwise prevent those agencies from performing normal business functions on which the operation of our business may rely, which could negatively impact our business. The ability of the FDA to review and approve new products can be affected by a variety of factors, including government budget and funding levels, statutory, regulatory, and policy changes, the FDA' s ability to hire and retain key personnel and accept the payment of user fees, and other events that may otherwise affect the FDA' s ability to perform routine functions. Average review times at the agency have fluctuated in recent years as a result. In addition, government funding of other government agencies that fund research and development activities is subject to the political process, which is inherently fluid and unpredictable. Disruptions at the FDA and other agencies may also slow the time necessary for biologics or modifications to approved 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. Healthcare and other reform legislation may increase the difficulty and cost for us and any collaborators we may have to obtain marketing approval of and commercialize any product candidates we may develop and affect the prices we, or they, may obtain. In the United States and some foreign jurisdictions, there have been and continue to be ongoing efforts to implement legislative and regulatory changes regarding the healthcare system. Such changes could prevent or delay marketing approval of any product candidates that we may develop, restrict or regulate post- approval activities and affect our ability to profitably sell any product candidates for which we obtain marketing approval. Although we cannot predict what healthcare or other reform efforts will be successful, such efforts may result in more rigorous coverage criteria, in additional downward pressure on the price that we, or our future collaborators, may receive for any approved products or in other consequences that may adversely affect our ability to achieve or maintain profitability. Within the United States, the federal government and individual states have aggressively pursued healthcare reform, as evidenced by the passing of the Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, or collectively the ACA, and the ongoing efforts to modify or repeal that legislation. The ACA substantially changed the way healthcare is

financed by both governmental and private insurers and contains a number of provisions that affect coverage and reimbursement of drug products and / or that could potentially reduce the demand for pharmaceutical products such as increasing drug rebates under state Medicaid programs for brand name prescription drugs and extending those rebates to Medicaid managed care and assessing a fee on manufacturers and importers of brand name prescription drugs reimbursed under certain government programs, including Medicare and Medicaid. Other aspects of healthcare reform, such as expanded government enforcement authority and heightened standards that could increase compliance- related costs, could also affect our business. Modifications have been implemented under the former Trump administration and additional modifications or repeal may occur. **For more information, see " Business – Other Healthcare Laws and Compliance Requirements – Healthcare Reform. "** ~~There -- The~~ **The continuing efforts of the government, insurance companies, managed care organizations and other payers of healthcare services to contain or reduce costs of healthcare may adversely affect: • the demand for any of our product candidates, if approved; • the ability to set a price that we believe is fair for any of our product candidates, if approved; • our ability to generate revenues and achieve or maintain profitability; • the level of taxes that we are required to pay; and • the availability of capital. Legislative and regulatory proposals** have been ~~executive, judicial~~ **made to expand post- approval requirements** and ~~congressional~~ **restrict sales and promotional activities for pharmaceutical and biologic products. We cannot be sure whether additional legislative** ~~challenges --- changes~~ **changes will be enacted** ~~to certain aspects of the ACA. On February 10~~, ~~2021~~ **or whether FDA regulations**, **guidance or interpretations will be changed, or what** the ~~Biden administration withdrew~~ **impact of such changes on** the ~~federal government~~ **marketing approvals of our product candidates, if any, may be. In addition, increased scrutiny by Congress of the FDA** ' s ~~support~~ **approval process may significantly delay or prevent marketing approval, as well as subject us to more stringent product labeling and post- marketing testing and other requirements. Moreover, increasing efforts by governmental and third- party payors in the United States and abroad to cap or reduce healthcare costs may cause such organizations to limit both coverage and the level of reimbursement** for ~~overturning~~ **newly approved products and, as a result,** ~~the~~ **they** ~~ACA~~ **may not cover or provide adequate payment for our product candidates** . ~~On June 17~~ **There has been increasing legislative and enforcement interest in the United States with respect to specialty drug pricing practices. Specifically** , ~~2021, the~~ **there have been several recent** U. S. **Congressional inquiries and proposed and enacted federal and** ~~Supreme Court dismissed the most recent judicial challenge to the ACA brought by several states -~~ **state** ~~without specifically ruling on~~ **legislation designed to, among** ~~the~~ **other things** ~~constitutionality of the ACA. Prior to the Supreme Court' s decision~~ , ~~President Biden issued~~ **bring more transparency to drug pricing, reduce the cost of prescription drugs under Medicare, review the relationship between pricing** ~~an~~ **and** ~~executive order~~ **manufacturer patient programs, and reform government program reimbursement methodologies for drugs. We expect** that ~~initiated a special enrollment period for purposes of obtaining health insurance coverage through the ACA marketplace, from February 15, 2021 through August 15, 2021. The executive order also instructed certain governmental agencies to review and reconsider their -- the 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~~ **that have been adopted and may be adopted in** the ~~Biden administration~~ **future, may result in more rigorous coverage criteria and in additional downward pressure on the price that we receive for any approved product and could seriously harm our future revenues. Any reduction in reimbursement from Medicare** or other ~~efforts~~ **government programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue** , ~~if~~ **attain profitability or commercialize our products. The insurance coverage and reimbursement status of newly approved products is uncertain. Failure to obtain or maintain adequate coverage and reimbursement for our product candidates could limit our product revenues. Sales of our products will depend, in part, on the extent to which our products will be covered by third- party payors, such as government health programs, commercial insurance and managed healthcare organizations. In the United States, no uniform policy of coverage and reimbursement for drug or biological products exists. Accordingly, decisions regarding the extent of coverage and amount of reimbursement to be provided for** any **of** ~~, to challenge, repeal or~~ **our products** ~~replace the ACA~~ will ~~impact~~ **be made on a payor- by- payor basis. The process for determining whether a third- party payor will provide coverage for a product may be separate from the process for setting the price** ~~our -~~ **or** ~~business. There~~ **reimbursement rate that the payor will pay for the product once coverage** is **approved. Third- party payors are increasingly challenging the prices charged, examining the medical necessity, and reviewing the cost- effectiveness of medical products and services and imposing controls to manage costs. Third- party payors may limit coverage to specific products on an approved list, also known as a formulary, which might not include all of the approved products for a particular indication. As a result, the coverage determination process is often a time- consuming and costly process that will require us to provide scientific and clinical support for the use of our products to each payor separately, with** no assurance that ~~federal or state health care reform will not adversely affect our future business and financial results, and we cannot predict how future federal or state legislative, judicial or administrative changes relating to healthcare reform will affect our business. In addition, other legislative changes have been proposed and adopted in the United States since the ACA was enacted. For example, on March 22, 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 percent of a drug' s average manufacturer price, for single source and innovator multiple source drugs, beginning January 1, 2024. 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 that lasted from May 1, 2020 through March 31, 2022 due to the COVID- 19 pandemic. Following the suspension, a~~

1 % payment reduction began April 1, 2022, lasting through June 30, 2022. The 2 % payment reduction resumed on July 1, 2022. On January 2, 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, further reduced Medicare payments to several providers, including hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. The Bipartisan Budget Act, or BBA, also amended the ACA, effective January 1, 2019, by increasing the point- of- sale discount that is owed by pharmaceutical manufacturers who participate in Medicare Part D and closing the coverage gap in most Medicare drug plans, commonly referred to as the " donut hole. " Furthermore, the prices of prescription pharmaceuticals in the United States and foreign jurisdictions is subject to considerable legislative and executive actions and could impact the prices we obtain for our products, if and when licensed. At the U. S. federal level, the former Trump administration used several means to propose or implement drug pricing reform, including through federal budget proposals, executive orders and policy initiatives. For example, on July 24, 2020 and September 13, 2020, the Trump administration announced several executive orders related to prescription drug pricing that seek to implement several of the administration' s proposals. As a result, the FDA released a final rule on September 24, 2020, effective November 30, 2020, providing guidance for states to build and submit importation plans for drugs from Canada. Furthermore, on November 20, 2020, the U. S. Department of Health and Human Services, or HHS, finalized a regulation removing safe harbor protection for price reductions from pharmaceutical manufacturers to plan sponsors under Medicare Part D, either directly or through pharmacy benefit managers, unless the price reduction is required by law. The rule also creates a new safe harbor for price reductions reflected at the point- of- sale, as well as a safe harbor for certain fixed fee arrangements between pharmacy benefit managers and manufacturers. Pursuant to court order, the removal and addition of the aforementioned safe harbors were delayed and recent legislation imposed a moratorium on implementation of the rule until January 1, 2026. The Inflation Reduction Act of 2022 further delayed implementation of this rule to January 1, 2032. On November 20, 2020, CMS, issued an **and adequate** interim final rule implementing the Trump administration' s Most Favored Nation executive order, which would tie Medicare Part B payments for certain physician- administered drugs to the lowest price paid in other economically advanced countries. However, on December 29, 2021, CMS rescinded the Most Favored Nations rule. In August 2022, the Inflation Reduction Act of 2022 (the " IRA ") was signed into law. The IRA includes several provisions that will impact our business to varying degrees, including provisions that create a $ 2, 000 out- of- pocket cap for Medicare Part D beneficiaries, impose new manufacturer financial liability on all drugs in Medicare Part D, allow the U. S. government to negotiate Medicare Part B and Part D pricing for certain high- cost drugs and biologics without generic or biosimilar competition, require companies to pay rebates to Medicare for drug prices that increase faster than inflation, and delay the rebate rule that would require pass through of pharmacy benefit manager rebates to beneficiaries. In addition to pricing regulations, reforms of regulatory approval frameworks may adversely affect our pricing strategy. For example, on July 9, 2021, President Biden issued an executive order directing the FDA to, among other things, continue to clarify and improve the approval framework for biosimilars, including the standards for interchangeability of biological products, facilitate the development and approval of biosimilar and interchangeable products, clarify existing requirements and procedures related to the review and submission of biologics license applications, or BLAs, and identify and address any efforts to impede biosimilar competition. Individual states in the United States have also become increasingly active in passing legislation and 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. 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 **obtained. For more information, see " Business – their - Other** prescription drug and other healthcare **Healthcare Laws** programs. It is difficult to predict the future legislative landscape in healthcare and **Compliance Requirements – Insurance** the effect on our business, results of operations, financial condition and prospects **Coverage** . **"** However, we expect that additional state and federal healthcare reform measures will be adopted in the future, particularly in light of the new presidential administration. Furthermore, it is possible that additional governmental action is taken in response to the ongoing COVID- 19 pandemic. At the state level, legislatures have also been increasingly 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 the European Union, similar political, economic and regulatory developments may affect our ability to profitably commercialize our potential product candidates. In markets outside of the United States and the European Union, reimbursement and healthcare payment systems vary significantly by country, and many countries have instituted price ceilings on specific products and therapies. In some countries, particularly the countries of the European Union, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a product. To obtain reimbursement or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost- effectiveness of any product candidates we may develop to other available therapies. If reimbursement of our products is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our business could be harmed, possibly materially. While we intend to seek designations for our potential **current and future** product candidates with the FDA and comparable foreign regulatory authorities that are intended to confer benefits such as a faster development process or an accelerated regulatory pathway, there can be no assurance that we will successfully obtain such designations. In addition, even if one or more of our potential **current or future** product candidates are granted such designations, we may not be able to realize the intended benefits of such designations. The FDA and comparable foreign regulatory authorities offer certain designations for product candidates that are designed to encourage the research and development of product candidates that are intended to address conditions with significant unmet medical need. These

designations may confer benefits such as additional interaction with regulatory authorities, a potentially accelerated regulatory pathway and priority review. However, there can be no assurance that we will successfully obtain such designations for any product candidates. In addition, while such designations could expedite the development or approval process, they generally do not change the standards for approval. Even if we obtain such designations for one or more of our ~~potential~~ **current or future** product candidates, there can be no assurance that we will realize their intended benefits. For example, we may seek fast track designation for some of our ~~potential~~ **current and future** product candidates. If a therapy is intended for the treatment of a serious or life threatening condition and the therapy nonclinical or clinical data demonstrates the potential to address unmet medical needs for this condition, the therapy 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, there can be no assurance 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, and receiving a fast track designation does not provide assurance of ultimate FDA approval. In addition, the FDA may withdraw fast track designation if it believes that the designation is no longer supported by data from our clinical development program. Additionally, we may seek a breakthrough therapy designation for some of our ~~potential~~ **current or future** product candidates. A breakthrough therapy is defined as a therapy that is intended, alone or in combination with one or more other therapies, to treat a serious or life-threatening disease or condition, and preliminary clinical evidence indicates that the therapy 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 therapies 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. Therapies designated as breakthrough therapies by the FDA may also be eligible for accelerated approval. Designation as a breakthrough therapy is within the discretion of the FDA. Accordingly, even if we believe one of our ~~potential~~ **current or future** 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 ~~potential~~ **current or future** product candidates qualify as breakthrough therapies, the FDA may later decide that such product candidates no longer meet the conditions for qualification. In addition, we may seek a regenerative medicine advanced therapy, or RMAT, designation for some of our ~~potential~~ **current or future** product candidates. An RMAT is defined as cell therapies, therapeutic tissue engineering products, human cell and tissue products and combination products using any such therapies or products. Gene therapies, including genetically modified cells that lead to a durable modification of cells or tissues may meet the definition of a regenerative medicine therapy. The RMAT program is intended to facilitate efficient development and expedite review of RMATs, which are intended to treat, modify, reverse or cure a serious or life- threatening disease or condition. A new drug application or a BLA for an RMAT may be eligible for priority review or accelerated approval through (1) surrogate or intermediate endpoints reasonably likely to predict long- term clinical benefit or (2) reliance upon data obtained from a meaningful number of sites. Benefits of such designation also include early interactions with FDA to discuss any potential surrogate or intermediate endpoint to be used to support accelerated approval. A regenerative medicine therapy that is granted accelerated approval and is subject to post- approval requirements may fulfill such requirements through the submission of clinical evidence, clinical trials, patient registries or other sources of real world evidence, such as electronic health records; the collection of larger confirmatory data sets; or post- approval monitoring of all patients treated with such therapy prior to its approval. RMAT designation is within the discretion of the FDA. Accordingly, even if we believe one of our ~~potential~~ **current or future** product candidates meets the criteria for designation as a regenerative medicine advanced therapy, the FDA may disagree and instead determine not to make such designation. In any event, the receipt of RMAT designation for a product candidate may not result in a faster development process, review or approval compared to drugs 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 ~~potential~~ **current or future** product candidates qualify as for RMAT designation, the FDA may later decide that the biological products no longer meet the conditions for qualification. 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 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. 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 IMM. For the purposes of accelerated approval, a surrogate endpoint is a marker, such as a laboratory measurement, radiographic image, physical sign or other measure that is thought to predict clinical benefit, but is not itself a measure of clinical benefit. An intermediate clinical endpoint is a clinical endpoint that can be measured earlier than an effect on irreversible morbidity or mortality that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit. The accelerated approval pathway may be used in cases in which the advantage of a new drug over available therapy may not be a direct therapeutic advantage, but is a clinically important improvement from a patient and public health perspective. If granted, accelerated approval is usually contingent on the sponsor' s agreement to conduct, in a diligent manner, additional post-approval confirmatory studies to verify and describe the drug' s clinical benefit. Under FDORA, the FDA is permitted to require, as appropriate, that a post- approval confirmatory study or studies be underway prior to approval or within a specified time period after the date of approval for a product granted accelerated approval. FDORA also requires sponsors to send updates to

the FDA every 180 days on the status of such studies, including progress toward enrollment targets, and the FDA must promptly post this information publicly. FDORA also gives the FDA increased authority to withdraw approval of a drug or biologic granted accelerated approval on an expedited basis if the sponsor fails to conduct such studies in a timely manner, send the necessary updates to the FDA, or if such post- approval studies fail to verify the drug' s predicted clinical benefit. Under FDORA, the FDA is empowered to take action, such as issuing fines, against companies that fail to conduct with due diligence any post- approval confirmatory study or submit timely reports to the agency on their progress. 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 be submitted to the Agency for review. 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. Receiving accelerated approval does not assure that the product' s accelerated approval will eventually be converted to a traditional approval. 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 the product candidates that we may develop. 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. In addition, in the European Union, we may seek to participate in the PRIME scheme for our product candidates. The PRIority MEdicines, or PRIME, scheme is intended to encourage drug development in areas of unmet medical need and provides accelerated assessment of products representing substantial innovation, where the marketing authorization application will be made through the centralized procedure in the European Union. Eligible products must target conditions for which there is an unmet medical need (there is no satisfactory method of diagnosis, prevention or treatment in the European Union or, if there is, the new medicine will bring a major therapeutic advantage) and they must demonstrate the potential to address the unmet medical need by introducing new methods of therapy or improving existing ones. Many benefits accrue to sponsors of product candidates with PRIME designation, including but not limited to, early and proactive regulatory dialogue with the EMA, frequent discussions on clinical trial designs and other development program elements, and accelerated marketing authorization application assessment once a dossier has been submitted. There is no guarantee, however, that our product candidates would be deemed eligible for the PRIME scheme and even if we do participate in the PRIME scheme, where during the course of development a medicine no longer meets the eligibility criteria, support under the PRIME scheme may be withdrawn. We may not be able to obtain orphan drug designation or exclusivity for our ~~potential~~ **current or future** product candidates, and even if we do, that designation may not provide an expedited development or regulatory review or approval process and any orphan drug exclusivity we may receive for approved products may not prevent the FDA or the EMA from approving other competing products **. We received orphan drug designation from the FDA for PM359 for the treatment of CGD. We may also seek rare orphan disease designation for some of our other current or future product candidates** . Under the Orphan Drug Act, the FDA may designate a product candidate as an orphan drug if it is a drug or biologic intended to treat a rare disease or condition. A similar regulatory scheme governs approval of orphan product candidates by the EMA in the European Union. Generally, if a product 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 or the EMA (as applicable) from approving another marketing application for another similar product candidate for the same orphan therapeutic indication for that time period. The applicable period is seven years in the United States and ten years in the European Union **(which can be extended to 12 years if the sponsor complies with an agreed upon pediatric investigation plan)** . The exclusivity period in the European Union can be reduced to six years if at the end of the fifth year it is determined that a product no longer meets the criteria for orphan drug designation, including if the product is sufficiently profitable so that market exclusivity is no longer justified. **Legislation has been proposed by the European Commission that, if implemented, has the potential in some cases to shorten the 10- year period of orphan marketing exclusivity.** In order for the FDA to grant orphan drug exclusivity to one of our ~~potential~~ **current or future** product candidates, the agency must find that the product candidate is indicated for the treatment of a condition or disease that affects fewer than 200, 000 individuals in the United States or that affects 200, 000 or more individuals in the United States and for which there is no reasonable expectation that the cost of developing and making the product candidate available for the disease or condition will be recovered from sales of the product in the United States. The FDA may conclude that the condition or disease for which we seek orphan drug exclusivity does not meet this standard. Even if we obtain orphan drug exclusivity for a product candidate, that exclusivity may not effectively protect the product candidate from competition because different product candidates can be approved for the same condition. In addition, even after an orphan drug is approved, the FDA can subsequently approve the same product candidate for the same condition if the FDA concludes that the later product candidate is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care compared with the product that has orphan exclusivity. Orphan drug exclusivity may also be lost if the FDA or EMA 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. **The FDA may 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. In addition, the European Commission introduced a legislative proposal in April 2023 that, if implemented, could reduce the current 10- year marketing exclusivity period in the EU for certain orphan medicines. Depending on what changes the FDA and the European Commission may make to its orphan drug regulations and policies, our business could be adversely impacted. We may seek rare pediatric disease designation for certain of our current or future product candidates, but we might not receive such designation, and even if we do, we may not be able to realize the intended benefits of such designation. We received rare pediatric disease designation from the FDA for PM359 for the treatment of CGD. We may also seek rare pediatric disease designation for some of our other current or future product candidates. Designation of a product candidate as a product for a rare pediatric disease does not guarantee that a marketing application for such product candidate will meet the eligibility criteria for a rare pediatric disease priority review voucher, or PRV, at the time the application is approved. Under the Federal Food, Drug, and Cosmetic Act we will need to request a rare pediatric disease PRV in our original marketing application for any potential product candidates for which we have received rare pediatric disease designation. The FDA may determine that a marketing application for any such product candidates, if approved, does not meet the eligibility criteria for a PRV. Under the current statutory sunset provisions, after September 30, 2024, the FDA may only award a PRV for an approved rare pediatric disease product application if the sponsor has rare pediatric disease designation for the drug or biologic that is the subject of such application, and that designation was granted by September 30, 2024. After September 30, 2026, the FDA may not award any rare pediatric disease PRVs. However, it is possible the authority for FDA to award rare pediatric disease PRV will be further extended by Congress. As such, if we do not obtain approval of a marketing application for any of our current or future product candidates on or before September 30, 2026, and if the PRV program is not extended by Congressional action, we may not receive a PRV. We may seek designation for our Prime Editing platform technology as a designated platform technology, but we might not receive such designation, and even if we do, such designation may not lead to a faster regulatory review or approval process. We may seek designation for our Prime Editing platform technology as a designated platform technology. Under FDORA, a platform technology incorporated within or utilized by a drug or biological product is eligible for designation as a designated platform technology if **:** (1) the platform technology is incorporated in, or utilized by, a drug approved under an NDA or BLA; (2) preliminary evidence submitted by the sponsor of the approved or licensed drug, or a sponsor that has been granted a right of reference to data submitted in the application for such drug, demonstrates that the platform technology has the potential to be incorporated in, or utilized by, more than one drug without an adverse effect on quality, manufacturing, or safety; and (3) data or information submitted by the applicable person indicates that incorporation or utilization of the platform technology has a reasonable likelihood to bring significant efficiencies to the drug development or manufacturing process and to the review process. A sponsor may request the FDA to designate a platform technology as a designated platform technology concurrently with, or at any time after, submission of an IND application for a drug that incorporates or utilizes the platform technology that is the subject of the request. If so designated, the FDA may expedite the development and review of any subsequent original NDA or BLA for a drug that uses or incorporates the platform technology. Even if we believe our Prime Editing platform technology meets the criteria for such designation, the FDA may disagree and instead determine not to grant such designation. In addition, the receipt of such designation for a platform technology does not ensure that a drug will be developed more quickly or receive a faster FDA review or approval process. Moreover, the FDA may revoke a designation if the FDA determines that a designated platform technology no longer meets the criteria for such designation. 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 commercial 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 EMA 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 EMA or other regulatory authorities, which could result in regulatory sanctions and cause serious harm to our reputation. We are also exposed to risks in connection with any insider trading violations by employees or others affiliated with us. We adopted a code of conduct and an insider trading policy applicable to all of our employees, but 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, authorizing

payment or offering of anything of value, directly or indirectly, to any foreign official, political party 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 SEC is involved with enforcement of the books and records provisions of the FCPA. Similarly, the U. K. Bribery Act 2010 has extra- territorial effect for companies and individuals having a connection with the **UK** ~~United Kingdom~~ . The U. K. Bribery Act prohibits inducements both to public officials and private individuals and organizations. Compliance with the FCPA and the U. K. Bribery Act is expensive and difficult, particularly in countries in which corruption is a recognized problem. In addition, the FCPA 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. Certain payments to hospitals in connection with clinical trials and other work have been deemed to be improper payments to government officials and have led to FCPA enforcement actions. Various 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 information classified for national security purposes, as well as certain products and technical data relating to those products. 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 can result in significant civil and criminal penalties. 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 laws, rules, regulations, policies, standards and contractual obligations related to data privacy and security and changes in such laws, rules, regulations, policies, standards and contractual obligations could adversely affect our business. We are, or may become, subject to a number of data privacy and protection laws, rules, regulations, policies, standards and contractual obligations that apply to our collection, transmission, storage, use, disclosure, transfer, maintenance and other processing of personal information. The legislative and regulatory landscape for privacy and data protection is rapidly evolving in the U. S. and Europe, as well as other jurisdictions worldwide, which may lead to increased regulatory scrutiny on privacy and data protection requirements. As a result of the complexity of data privacy and protection laws and regulations applicable to our business, and the uncertainty in how such regulations will be applied and interpreted, we cannot guarantee that we are, or have been, in compliance with all such regulations. Additionally, we rely on certain third- party vendors to process certain confidential, sensitive or personal information on our behalf. Failure or perceived failure by us or our third- party vendors to comply with any of these laws, rules, regulations, contractual obligations or standards could result in notification obligations, enforcement actions, regulatory investigations or inquiries, significant fines, imprisonment of company officials and public censure, litigation and claims for damages by affected individuals, customers or business partners, 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. In the U. S., federal and state laws, rules and regulations related to the privacy and security of personal information apply, or may apply, to our business. At the federal level, for example, regulations promulgated pursuant to the Health Insurance Portability and Accountability Act of 1996, or HIPAA, establish data privacy and security standards that limit the use and disclosure of individually identifiable health information, or protected health information, and require the implementation of administrative, physical and technical safeguards to protect the confidentiality, integrity and availability of electronic protected health information. If we fail to comply with applicable HIPAA privacy and security standards, we could face significant civil and criminal penalties. The Department of Health and Human Services, or HHS, has the discretion to impose penalties without attempting to resolve violations through informal means. Such enforcement activity can result in financial liability and reputational harm, and our responses to such enforcement activity can consume significant internal resources. U. S. state laws also govern the privacy and protection of personal information. For example, the California Consumer Privacy Act, or the CCPA, establishes data privacy rights for individuals located in California and imposes certain requirements on how businesses can collect and use personal information about such individuals. The California Privacy Rights Act, or the CPRA, significantly modifies the CCPA and imposes additional obligations on companies covered by the legislation, including by expanding consumers' rights with respect to personal information, and establishes a state agency vested with the authority to enforce the CCPA. **Many** ~~Other~~ **other** states ~~, such as Virginia, Colorado, Utah and Connecticut,~~ have ~~also enacted~~ **either passed or implemented** similar, comprehensive privacy and data protection legislation **. Moreover, states are passing laws geared to protect specific categories of personal information, most notably Washington' s My Heath Data Act, which provides an additional layer of protection to consumer health data, which is broadly defined** . Many state privacy and data protection laws differ from each other in significant ways, and it is not yet fully clear how such laws will be enforced and interpreted. Thus, we may be required to incur substantial costs and expenses in an effort to comply with them, and may be required to modify our data collection and use practices. Additionally, all 50 states have laws in place which may require businesses to provide notice to customers whose personal information has been disclosed as a result of a data breach. Determining whether personal information has been handled in compliance with applicable state breach notification

requirements, privacy standards and our contractual obligations can be complex and may be subject to statutory and contractual interpretation, thus potentially complicating our compliance efforts. Further, the Federal Trade Commission, or FTC, as well as other state attorneys general, regulate the content of our privacy policies and other public statements that provide promises and assurances about our data privacy and protection practices. We make public statements about our use, collection, disclosure and other processing of personal information through our privacy policies, information provided on our website and press statements. Although we endeavor to comply with our public statements and documentation, we may at times fail to do so or be alleged to have failed to do so. If such statements are found to be deceptive, unfair or misrepresentative of our actual practices, we may subject us to government enforcement actions or other legal claims. **Over the past year, the FTC has focused enforcement efforts on protecting privacy in the context of personal health information.** In Europe, the collection and use of personal information is governed by the EU' s General Data Protection Regulation and the **UK** ~~United Kingdom~~ ' s implementation of the same (collectively, the GDPR). Failure to comply with the requirements of the GDPR may result in significant fines and other administrative penalties. In addition, we may be required to put in place additional mechanisms to comply with current and future privacy and data protection regulations in Europe and other worldwide jurisdictions which are or will become applicable to our business. This may interrupt or delay our development activities and / or require us to change our business practices, which could adversely affect our business, financial condition, results of operations and prospects. Data privacy and protection legislation and enforcement will continue to be an evolving landscape at both the domestic and international level, with new laws, rules and regulations coming into effect and presenting continued legal challenges, and our efforts to comply with them may be unsuccessful. It is possible that these laws, rules and regulations may be interpreted and applied in a manner that is inconsistent with our practices, and may not be consistent with one another. If any such legislation is enacted, we may be required to devote significant resources to understanding and complying with such legislation, and the lack of a unified approach to data privacy and protection laws in the U. S. could lead to complicated and potentially conflicting compliance requirements. Any failure or perceived failure to comply with these laws, rules or regulations, or with any related government investigations, may require the expenditure of significant resources and generate negative publicity, which could harm our business, financial condition, results of operations or prospects. Risks Related To Employee Matters, Managing Growth and Information Technology Our future success depends on our ability to retain our President and Chief Executive Officer, our Co- Founders, our Chief **Financial Officer, our Chief** Scientific Officer, our Chief Technical Officer and other key executives and to attract, retain and motivate qualified personnel. We are highly dependent on Keith Gottesdiener, our President and Chief Executive Officer, David R. Liu and Andrew Anzalone, our co- founders, **Allan Reine, our Chief Financial Officer,** Jeremy Duffield, our Chief Scientific Officer, Ann Lee, our Chief Technical Officer, as well as the other principal members of our management and scientific teams. Dr. Gottesdiener, Dr. Liu, Dr. Anzalone **, Dr. Duffield,** and Dr. Lee and such other principal members are engaged " at will, " meaning we or they may terminate the relationship at any time. We do not maintain " key person " insurance for any of our executives or other employees. The loss of the services of any of these persons could impede the achievement of our research, development and commercialization objectives. Dr. Liu serves on our Scientific Advisory Board and as our paid consultant and retains his position and affiliation with Harvard, HHMI and Broad Institute. Furthermore, Dr. Liu is one of our principal stockholders. Dr. Liu' s positions at Harvard, HHMI and Broad Institute could result in, or may create the appearance of, conflicts of interest related to our license of intellectual property rights from Harvard, HHMI and Broad Institute and other contractual relationships we may enter into from time to time with Harvard, HHMI and Broad Institute. Recruiting and retaining qualified scientific, clinical, manufacturing and sales and marketing personnel will also be critical to our success. In addition, our company- building efforts and establishment of a company culture will also be important to developing an innovative company in a high- evolving area. We may not be able to succeed in these efforts to build Prime Medicine as an attractive and exciting place to build a career or to attract and retain these types of 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, including our scientific co- founders, 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. The inability to recruit, or loss of services of, certain executives, key employees, consultants or advisors, may impede the progress of our research, development and commercialization objectives and have a material adverse effect on our business, financial condition, results of operations and prospects. We expect to expand our research, development, delivery, manufacturing, commercialization, regulatory and future sales and marketing capabilities over time, and as a result, we may encounter difficulties in managing our growth, which could disrupt our operations. ~~As of December 31, 2022, we had 175 full- time employees, of which 86 have M. D. or Ph. D. degrees. Within our workforce, 149 employees are engaged in research and development and 26 are engaged in business development, finance, legal, and general management and administration.~~ In connection with the growth and advancement of our pipeline and being a public company, we expect to increase the number of our employees and the scope of our operations, particularly in the areas of drug development, regulatory affairs and sales and marketing. To manage our anticipated future growth, we must continue to implement and improve our managerial, operational and financial systems, expand our facilities, and continue to recruit and train additional qualified personnel. Due to our limited financial resources and the limited experience of our management team in managing a company with such anticipated growth, we may not be able to effectively manage the expected expansion of our operations or recruit and train additional qualified personnel. Moreover, our current physical and laboratory space may be insufficient for our near- term research and development hiring plans, and the expected physical 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 ~~potential~~ **current or future** 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 any product candidates we may develop will depend in part on our ability to effectively manage the future development and expansion of our company ~~. The administrator of the 2019 Stock Option and Grant Plan, or the 2019 Plan, is authorized to exercise its discretion to effect the repricing of stock options and stock appreciation rights and there may be adverse consequences to our business if the administrator of the 2019 Plan exercises such discretion. The 2022 Stock Option and Incentive Plan has replaced the 2019 Plan following the closing of our initial public offering. While our board of directors has determined not to make additional awards under the 2019 Plan, the 2019 Plan will continue to govern outstanding equity awards granted thereunder. Pursuant to the 2019 Plan, we were authorized to grant equity awards, including stock options and stock appreciation rights, to our employees, directors and consultants. Our compensation committee is the administrator of the 2019 Plan and is authorized to exercise its discretion to reduce the exercise price of stock options or stock appreciation rights or effect the repricing of such awards. Although we do not anticipate needing to exercise this discretion in the near term, or at all, if the administrator of the 2019 Plan were to exercise such discretion without seeking prior stockholder approval, certain proxy advisory firms or institutional investors may be unsupportive of such actions and publicly criticize our compensation practices, and proxy advisory firms may recommend an " against " or " withhold " vote for members of our compensation committee. In addition, if we are required to hold an advisory vote on named executive officer compensation (known as the " say- on- pay " vote) at the time of, or subsequent to, any such repricing, it is likely that proxy advisory firms would issue an " against " recommendation on our say on pay vote and institutional investors may not be supportive of our say- on- pay vote. If proxy advisory firms or institutional investors are successful in aligning their views with our broader stockholder base and we are required to make changes to the composition of our board and its committees, or if we need to make material changes to our compensation and corporate governance practices, our business might be disrupted and our stock price might be negatively impacted. Even if we are able to successfully rationalize the exercise of such discretionary power, defending against any " against " or " withhold " recommendation for members of our compensation committee, any " against " recommendation on our say on pay vote or public criticism could be distracting to management, and responding to such positions from such firms or investors, even if remedied, can be costly and time- consuming. In addition, if the administrator of the 2019 Plan does determine to reprice stock options or stock appreciation rights, even absent negative reactions from proxy advisory firms and institutional investors, management attention may be diverted and we could incur significant costs, including accounting and administrative costs and attorneys' fees. We may also be required to recognize incremental compensation expense as a result of such repricing. These actions could cause our stock price to decrease and experience periods of increased volatility, which could result in material adverse consequences to our business. Our board of directors has determined not to make any further awards under the 2019 Plan~~ . Our internal computer and information technology systems, or those of our third- party vendors, collaborators, contractors, consultants or other third parties, may fail or suffer security incidents or data breaches, which could result in a material disruption of our product development programs, compromise confidential, sensitive or personal information related to our business or prevent us from accessing critical information, potentially exposing us to liability or otherwise adversely affecting our business. Our internal computer and information technology systems and those of our current and any future third- party vendors, collaborators, contractors, consultants or other third parties, are vulnerable to damage or interruption from, among other things, computer viruses, computer hackers, phishing attacks, ransomware, malware, social engineering, malicious code, employee theft, fraud, misconduct or misuse, denial- of- service attacks, sophisticated nation- state and nation- state- supported actors, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. The risk of cyber incidents could also be increased by cyberwarfare in connection with the current conflict between Russia and Ukraine, including potential proliferation of malware into systems unrelated to the conflict. In addition, part of our workforce is currently working remotely. This could increase our cybersecurity risk, create data accessibility concerns, and make us more susceptible to communication disruptions. While we seek to protect our information technology systems from system failure, accident and security **compromise or** breach, we have in the past and may in the future experience phishing and other security incidents which 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, personal or confidential information or other disruptions. For example, the loss of clinical trial data from future clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. Controls employed by our information technology department and other third parties could prove inadequate, and our ability to monitor such third parties' data security practices is limited. Due to applicable laws, rules, regulations and standards or contractual obligations, we may be held responsible for any information security **compromise or** failure or cybersecurity attack attributed to our third- party vendors as they relate to **infrastructure they support or** the information we share with them. If we were to experience a cybersecurity **compromise or** breach or other security incident relating to our information systems or data, the costs, time and effort associated with the investigation, remediation and potential notification of the breach to counterparties, regulators and data subjects could be material. We may incur significant costs in an

effort to detect and prevent security incidents, and we may face increased costs and requirements to expend substantial resources in the event of an actual or perceived security incident. In addition, techniques used to sabotage or to obtain unauthorized access to networks in which data is stored or through which data is transmitted change frequently, become more complex over time and generally are not recognized until launched against a target. As a result, we and our third- party vendors may be unable to anticipate these techniques or implement adequate preventative measures quickly enough to prevent either an electronic intrusion into our systems or services or a compromise of critical information. We cannot guarantee that we will be able to detect or prevent any such incidents, and our remediation efforts may not be successful or timely. Our efforts to improve security and protect **systems and** data from compromise may also identify previously undiscovered instances of data breaches or other cybersecurity incidents. 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, personal or confidential information. Additionally, **while** we ~~do not~~ currently maintain cybersecurity insurance, **coverage** ~~and any insurance we may maintain in the future against the risk of this type of loss in the future~~ may not be sufficient to cover actual losses, or may not apply to the circumstances relating to any particular loss. To the extent that any disruption **, compromise** or security breach were to result in a loss of, or damage to, our or our third- party vendors', collaborators', contractors', consultants' or other third parties' data, including **confidential,** personal **, or proprietary** data, or applications or inappropriate disclosure, loss, destruction or alteration of, or access to, confidential, personal or proprietary information, we could incur significant liability including litigation exposure, substantial penalties and fines, we could become the subject of regulatory action, inquiry or investigation, our competitive position could be harmed, we could incur significant reputational damage and the further development and commercialization of any product candidates we may develop could be delayed. Any of the above could have a material adverse effect on our business, financial condition, results of operations or prospects **. Artificial intelligence presents risks and challenges that can impact our business including by posing security risks to our confidential information, proprietary information, and personal data. Issues in the development and use of artificial intelligence, combined with an uncertain regulatory environment, may result in reputational harm, liability, or other adverse consequences to our business operations. As with many technological innovations, artificial intelligence presents risks and challenges that could impact our business. We may adopt and integrate generative artificial intelligence tools into our systems for specific use cases reviewed by legal and information security. Our vendors may incorporate generative artificial intelligence tools into their offerings without disclosing this use to us, and the providers of these generative artificial intelligence tools may not meet existing or rapidly evolving regulatory or industry standards with respect to privacy and data protection and may inhibit our or our vendors' ability to maintain an adequate level of service and experience. If we, our vendors, or our third- party partners experience an actual or perceived breach or privacy or security incident because of the use of generative artificial intelligence, we may lose valuable intellectual property and confidential information and our reputation and the public perception of the effectiveness of our security measures could be harmed. Further, bad actors around the world use increasingly sophisticated methods, including the use of artificial intelligence, to engage in illegal activities involving the theft and misuse of personal information, confidential information, and intellectual property. Any of these outcomes could damage our reputation, result in the loss of valuable property and information, and adversely impact our business** . Risks Related To Ownership of Our Common Stock We do not know whether a market will be sustained for our common stock or what the market price of our common stock will be, and, as a result, it may be difficult for you to sell your shares of our common stock. Although our common stock is listed on the Nasdaq Global Market, an active trading market for our common stock may not be sustained. If a market for our common stock is not sustained, it may be difficult for you to sell your shares of common stock at an attractive price or at all. We cannot predict the prices at which our common stock will trade. It is possible that in one or more future periods our results of operations may be below the expectations of public market analysts and investors, and, as a result of these and other factors, the price of our common stock may fall. The market price of our common stock may be volatile, which could result in substantial losses for investors. The market price for our common stock may be influenced by those factors discussed in this " Risk Factors " section and many others, some of which may include: • the success of existing or new competitive product candidates or technologies; • the timing and results of preclinical studies and clinical trials for any product candidates we may develop; • failure or discontinuation of any of our development and research programs; • results of any preclinical studies, clinical trials or regulatory approvals of product candidates of our competitors, or announcements about new research programs or product candidates of our competitors; • developments or changing views regarding the use of genetic therapies, including those that involve gene editing; • commencement or termination of collaborations for our product development and research programs; • 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 any of our research programs, clinical development programs or product candidates that we may develop; • the results of our efforts to develop product candidates; • actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts, if any, that cover our stock; • announcement or expectation of additional financing efforts; • sales of our common stock by us, our insiders or other stockholders; • expiration of market stand- off or lock- up agreements; • variations in our financial results or those of companies that are perceived to be similar to us; • changes in the structure of healthcare payment systems; • market conditions in the pharmaceutical and biotechnology sectors; • **public health crises,** ~~the ongoing COVID- 19 pandemic~~ **pandemics** , natural disasters or major catastrophic events; • general economic, industry and market conditions; and • the other factors described in this " Risk Factors " section. In recent years, the stock market in general and the market for pharmaceutical and biotechnology companies in particular, has experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to changes

in the operating performance of the companies whose stock is experiencing those price and volume fluctuations. In particular, in relation to uncertainty around inflation and the U. S. Federal Reserve' s measures to slow inflation, the stock market has been exceptionally volatile. Market and industry factors may seriously affect the market price of our common stock, regardless of our actual operating performance. Following periods of such volatility in the market price of a company' s securities, securities class action litigation has often been brought against that company. Because of the potential volatility of our stock price, we may become the target of securities litigation in the future. Securities litigation could result in substantial costs and divert management' s attention and resources from our business. 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 relies in part on the research and reports that industry or financial analysts publish about us or our business. If one or more of the analysts covering our business downgrade their evaluations of our stock, the price of our stock could decline. If one or more of these analysts cease to cover our stock, we could lose visibility in the market for our stock, which in turn could cause our stock price to decline. Future sales of our common stock in the public market could cause our stock price to fall. Our stock price could decline as a result of sales of a large number of shares of our common stock or the perception that these sales could occur. These sales, or the perception that these sales may occur, also might make it more difficult for us to sell equity securities in the future at a time and at a price that we deem appropriate. As of December 31, ~~2022~~ **2023**, we had 97, ~~209~~ **377**, ~~213~~ **121** shares of common stock outstanding. Shares of unvested restricted stock that were issued and outstanding will become available for sale immediately upon the vesting of such shares, as applicable ~~, and the expiration of any applicable market stand- off or lock- up agreements~~. Shares issued upon the exercise of stock options pursuant to future awards that may be granted under our equity incentive plans or pursuant to future awards granted under those plans will become available for sale in the public market to the extent permitted by the provisions of applicable vesting schedules, any applicable market stand- off and lock- up agreements and Rule 144 and Rule 701 under the Securities Act. Certain holders of our common stock have rights, subject to some conditions, to require us to file registration statements covering the sale of their shares or to include their shares in registration statements that we may file for ourselves or other stockholders. We have registered the offer and sale of all shares of common stock that we may issue under our equity compensation plans, and those shares are available for sale in the open market, unless such shares are subject to vesting restrictions with us or the lock- up restrictions described above. Once we register the offer and sale of shares for the holders of registration rights, they can be freely sold in the public market upon issuance, subject to the lock- up agreements. In addition, in the future, we may issue additional shares of common stock or other equity or debt securities convertible into common stock in connection with a financing, acquisition, litigation settlement, employee arrangements or otherwise. Any such issuance could result in substantial dilution to our existing stockholders and could cause our stock price to decline. Insiders have substantial influence over us, which could limit your ability to affect the outcome of key transactions, including a change of control. Our directors and executive officers and their affiliates beneficially own a significant percentage of our outstanding common stock. As a result, these stockholders, if they act together, will be able to influence our management and affairs and all matters requiring stockholder approval, including the election of directors and approval of significant corporate transactions. This concentration of ownership may have the effect of delaying or preventing a change in control of our company and might affect the market price of our common stock. 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, " as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and may remain an emerging growth company for up to five years. For so long as we remain an emerging growth company, we are permitted and plan to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes- Oxley Act of 2002, or SOX Section 404, not being required to comply with any requirement for 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. As a result, the information we provide stockholders will be different than the information that is available with respect to certain other public companies. In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected to avail ourselves of this exemption, and, therefore, while we are an emerging growth company, we will not be subject to the new or revised accounting standards at the same time that they become applicable to other public companies that are not emerging growth companies. As a result of this election, our financial statements may not be comparable to those of other public companies that comply with new or revised accounting pronouncements as of public company effective dates. We are also a " smaller reporting company, " meaning that the market value of our stock held by non- affiliates is less than $ 700 million and our annual revenue is less than $ 100 million during the most recently completed fiscal year. We may continue to be a smaller reporting company if either (i) the market value of our stock held by non- affiliates is less than $ 250 million or (ii) our annual revenue is less than $ 100 million during the most recently completed fiscal year and the market value of our stock held by non- affiliates is less than $ 700 million. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. Specifically, as a smaller reporting company we may choose to present only the two most recent fiscal years of audited financial statements in our Annual Report on Form 10- K and, similar to emerging growth companies, smaller reporting companies have reduced disclosure obligations regarding executive compensation. 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. We have incurred, and continue to incur, increased costs as a result of operating as a public company, and our management must devote substantial time to compliance initiatives and corporate governance practices. As a public company, and particularly after we are no longer an " emerging growth company, " we have incurred, and will continue to incur, significant legal, accounting and other expenses that we did not 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. We expect that we will **continue to** need to hire additional accounting, finance and other personnel in connection with ~~our becoming, and~~ our efforts to comply with the requirements of being, a public company. Our management and other personnel will need to devote a substantial amount of time towards maintaining compliance with these requirements. These requirements will increase our legal and financial compliance costs and will make some activities more time- consuming and costly. For example, the rules and regulations applicable to us as a public company make it more difficult and more expensive for us to maintain director and officer liability insurance, which could make it more difficult for us to attract and retain qualified members of our ~~board~~ **Board** of ~~directors~~ **Directors** . We are currently 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. Pursuant to SOX Section 404, we **are** ~~will be~~ required to furnish a report by our management on our internal control over financial reporting ~~beginning with the Annual Report on Form 10- K for the year ending December 31, 2023~~ . However, while we remain an emerging growth company, 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 SOX Section 404 within the prescribed period, we will be 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, potentially engage outside consultants, 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 SOX Section 404. This could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements. We do not expect to pay any dividends for the foreseeable future. Investors may never obtain a return on their investment. You should not rely on an investment in our common stock to provide dividend income. We do not anticipate that we will pay any dividends to holders of our common stock in the foreseeable future. Instead, we plan to retain any earnings to maintain and expand our existing operations. In addition, any future credit facility may contain terms prohibiting or limiting the amount of dividends that may be declared or paid on our common stock. Accordingly, investors must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any return on their investment. As a result, investors seeking cash dividends should not purchase our common stock. General Risks Factors Changes in tax laws or in their implementation or interpretation may adversely affect our business and financial condition. The rules dealing with U. S. federal, state and local income taxation are constantly under review by persons involved in the legislative process and by the Internal Revenue Service ~~and ,~~ the U. S. Treasury Department **and non- U. S. taxing authorities** . Changes to tax laws (which changes may have retroactive application) could adversely affect our business and our financial condition. In recent years, many such changes have been made and changes are likely to continue to occur in the future. **For example, under Section 174 of the Code, in taxable years beginning after December 31, 2021, expenses that are incurred for research and development in the United States will be capitalized and amortized, which may have an adverse effect on our cash flow.** We cannot predict whether, when, in what form or with what effective dates, tax laws, regulations and rulings may be enacted, promulgated or decided or whether they could increase our tax liability or require changes in the manner in which we operate in order to minimize increases in our tax liability. If we fail to establish and maintain proper and effective internal control over financial reporting, our operating results and our ability to operate our business could be harmed. Ensuring that we have adequate internal financial and accounting controls and procedures in place so that we can produce accurate financial statements on a timely basis is a costly and time- consuming effort that needs to be re- evaluated frequently. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements in accordance with generally accepted accounting principles. We will continue the process of ~~documenting,~~ reviewing and ~~improving~~ **making appropriate changes to** our internal controls and procedures for compliance with SOX Section 404, which ~~will require~~ **requires** annual management assessment of the effectiveness of our internal control over financial reporting. Implementing any appropriate changes to our internal controls may distract our officers and employees, entail substantial costs to modify our existing processes and take significant time to complete. These changes may not, however, be effective in maintaining the adequacy of our internal controls, and any failure to maintain that adequacy or consequent inability to produce accurate financial statements on a timely basis could increase our operating costs and harm our business. In addition, investors' perceptions that our internal controls are inadequate or that we are unable to produce accurate financial statements on a timely basis may harm our common share price and make it more difficult for us to effectively market and sell our service to new and existing customers. If we fail to maintain effective internal control over financial reporting in the future, we may not be able to accurately report our financial condition or results of operations which may adversely affect investor confidence in us and, as a result, the value of our common stock. The process of designing and implementing effective internal

control over financial reporting is a continuous effort that requires us to anticipate and react to changes in our business and the economic and regulatory environments and to expend significant resources that are adequate to satisfy our reporting obligations. We have not performed a formal evaluation of our internal control over financial reporting, as required by the rules and regulations of the SEC, nor are we required to have an independent registered public accounting firm perform an audit of our internal control over financial reporting as of any balance sheet date or for any period reported in our financial statements. Pursuant to SOX Section 404, we **are** ~~will be~~ required to furnish a report by our management on our internal control over financial reporting ~~beginning with the Annual Report on Form 10- K for the year ending December 31, 2023~~ . Our independent registered public accounting firm will first be required to attest to the effectiveness of our internal control over financial reporting for our Annual Report on Form 10- K for the first year we are no longer an " emerging growth company " or a " smaller reporting company. " Failure to comply with the rules and regulations of the SEC could potentially subject us to sanctions or investigations by the SEC, the applicable stock exchange or other regulatory authorities, which would require additional financial and management resources. We have begun the process of compiling the system and processing documentation necessary to perform the evaluation needed to comply with the rules and regulations of the SEC in the future, but we may not be able to complete our evaluation, testing and any required remediation in a timely fashion. An independent assessment of the effectiveness of our internal control over financial reporting could detect deficiencies in our internal control over financial reporting 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. Provisions in our third amended and restated certificate of incorporation, our amended and restated by- laws and Delaware law may have anti- takeover effects that could discourage an acquisition of us by others, even if an acquisition would be beneficial to our stockholders, and may prevent attempts by our stockholders to replace or remove our current management. Our third amended and restated certificate of incorporation, amended and restated by- laws and Delaware law contain provisions that may have the effect of discouraging, delaying or preventing a change in control of us or changes in our management that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares. Our third amended and restated certificate of incorporation and by- laws include provisions that: • authorize " blank check " preferred stock, which could be issued by our ~~board~~ **Board** of ~~directors~~ **Directors** without stockholder approval and may contain voting, liquidation, dividend and other rights superior to our common stock; • create a classified ~~board~~ **Board** of ~~directors~~ **Directors** whose members serve staggered three- year terms; • specify that special meetings of our stockholders can be called only by our board of directors; • prohibit stockholder action by written consent; • establish an advance notice procedure for stockholder approvals to be brought before an annual meeting of our stockholders, including proposed nominations of persons for election to our ~~board~~ **Board** of ~~directors~~ **Directors** ; • provide that vacancies on our ~~board~~ **Board** of ~~directors~~ **Directors** may be filled only by a majority of directors then in office, even though less than a quorum; • provide that our directors may be removed only for cause; • specify that no stockholder is permitted to cumulate votes at any election of directors; • expressly authorized our ~~board~~ **Board** of ~~directors~~ **Directors** to make, alter, amend or repeal our amended and restated by- laws; and • require supermajority votes of the holders of our common stock to amend specified provisions of our third amended and restated certificate of incorporation and amended and restated by- laws. These provisions, alone or together, could delay or prevent hostile takeovers and changes in control or changes in our management. 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 we are incorporated in the State of Delaware, we are governed by the provisions of Section 203 of the General Corporation Law of the State of Delaware, or the DGCL, which prohibits a person who owns in excess of 15 percent 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 percent of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner. Any provision of our third amended and restated certificate of incorporation, amended and restated by- laws or Delaware law that has the effect of delaying or deterring a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock and could also affect the price that some investors are willing to pay for our common stock. Our amended and restated bylaws designate specific courts as the exclusive forum for certain litigation that may be initiated by our stockholders, which could limit stockholders' ability to obtain a favorable judicial forum for disputes with us. Pursuant to our amended and restated bylaws, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware is the sole and exclusive forum for any state law claims for (i) any derivative action or proceeding brought on our behalf; (ii) any action asserting a claim of or based on a breach of a fiduciary duty owed by any director, officer or other employee of ours to us or our stockholders; (iii) any action asserting a claim pursuant to any provision of the DGCL, our third amended and restated certificate of incorporation or our amended and restated bylaws or as to which the DGCL confers jurisdiction on the Court of Chancery of the State of Delaware; or (iv) any action asserting a claim governed by the internal affairs doctrine, or the Delaware Forum Provision. The Delaware Forum Provision will not apply to any causes of action arising under the Securities Act or the Securities Exchange Act of 1934, as amended, or the Exchange Act. Our amended and restated bylaws further provide that unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States shall be the sole and exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act, the Exchange Act, the respective rules and regulations promulgated thereunder or the Federal Forum Provision. In addition, our amended and restated bylaws provide that any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock is deemed to have notice of and consented to the Delaware Forum Provision and the Federal Forum Provision; provided, however, that stockholders cannot and will not be deemed to have waived our compliance with the federal securities laws and the rules and regulations thereunder. We recognize that the Delaware Forum Provision and the Federal Forum Provision in our amended and restated bylaws may impose additional litigation costs on stockholders in pursuing any such claims, particularly if the stockholders do not reside in or near the State of Delaware.

Additionally, the forum selection clauses in our amended and restated bylaws may limit our stockholders' ability to bring a claim in a judicial forum that they find favorable for disputes with us or our directors, officers or employees, which may discourage the filing of lawsuits against us and our directors, officers and employees, even though an action, if successful, might benefit our stockholders. In addition, while the Delaware Supreme Court ruled in March 2020 that federal forum selection provisions purporting to require claims under the Securities Act be brought in federal court are " facially valid " under Delaware law, there is uncertainty as to whether other courts will enforce our Federal Forum Provision. If the Federal Forum Provision is found to be unenforceable, we may incur additional costs associated with resolving such matters. The Federal Forum Provision may also impose additional litigation costs on stockholders who assert that the provision is not enforceable or invalid. The Court of Chancery of the State of Delaware and the federal district courts of the United States may also reach different judgments or results than would other courts, including courts where a stockholder considering an action may be located or would otherwise choose to bring the action, and such judgments may be more or less favorable to us than our stockholders. of the **ongoing COVID- 19** ~~global economy and our operations.Worldwide pandemics~~ **pandemic** or **similar public health crises that** ~~outbreaks of any highly infectious or contagious diseases~~ may **arise,we may experience disruptions that could** adversely impact our operations,research and development,and as we continue ~~development~~ **developing** ,any preclinical studies,clinical trials and manufacturing activities we may conduct,some of which may include:• delays or disruptions in research programs,preclinical studies,clinical trials or investigational new drug,or IND- enabling studies that we or our collaborators may conduct;• interruption or delays in the operations of the FDA,the EMA and comparable foreign regulatory agencies;• interruption of,or delays in receiving and distributing,supplies of drug substance and drug product ~~from our~~ Our operations are vulnerable to interruption by disasters, terrorist activity, pandemics and other events beyond our control, which could harm our business. Our facilities are located in Massachusetts. We have not undertaken a systematic analysis of the potential consequences to our business and financial results from a major flood, power loss, terrorist activity, pandemics or other disasters and do not have a recovery plan for such events. In addition, we do not carry sufficient insurance to compensate us for actual losses from interruption of our business that may occur, and any losses or damages incurred by us could harm our business. The occurrence of any of these business disruptions could seriously harm our operations and financial condition and increase our costs and expenses.