Risk Factors Comparison 2025-03-28 to 2024-03-29 Form: 10-K

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Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below, together with all of the other information in this Annual Report, including our financial statements and the related notes and " Management' s Discussion and Analysis of Results of Operations and Financial Condition, " before deciding whether to purchase, hold or sell shares of our common stock. If any of the following risks are realized, our business, financial condition, results of operations, stock price and prospects could be materially and adversely affected. In that event, the price of our common stock could decline, and you could lose part or all of your investment. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently believe to be immaterial may also adversely affect our business. Risks Related to our Financial Position and Need for Additional Capital We have incurred significant losses since our inception and anticipate that we will incur significant and increasing losses for the foreseeable future and we may never achieve or maintain profitability. We are a clinical stage biopharmaceutical company, and our operations to date have been focused substantially on organizing and staffing our company, business planning, raising capital, creating, assessing, and developing our technology, establishing our intellectual property portfolio, identifying potential product candidates, undertaking preclinical studies, commencing clinical trials and manufacturing. Additionally, as an organization, we have not yet demonstrated an ability to successfully complete clinical development, obtain regulatory approvals, manufacture a commercial- scale product, or conduct sales and marketing activities necessary for successful commercialization. We have never generated any revenue from commercially approved product sales and have incurred significant operating losses. Our net ~~loss~~ **losses** ~~was~~ **were $ 29. 9 million and** $ 28. 3 ~~million and $ 5. 2~~ million for the years ended December 31, **2024 and** 2023 ~~and 2022~~, respectively. As of December 31, ~~2023~~ **2024**, we had an accumulated deficit of $ ~~221~~ **251**. ~~5~~ **4** million. We expect to continue to incur significant and increasing operating losses for the foreseeable future. Our prior losses, combined with expected future losses, have had and will continue to have an adverse effect on our stockholders' deficit and working capital. We expect that it will be several years, if ever, before we have a commercialized product. The net losses we incur may fluctuate significantly from quarter to quarter and year to year. We anticipate that our expenses will increase substantially if, and as, we: ● advance the Phase 3 registration clinical trial for our lead product candidate, Olvi- Vec, in **platinum resistant / refractory ovarian cancer (“** PRROC **”)**; ● initiate planned and future clinical trials of Olvi- Vec in other cancer indications; ● discover and develop new product candidates, and conduct research and development activities, preclinical studies and clinical trials; ● manufacture preclinical, clinical and commercial supplies of our product candidates; ● broaden and strengthen our internal manufacturing capabilities, including the expansion and upgrade of our in- house manufacturing facility; ● seek regulatory approvals for any product candidates that successfully complete clinical trials; ● maintain, expand and protect our intellectual property portfolio; ● hire additional research and development, clinical, scientific and management personnel; ● add operational, financial and management information systems and personnel; ● establish a sales, marketing and distribution infrastructure to commercialize any product candidate for which we may obtain regulatory approval and we commercialize on our own or in collaboration with others; and ● incur additional legal, accounting and other expenses operating as a public company. To become and remain profitable, we must succeed in developing and eventually commercializing products that generate significant revenue. This will require us to be successful in a range of challenging activities, including completing preclinical ~~testing~~ **studies** and clinical trials, obtaining regulatory approval for product candidates and manufacturing, marketing and selling products for which we may obtain marketing approval and satisfying any post- marketing requirements. We are only in the development stages of most of these activities. We may never succeed in these activities and, even if we do, may never generate revenue that is significant enough to achieve profitability. Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable would depress the value of our company and could impair our ability to raise capital, expand our business, maintain our research and development efforts or even continue our operations. A decline in the value of our company could also cause stockholders to lose all or part of their investment. We will require substantial additional financing to advance the development of **Olvi- Vec and any of** our **future** product candidates, which may not be available on acceptable terms, or at all. Failure to obtain this necessary capital could force us to delay, limit, reduce or terminate our product development programs, potential commercialization efforts or other operations. The development of biopharmaceutical product candidates is capital- intensive. Our operations have consumed substantial amounts of cash since inception. We expect to continue to spend substantial amounts to continue the preclinical and clinical development of, and seek regulatory approval for, our current and future product candidates. If we are able to gain marketing approval of any product candidate that we develop, including Olvi- Vec, we will require significant additional amounts of cash in order to launch and commercialize such product either alone or in collaboration with others. Because the design and outcome of our ongoing, anticipated and any future clinical trials is highly uncertain, we cannot reasonably estimate the actual amounts necessary to successfully complete the development and commercialization of any product candidate we develop. Our future capital requirements depend on many factors, including: ● the scope, progress, results and costs of researching and developing Olvi- Vec and our other product candidates and programs, and of conducting preclinical studies and clinical trials; ● the timing of, and the costs involved in, obtaining marketing approvals for Olvi- Vec and future product candidates we develop if clinical trials are successful; ● the success of any future collaborations; ● the cost of commercialization activities for any approved product, including marketing, sales and distribution costs; ● the cost and timing of establishing, equipping, and operating our current and planned manufacturing activities; ● the cost of manufacturing Olvi-

Vec and future product candidates for clinical trials in preparation for marketing approval and commercialization; ● our ability to establish and maintain strategic licensing or other arrangements and the financial terms of such agreements; ● the cost, timing and outcome of seeking **U. S. Food and Drug Administration (** FDA **)** and any other regulatory approvals for any future product candidates; ● the costs involved in preparing, filing, prosecuting, maintaining, expanding, defending and enforcing patent claims, including litigation costs and the outcome of such litigation; ● our ability to establish and maintain healthcare coverage and adequate reimbursement for our future products, if any; ● the timing, receipt, and amount of sales of, or royalties on, our future products, if any; ● the emergence of competing cancer therapies and other adverse market developments; ● our efforts to enhance operational systems and our ability to attract, hire and retain qualified personnel, including personnel to support the development of our product candidates; ● the costs associated with being a public company; ● our need and ability to retain key management and hire scientific, technical, medical and business personnel; ● the costs associated with expanding our facilities or building out our laboratory space; and ● the impact of geopolitical and macroeconomic events, including future bank failures, **tariffs,** increased geopolitical tensions between the United States and China, the Russia / Ukraine conflict, the ~~war~~ **conflicts** in the Middle East and global pandemics on U. S. and global economic conditions. Two investors from ~~our private placements (~~ the Private Placements ~~)~~ were contractually obligated to fund $ 30. 0 million on or before November 15, 2023, of which we have received $ 6. 0 million to date. ~~In November 2023, we agreed to extend the funding deadline for $ 2. 0 million of the remaining aggregate investment amounts to March 31, 2024.~~ The ~~investor~~ **investors** who ~~was~~ **were** obligated to fund ~~$ 22. 0 million of~~ the remaining committed investment amounts ~~has~~ **totaling $ 24. 0 million have** not made such payments ~~and has indicated that he does not intend to comply with his investment commitments~~. We are currently evaluating our potential remedies with respect to ~~this~~ **these** ~~investor~~ **investors** ' ~~s~~ non- compliance with ~~his~~ **their** contractual obligations to us. Besides the Private Placements and **the obligations by** Newsoara ~~' s obligation~~ **BioPharma Co. Ltd. (Newsoara)** to provide clinical trial funding under our ~~collaboration~~ **license** agreement with Newsoara **(the " Newsoara License Agreement ")**, we do not have any committed external source of funds or other support for our development efforts. Until we can generate sufficient product revenue to finance our cash requirements, which we may never do, we expect to finance our future cash needs through a combination of public or private equity offerings and debt financings, or other capital sources such as potential collaborations, strategic alliances, licensing arrangements and other arrangements. Based on our research and development plans, we expect that our existing cash balance ~~will~~ **may not** enable us to fund our planned operating expenses and capital expenditure requirements for at least the next 12 months **from the date of filing of this Annual Report**. We have based this estimate on assumptions that may prove to be wrong, and we could exhaust our available capital resources sooner than we expect. In addition, because the design and outcome of our anticipated and any future clinical trials is highly uncertain, we cannot reasonably estimate the actual amounts necessary to successfully complete the development and commercialization of Olvi- Vec or any future product candidates. Our existing cash balance may not be sufficient to complete development of Olvi- Vec or any other product candidate. Additionally, although we have commitments from investors to fund the remaining aggregate investment amounts in connection with our Private Placements, we may not receive some or all of the committed proceeds, due to ongoing liquidity constraints or other factors. The failure to receive all or some of the committed proceeds would exhaust our available capital resources sooner than expected and will require us to obtain further funding to achieve our business objectives. We have never generated any revenue from commercially approved 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 future partners, to successfully complete the development of, and obtain the regulatory approvals necessary to commercialize, our development programs. We have no products approved for commercial sale, have not generated any revenue from commercially approved product sales, and do not anticipate generating any revenue from commercially approved product sales until after we have received marketing approval for the commercial sale of a product candidate, if ever. Our ability to generate revenue and achieve profitability depends heavily on our success in achieving a number of goals, including: ● completing research regarding, and preclinical and clinical development of, product candidates and programs, including Olvi- Vec, and identifying and developing new product candidates; ● obtaining marketing approvals for any product candidates for which we complete clinical trials; ● obtaining regulatory approval to use and sell products generated by our existing or future manufacturing processes for Olvi- Vec and future product candidates, including at our existing manufacturing facility and / or by establishing and maintaining supply and manufacturing relationships with third parties; ● launching and commercializing product candidates for which we obtain marketing approvals, either directly by establishing a sales force and marketing, medical affairs and distribution infrastructure or, alternatively, with a collaborator or distributor; ● establishing and maintaining healthcare coverage and adequate reimbursement for our future products, if any; ● obtaining market acceptance of product candidates that we develop as viable treatment options; ● addressing any competing technological and market developments; ● identifying, assessing, acquiring and developing new product candidates; ● negotiating favorable terms in any collaboration, licensing, or other arrangements into which we may enter and performing our obligations in such collaborations; ● maintaining, protecting, and expanding our portfolio of intellectual property rights, including patents, trade secrets, and know- how; and ● attracting, hiring, and retaining qualified personnel. Even if Olvi- Vec or any future product candidates that we develop are approved for commercial sale, we anticipate incurring significant costs associated with commercializing any such product candidate that we commercialize on our own or in collaboration with others. Our expenses could increase beyond expectations if we are required by the FDA or comparable foreign regulatory authorities, to change our manufacturing processes or assays, or to perform clinical, nonclinical, or other types of studies in addition to those that we currently anticipate. If we are successful in obtaining regulatory approvals to market Olvi- Vec or any future product candidates, our revenue will be dependent, in part, upon the size of the markets in the territories for which we gain marketing approval, the accepted price for the product, the ability to get reimbursement at any price, and whether we own the commercial rights for that territory. If the number of our addressable patients is not as significant as we estimate, the indications approved by regulatory authorities are narrower than we expect, the labels for our product

candidates contain significant safety warnings, regulatory authorities impose burdensome or restrictive distribution requirements, or the reasonably accepted patient populations for treatment are narrowed by competition, physician choice or treatment guidelines, we may not generate significant revenue from sales of such products, even if approved. If we are not able to generate revenue from the sale of any approved products, we could be prevented from or significantly delayed in achieving profitability. Raising additional capital may cause dilution to our stockholders, restrict our operations or require us to relinquish rights to our technologies or product candidates. To the extent that we raise additional capital through the sale of common stock or securities convertible or exchangeable into common stock, our stockholders' ownership interest may be diluted. Any future debt financings we undertake, if available, are likely to involve restrictive covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through licensing or collaboration arrangements with third parties, we may have to relinquish valuable rights to our product candidates, or grant licenses on terms that are not favorable to us. We also could be required to seek collaborators for product candidates at an earlier stage than otherwise would be desirable or relinquish our rights to product candidates or technologies that we otherwise would seek to develop or commercialize ourselves. Failure to obtain capital when needed on acceptable terms may force us to delay, limit or terminate our product development and commercialization of our current or future product candidates, which could have a material and adverse effect on our business, financial condition, results of operations, stock price and prospects. Securing additional financing could also require a substantial amount of time from our management and may divert a disproportionate amount of their attention away from daily activities, which may adversely affect our management' s ability to oversee the development of Olvi- Vec or any future product candidates. The report of our independent registered public accounting firm included a " going concern " explanatory paragraph. The report of our independent registered public accounting firm on our financial statements as of and for the years ended December 31, **2024 and** 2023 ~~and 2022~~ included an explanatory paragraph indicating that there was substantial doubt about our ability to continue as a going concern. If we are unable to raise additional capital as and when needed, our business, financial condition and results of operations will be materially and adversely affected, and we may be forced to delay our development efforts, limit our activities and reduce research and development costs. If we are unable to continue as a going concern, we may have to liquidate our assets, and the values we receive for our assets in liquidation or dissolution could be significantly lower than the values reflected in our financial statements. The inclusion of a going concern explanatory paragraph by our independent registered public accounting firm, our lack of cash resources and our potential inability to continue as a going concern may materially adversely affect our share price and our ability to raise new capital, enter into licensing and collaboration arrangements or other contractual relationships with third parties and otherwise execute our development strategy. Risks Related to Product Discovery, Development and Regulatory Approval Our development of product candidates based on our technology platform is limited, and we do not know whether we will be able to develop any products of commercial value. The success of our business depends primarily upon our ability to identify novel product candidates based on our CHOICE platform and to successfully develop and commercialize those product candidates. While we have had promising preclinical **study** and clinical ~~study~~ **trial** results for Olvi- Vec, to date, it remains our only product candidate that has moved into clinical trials. We have not yet succeeded and may not succeed in demonstrating efficacy and safety in commercializing Olvi- Vec. We also may be unsuccessful in identifying additional product candidates beyond Olvi- Vec using our CHOICE platform, and any of our product candidates may be shown to have harmful side effects or may have other characteristics that may necessitate additional clinical testing, or make the product candidates unmarketable or unlikely to receive marketing approval. In particular, because all of our product candidates have been derived from our CHOICE platform, the failure of any one of our development programs could create a perception that our other programs are less likely to succeed or that our discovery platform is not viable. Similarly, adverse developments with respect to other companies that attempt to use a similar approach to our approach may adversely impact the actual or perceived value and potential of our discovery platform and resulting product candidates. If any of these events occur, our ability to successfully discover, develop and commercialize any product candidates may be impaired and the value of our company could decline significantly. Our product candidates are in preclinical and clinical stages of development, are not approved for commercial sale and might never receive regulatory approval or become commercially viable. All of our product candidates are in research, preclinical or clinical development. We have not completed the development of any product candidates, we currently generate no revenue, and we may never be able to develop a marketable product. Enrollment of our Phase 2 clinical trial, an open- label, single- arm study, of our lead product candidate, Olvi- Vec, in patients with PRROC, was completed in September 2019, and we reported multiple data readouts in 2020, 2021, 2022 and 2023 for our Phase 2 PRROC clinical trial. We expect the final readout, reported on May 25, 2023 and published in JAMA Oncology in May 2023, to remain essentially unchanged in the final study report. Our Phase 3 registration trial of Olvi- Vec in PRROC initiated enrollment in the third quarter of 2022. We ~~began regulatory study startup of a~~ **continue to enroll patients in this** Phase **3** ~~2, open- label, randomized, and controlled clinical~~ trial ~~designed to evaluate the efficacy and safety of intravenously delivered Olvi- Vec oncolytic VACV for patients~~ with **topline results anticipated** ~~recurrent NSCLC in the United States~~ in the first half of ~~2023~~ **2026** . Newsoara is generally obligated under ~~our collaboration~~ **the Newsoara License** ~~agreement~~ **Agreement** to fund ~~this~~ **a Phase 2, open- label, randomized, and controlled clinical** trial **designed to evaluate the efficacy and safety of intravenously delivered Olvi- Vec oncolytic vaccinia virus (VACV) for patients with recurrent non- small cell lung cancer (NSCLC), which U. S.- based trial (the " VIRO- 25 trial ") is now ongoing with the first patient dosed in October 2024** . In November 2023, we agreed with Newsoara that we would directly engage a contract research organization (CRO) on mutually agreeable terms to conduct certain startup activities for the NSCLC trial in the United States only, with Newsoara reimbursing us for the costs and expenses of such agreed- upon startup activities. **Under the agreed upon terms,** Newsoara is permitted to defer such reimbursement payments until the completion of its next round of financing, which Newsoara expects to occur in **late** ~~2024~~ **2025** . We ~~plan~~ **expect to report interim results from the NSCLC trial in the second half of 2025. Subject to regulatory authorization in**

China, the Company expects Newsoara eventually to add sites in China and for the parties to conduct this **study as** ~~trial under our current open IND and, subject to regulatory authorization, potentially launch~~ a multi- regional clinical trial ~~with~~ **. We and** Newsoara **co- sponsor** ~~in the United States and China. Newsoara initiated the Phase 1 portion of~~ a Phase 1 / 2 clinical trial of Olvi- Vec in patients with recurrent SCLC in **China, which Newsoara is conducting, and initiated the Phase 1 portion in** the first half of 2023 ~~,~~**. A readout of interim results in the Phase 1b portion of this trial was disclosed in the first quarter of 2025. Data are supportive of Olvi- Vec being a platinum resensitizing agent beyond ovarian cancer** and **underscore the current clinical development strategy. In addition to expecting, As discussed above,** we anticipate **Newsoara joining our ongoing Phase 2** ~~they will initiate further trials in recurrent~~ NSCLC **trial** and **initiating a trial in** recurrent ovarian cancer in China. Additionally, we have a portfolio of oncolytic VACV constructs that are in early- to- mid stages of discovery and preclinical development ~~and~~ **that** may never advance to clinical- stage development or marketing approval. Our ability to generate product revenues, which we do not expect will occur for several years, if ever, will depend on obtaining marketing approvals for, and successfully commercializing our product candidates, either alone or in collaboration with others, and we cannot guarantee that we will ever obtain marketing approval for any of our product candidates. Before obtaining marketing approval for the commercial distribution of our product candidates, we, or a future collaborator, must conduct extensive preclinical ~~tests~~ **studies** and clinical trials to demonstrate the safety and efficacy in humans of our product candidates. The success of our current and future product candidates will depend on several factors, including the following: ● successful completion of preclinical studies and clinical trials; ● sufficiency of our financial and other resources to complete the necessary preclinical studies and clinical trials; ● acceptance of INDs ~~/~~**or** IND amendments for our planned clinical trials or future clinical trials; ● successful enrollment and completion of clinical trials; ● successful data from our clinical trials that support FDA conclusion of an acceptable risk- benefit profile of our product candidates in the intended populations; ● receipt of regulatory and marketing approvals from applicable regulatory authorities; ● obtaining and maintaining patent and trade secret protection or regulatory exclusivity for our product candidates; ● obtaining regulatory approval to use our existing or future manufacturing processes for the clinical and commercial manufacture of our product candidates at our existing or future manufacturing facilities or at the facilities of one or more third- party manufacturers with whom we would need to establish supply arrangements; ● successfully launching commercial sales of our product candidates, if and when approved, whether alone or in collaboration with others; ● acceptance of any products we develop and their benefits and uses, if and when approved, by patients, the medical community and third- party payors; ● effectively competing with other therapies; ● obtaining and maintaining healthcare coverage and adequate reimbursement from third- party payors; and ● maintaining a continued acceptable safety profile of the products following approval. If we do not achieve one or more of these factors in a timely manner or at all, we could experience significant delays or an inability to successfully commercialize our product candidates, which would materially harm our business. We currently have only one product candidate, Olvi- Vec, in clinical development. A failure of this product candidate in clinical development would adversely affect our business and may require us to discontinue development of other product candidates based on the same therapeutic approach. We have invested a significant portion of our efforts and financial resources in our oncolytic VACV platform and, in particular, in the development of our lead product candidate, Olvi- Vec. We have completed enrollment for only one Phase 2 clinical trial, an open- label single- arm study, of Olvi- Vec in patients with PRROC in September 2019. Our Phase 3 registration trial of Olvi- Vec in PRROC initiated enrollment in the third quarter of 2022 **and continues to enroll patients. Our co- sponsored Phase 1 / 2 clinical trial in SCLC continues to enroll patients in China. Our ongoing Phase 2, open- label, randomized, and controlled clinical trial designed to evaluate the efficacy and safety of intravenously delivered Olvi- Vec oncolytic VACV for patients with recurrent NSCLC is expected to report interim results in the second half of 2025** . Olvi- Vec, as well as our other product candidates, are susceptible to the risks of failure inherent at any stage of product development, including the occurrence of unexpected or unacceptable adverse events or the failure to demonstrate efficacy in clinical trials. We will need to successfully complete such trials before submitting a marketing application to the FDA. We have submitted an IND application with respect to only one product candidate, Olvi- Vec. V2ACT **LLC** , a joint venture between TVAX **Biomedical, Inc. (TVAX)** and us, has also filed its own IND for V2ACT Immunotherapy, a combination of Olvi- Vec and vaccine- enhanced adoptive cell therapy for the treatment of newly diagnosed, surgically- resectable pancreatic cancer patients. For V2ACT Immunotherapy, no clinical trial is yet scheduled to be initiated. We have not previously submitted a **biologics license application (** BLA **)** to the FDA, or similar regulatory approval filings to comparable foreign authorities, for any product candidate, and we cannot be certain that our product candidates will be successful in clinical trials or receive regulatory approval. Further, our product candidates may not receive regulatory approval even if they are successful in clinical trials. Since Olvi- Vec is based on our oncolytic VACV platform, if Olvi- Vec fails in development as a result of any underlying problem with our oncolytic VACV platform, then we may be required to discontinue development of all product candidates that are based on this therapeutic approach. If we were required to discontinue development of Olvi- Vec or our other future product candidates, or if any of them were to fail to receive regulatory approval or achieve sufficient market acceptance, we could be prevented from or significantly delayed in achieving profitability. We can provide no assurance that we would be successful at developing other product candidates based on an alternative therapeutic approach. Our product candidates are based on a novel approach to the treatment of cancer, which makes it difficult to predict the time and cost of product candidate development. We have concentrated all of our research and development efforts on product candidates based on our oncolytic VACV platform, which is novel. We only have conducted clinical development of Olvi- Vec in human cancer patients. Our future success depends on the successful development of our oncolytic VACV platform. Any development problems we experience in the future may cause significant delays or unanticipated costs, and we may not be able to solve any such development problems. Should we encounter development problems, including unfavorable preclinical **study** or clinical trial results, the FDA or foreign regulatory authorities may place all, or part, of our clinical development on hold or refuse to approve our product candidates, or may require additional

information, tests, or trials, which could significantly delay product development and significantly increase our development costs. Moreover, even if we are able to provide the requested information or trials to the FDA, there would be no guarantee that the FDA would accept them or approve our product candidates. We may also experience delays in developing and obtaining regulatory approval for a sustainable, reproducible and scalable manufacturing process, or developing or qualifying and validating product release assays, other testing and manufacturing methods, and our equipment and facilities in a timely manner, which may prevent us from completing our clinical trials or commercializing our product candidates on a timely or profitable basis, if at all. In addition, the clinical trial requirements of the FDA and comparable foreign 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 FDA and comparable foreign regulatory authorities have limited experience with the approval of viral immunotherapies. To date, there is only one FDA- approved viral immunotherapy- talimogene laherparepvec (IMLYGIC). Any viral immunotherapies that are approved may be subject to extensive post- approval regulatory requirements, including post- approval studies as well as requirements pertaining to manufacturing, distribution and promotion. We may need to devote significant time and resources to compliance with these requirements. Preclinical and clinical development involve a lengthy and expensive process with an uncertain outcome and stringent regulations, and delays can occur for a variety of reasons. In order to obtain FDA approval to market a new biological product, we must demonstrate proof of safety as well as purity and potency (i. e., efficacy) in humans. To meet these requirements, we will have to conduct adequate and well- controlled clinical trials. Before we can commence clinical trials for a product candidate, we must complete extensive preclinical testing and studies that support our planned INDs in the United States. We only have one product candidate currently being evaluated in human clinical development, Olvi- Vec. In addition, the FDA has granted permission to proceed with a clinical trial under the IND for V2ACT Immunotherapy, but no clinical trial has been initiated or is currently scheduled to initiate. The rest of our product candidates are in preclinical development, have not yet been evaluated in IND- enabling studies and their risk of failure is high. We cannot be certain of the timely completion or outcome of our preclinical testing and studies or clinical trials and cannot predict if the FDA will accept our proposed clinical programs or if the outcome of our preclinical testing and studies or clinical trials will ultimately support the further development of our programs. As a result, we cannot be sure that we will be able to submit INDs or similar applications for our preclinical programs on the timelines we expect, if at all. Additionally, we cannot be sure that submission of INDs or similar applications will result in the FDA or other regulatory authorities allowing clinical trials to begin, and we cannot be sure that our planned clinical trials will begin on time or that our ongoing clinical trials will be completed on schedule. Conducting preclinical testing and clinical development is a lengthy, time- consuming and expensive process. The length of time may vary substantially according to the type, complexity and novelty of the program, and often can be several years or more per program. Delays associated with programs for which we are directly conducting preclinical testing and studies may cause us to incur additional operating expenses. Moreover, we may be affected by delays associated with the preclinical testing and studies of certain programs that are the responsibility of any potential future partners over which we have no control. The commencement and rate of completion of preclinical studies and clinical trials for a product candidate may be delayed by many factors, including, for example: ● inability to generate sufficient preclinical or other in vivo or in vitro data to support the initiation of clinical trials; ● unexpected toxicities observed in preclinical IND- enabling studies precluding the identification of a safe dose to move forward in human clinical trials; ● delays in obtaining regulatory approval for, and production or manufacturing of, clinical supply; ● delays in reaching a consensus with regulatory agencies on study or trial design; and ● regulatory authorities not allowing us to rely on previous findings of safety and efficacy for other similar but approved products and published scientific literature. We may experience delays in initiating or completing clinical trials. We also may experience numerous unforeseen events during, or as a result of, any ongoing or future clinical trials that we could conduct that could delay or prevent our ability to receive marketing approval or commercialize Olvi- Vec or any future product candidates, including: ● delays or failures, which may result in clinical site closures, delays to patient enrollment, patients withdrawing prior to receiving treatment (e. g., catheter implantation failure), patients discontinuing their treatment or follow- up visits or changes to trial protocols; ● regulators or institutional review boards (IRBs), may not authorize us or our investigators to commence a clinical trial, conduct a clinical trial at a prospective trial site, or amend trial protocols, or may require that we modify or amend our clinical trial protocols; ● we may experience delays in reaching, or fail to reach, agreement on acceptable clinical trial contracts or clinical trial protocols with prospective trial sites and / or CROs; ● clinical trials of our product candidates may produce negative or inconclusive results, or our studies may fail to reach the necessary level of statistical significance, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon product development programs; ● the unsuccessful implantation of catheters used to deliver Olvi- Vec; ● the number of patients required for clinical trials of our product candidates may be larger than we anticipate, enrollment in these clinical trials may be slower than we anticipate, or participants may drop out of these clinical trials or be lost to follow- up at a higher rate than we anticipate, or may elect to participate in alternative clinical trials sponsored by our competitors with product candidates that treat the same indications as our product candidates; ● third- party contractors may fail to comply with regulatory requirements or the clinical trial protocol, or meet their contractual obligations to us in a timely manner, or at all, or we may be required to engage in additional clinical trial site monitoring; ● manufacturing delays; ● we, regulators, or IRBs may require that we or our investigators suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements or a finding that the participants are being exposed to unacceptable health risks, undesirable side effects, emergent drug- drug interactions between Olvi- Vec and any of the other therapeutic agents given to the clinical trial subjects or other unexpected characteristics of the product candidate, or due to findings of undesirable effects caused by a biologically, chemically or mechanistically similar therapeutic or therapeutic candidate, or flaws in the design of the trial; ● changes could be adopted in marketing approval policies during the development period, rendering our data insufficient to obtain marketing approval; ● statutes or regulations could be amended, or new ones could be adopted; ●

changes could be adopted in the regulatory review process for submitted product applications; ● the cost of clinical trials of our product candidates may be greater than we anticipate, or we may have insufficient funds for a clinical trial or product manufacture or to pay the substantial user fees required by the FDA upon the submission of a BLA or equivalent authorizations from comparable foreign regulatory authorities; ● the supply or quality of our product candidates or other materials necessary to conduct clinical trials of our product candidates may be insufficient or inadequate; ● the FDA or comparable foreign regulatory authorities may fail to approve the existing or future manufacturing processes or facilities of our company or of third- party manufacturers with which we contract for clinical and commercial supplies; ● we may decide, or ~~regulators~~ **regulatory authorities** may require us, to conduct or gather, as applicable, additional clinical trials, analyses, reports, data, or preclinical ~~trials~~ **studies** , or we may abandon product development programs; ● we may fail to reach an agreement with ~~regulators~~ **regulatory authorities** or IRBs regarding the scope, design, or implementation of our clinical trials, and the FDA or comparable foreign regulatory authorities may require changes to our study designs that make further study impractical or not financially prudent; ● ~~regulators~~ **Regulatory authorities** may ultimately disagree with the design or our conduct of our preclinical studies or clinical trials, finding that they do not support product candidate approval; ● we may have delays in adding new investigators or clinical trial sites, or we may experience a withdrawal of clinical trial sites; ● patients that enroll in our studies may misrepresent their eligibility or may otherwise not comply with the clinical trial protocol, resulting in the need to drop the patients from the study or clinical trial, increase the needed enrollment size for the clinical trial or extend its duration; ● there may be regulatory questions or disagreements regarding interpretations of data and results, or new information may emerge regarding our product candidates; ● the FDA or comparable foreign regulatory authorities may disagree with our trial design, including endpoints, or our interpretation of data from preclinical studies and clinical trials or find that a product candidate' s benefits do not outweigh its safety risks; ● the FDA or comparable foreign regulatory authorities may not accept data from studies with clinical trial sites in foreign countries; ● the FDA or comparable foreign regulatory authorities may disagree with our intended indications; ● the FDA or comparable foreign regulatory authorities may fail to approve or subsequently find fault with the manufacturing processes or our manufacturing facilities for clinical and future commercial supplies; ● the data collected from clinical trials of our product candidates may not be sufficient to the satisfaction of the FDA or comparable foreign regulatory authorities to support the submission of a BLA or other comparable submission in foreign jurisdictions or to obtain regulatory approval in the United States or elsewhere; ● the FDA or comparable foreign regulatory authorities may take longer than we anticipate to make a decision on our product candidates; and ● we may not be able to demonstrate that a product candidate provides an advantage over current standards of care or current or future competitive therapies in development, including, for example, due to a longer- and / or- higher- than- expected response rate determination in the active comparator group or a shorter- and / or- lower- than- expected response rate determination in the experimental drug group. For example, we previously modified our manufacturing process and had to demonstrate **analytical** comparability to the FDA in order to use Olvi- Vec manufactured by this process in our ongoing Phase 3 PRROC trial. Any future changes to our manufacturing process may similarly require comparability assessments by the FDA and could delay clinical trials or, if the modified manufacturing process is not comparable, result in inconsistencies in trial results that may be difficult to explain. Our Phase 3 registration trial of Olvi- Vec in PRROC initiated enrollment in the third quarter of 2022 **and continues to enroll patients** . The FDA may issue further comments to our Phase 3 clinical trial protocol and may conclude Olvi- Vec produced in mammalian cells is not comparable to material produced in **chick embryo fibroblast (** CEF **)** cells, and / or place our IND on clinical hold. Placing our IND on clinical hold may cause delays in the initiation of our Phase 3 registration clinical trial. Any delay in obtaining or failure to obtain authorization from the FDA to conduct our Phase 3 clinical trial could materially adversely affect our ability to generate revenue from Olvi- Vec, which may materially harm our business, financial condition, results of operations, stock price and prospects ~~. As another example, there is currently a national shortage of platinum- based chemotherapies. This shortage has slowed some site enrollment for our Phase 3 clinical trial investigating the use of Olvi- Vec in PRROC. If the shortage persists, our Phase 2 clinical trial investigating the use of Olvi- Vec in recurrent NSCLC could be negatively impacted. To attempt to mitigate the risk caused by the shortage, we have established our own depot to acquire and store platinum- based chemotherapies. We expect to be able to provide a supply of platinum as needed for our Phase 3 clinical trial for Olvi- Vec in PRROC, but cannot guarantee that we will be able to resupply adequate amounts on our desired timeline, particularly if shortages continue. The future occurrence of similar shortages of other commercially- available drugs used in our clinical trials could also negatively impact our clinical trials~~ . Our product development costs will also increase if we experience delays in clinical testing or marketing approvals, and we may not have sufficient funding to complete the testing and approval process for any of our current or future product candidates. We may be required to obtain additional funds to complete clinical trials and prepare for possible commercialization of our product candidates. We do not know whether any preclinical ~~tests~~ **studies** or clinical trials beyond what we currently have planned will be required, will begin as planned, will need to be restructured, or will be completed on schedule or at all. Significant delays relating to any preclinical studies or clinical trials also could shorten any periods during which we may have the exclusive right to commercialize our product candidates or allow our competitors to bring products to market before we do, which would impair our ability to successfully commercialize our product candidates and may harm our business and results of operations. In addition, many of the factors that cause, or lead to, delays in clinical trials may ultimately lead to the denial of marketing approval of any of our product candidates. Any delays in our clinical development programs may harm our business, financial condition and results of operations significantly. If we experience delays or difficulties in the enrollment of patients in clinical trials, our receipt of necessary regulatory approvals could be delayed or prevented. We may not be able to initiate or continue clinical trials for our product candidates if we are unable to locate and enroll a sufficient number of eligible patients to participate in these trials as required by the FDA or foreign regulatory authorities. Patient enrollment, a significant factor in the timing of clinical trials, is affected by many factors including the size and nature of the patient population, the proximity of patients to clinical sites, the eligibility criteria for the clinical trial, the

design of the clinical trial, competing clinical trials, and clinicians' and patients' perceptions as to the potential advantages of the product candidate being studied in relation to other available therapies, including any new drugs that may be approved for the indications we are investigating. The timely completion of clinical trials in accordance with their protocols depends, among other things, on our ability to enroll a sufficient number of patients who remain in the study until its conclusion. We may experience difficulties in patient enrollment or retention in our clinical trials for a variety of reasons. The enrollment of patients depends on many factors, including: ● availability and efficacy of approved therapies for the disease under investigation; ● patient eligibility criteria for the trial in question; ● risks that enrolled subjects will drop out before completion of the trial, including as a result of emergent drug- drug interactions between Olvi- Vec and any of the other therapeutic agents given to the clinical trial subjects or contracting health conditions; ● risks of excessive catheter implantation failures leading to elimination of particular study sites from the trial in question; ● perceived risks and benefits of the product candidate under study; ● the timely initiation of clinical trial sites; ● efforts to facilitate timely enrollment in clinical trials; ● patient referral practices of physicians; ● the ability to monitor patients adequately during and after treatment; ● proximity and availability of clinical trial sites for prospective patients; ● withdrawal of consent for any reason; ● imbalance in withdrawals between the comparator and treatment arms; ● unforeseen limitations of protocol design; and ● protocol amendment by the sponsor and / or as requested by applicable regulatory authorities. In addition, our planned clinical trials may compete with other clinical trials for product candidates that are in the same therapeutic areas as our product candidates, and this competition will reduce the number and types of patients available to us because some patients who might have opted to enroll in our trials may instead opt to enroll in a competing clinical trial. Our inability to enroll a sufficient number of patients for our anticipated and any future clinical trials would result in significant delays or may require us to abandon one or more clinical trials altogether. Enrollment delays in our clinical trials may result in increased development costs for our product candidates, which could have an adverse effect on our business, financial condition, results of operations, and prospects. Results of preclinical studies and early clinical trials may not be predictive of results of future clinical trials. For our lead product candidate, Olvi- Vec, we completed enrollment, and we reported multiple data readouts in 2020, 2021, 2022 and 2023 for our Phase 2 PRROC clinical trial. We expect the final readout, reported on May 25, 2023 and published in JAMA Oncology in May 2023, to remain essentially unchanged in the final study report. Our Phase 3 registration trial of Olvi- Vec in PRROC initiated enrollment in the third quarter of 2022. Upon completion of this Phase 3 trial, and provided the data demonstrate patient benefit in the PRROC patient population with an acceptable safety profile, we plan to ask for a pre- BLA meeting with the FDA and seek guidance on submission of a marketing application based on the accelerated approval regulations. We anticipate a post- marketing study will be required to confirm a survival benefit. Clinical development is expensive and can take many years to complete and its outcome is inherently uncertain. Olvi- Vec may not perform as we expect in clinical trials, particularly in our open- label, randomized, and controlled Phase 3 registration clinical trial, in which Olvi- Vec may ultimately have a different or no impact on tumors, may have a different mechanism of action than we expect and may not ultimately prove to be safe and effective. The FDA' s analysis and interpretation of the data may also differ from ours. The results of previous clinical trials of Olvi- Vec and results of preclinical studies or early clinical trials of any other product candidate we develop, may not be predictive of the results of subsequent and later- stage clinical trials. Many companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in registration- stage clinical trials after achieving positive results in earlier development, and we could face similar setbacks. The design of a clinical trial can determine whether its results will support approval of a product and flaws in the design of a clinical trial may not become apparent until the clinical trial is well advanced. We do not have experience in successfully completing a registration- stage clinical trial and may be unable to execute a clinical trial to support marketing approval. In addition, preclinical and clinical data are often susceptible to varying interpretations and analyses. Many companies that believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain marketing approval for the product candidates. Even if we, or future collaborators, believe that the results of clinical trials for our product candidates warrant marketing approval, the FDA or comparable foreign regulatory authorities may disagree and may not grant marketing approval of our product candidates. In some instances, there can be significant variability in safety or efficacy results between different clinical trials of the same product candidate due to numerous factors, including changes in trial procedures set forth in protocols, differences in the size and type of the patient populations, changes in and adherence to the clinical trial protocols, variations in conducting clinical trials at different sites, changes in medical practice, FDA requirements based on agency guidelines or precedence which may be more strict for a Phase 3 clinical trial, the rate of dropout among clinical trial participants and changes in the manufacturing process. Moreover, should there be an issue with the design of any of our clinical trials, our results may be impacted. We may not discover such a flaw until the clinical trial is at an advanced stage. Interim, topline, and preliminary data from our clinical trials that we announce or publish from time to time may change as more patient data become available and are subject to audit and verification procedures that could result in material changes in the final data. From time to time, we may publicly disclose interim, topline, or preliminary data from our clinical trials, which is based on a preliminary analysis of then- available data, and the results and related findings and conclusions are subject to change following a more comprehensive review of the data related to the particular study or trial. We also make assumptions, estimations, calculations, and conclusions as part of our analyses of data, and we may not have received or had the opportunity to fully and carefully evaluate all data. As a result, the interim, topline, or preliminary results that we report may differ from future results of the same studies, or different conclusions or considerations may qualify such results, once additional data have been received and fully evaluated. Interim, topline, and preliminary data also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published. As a result, such data should be viewed with caution until the final data are available. From time to time, we may also disclose interim data from our clinical trials. Interim, topline, and preliminary data from clinical trials that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data become available.

Adverse differences between preliminary, interim or topline data and final data could significantly harm our business prospects. Further, others, including regulatory agencies, may not accept or agree with our assumptions, estimates, calculations, conclusions, or analyses or may interpret or weigh the importance of data differently, which could impact the value of the particular program, the approvability, or commercialization of the particular product candidate or product and our company in general. In addition, the information we choose to publicly disclose regarding a particular study or clinical trial is based on what is typically extensive information, and you or others may not agree with what we determine is the material or otherwise appropriate information to include in our disclosure, and any information we determine not to disclose may ultimately be deemed significant with respect to future decisions, conclusions, views, activities or otherwise regarding a particular product, product candidate, or our business. If the interim, topline, or preliminary data that we report differ from actual results, or if others, including regulatory authorities, disagree with the conclusions reached, our ability to obtain approval for, and commercialize Olvi- Vec and any future product candidates may be harmed, which could harm our business, operating results, prospects, or financial condition. Fast track designation by the FDA for Olvi- Vec may not lead to a faster development or regulatory review or approval process, and does not increase the likelihood that Olvi- Vec or any future product candidate which may receive fast track designation will receive marketing approval. The FDA has granted a fast track designation for Olvi- Vec for the treatment of patients with PRROC, and we may seek fast track designations for other indications or future product candidates. The fast track program is intended to expedite or facilitate the process for reviewing new product candidates that meet certain criteria. Specifically, biologics are eligible for fast track designation if they are intended, alone or in combination with one or more drugs or biologics, to treat a serious or life- threatening disease or condition and demonstrate the potential to address unmet medical needs for the disease or condition. Fast track designation applies to the combination of the product candidate and the specific indication for which it is being studied. The sponsor of a fast track product candidate has opportunities for more frequent interactions with the applicable FDA review team during product development and, once a BLA is submitted, the application may be eligible for priority review. A BLA submitted for a fast track product candidate may also be eligible for rolling review, where the FDA may consider for review sections of the BLA on a rolling basis before the complete application is submitted, if the sponsor provides a schedule for the submission of the sections of the BLA, the FDA agrees to accept sections of the BLA and determines that the schedule is acceptable, and the Sponsor pays any required user fees upon submission of the first section of the BLA. The FDA has broad discretion whether or not to grant this designation. Even if we believe a particular product candidate is eligible for this designation, we cannot assure you that the FDA would decide to grant it. Although we have received fast track designation for Olvi- Vec for the treatment of patients with PRROC, and even if we receive additional fast track designations for other indications or any future product candidates, such product candidates may not experience a faster development process, review or approval compared to conventional FDA procedures. The FDA may also withdraw fast track designation if it believes that the designation is no longer supported by data from our clinical development program. Furthermore, such a designation does not increase the likelihood that Olvi- Vec or any future product candidate that may be granted fast track designation will receive marketing approval in the United States. Many product candidates that have received fast track designation have ultimately failed to obtain approval. We may attempt to secure approval from the FDA through the use of the accelerated approval pathway. If we are unable to obtain such approval, we may be required to conduct additional clinical trials beyond those that we contemplate, which could increase the expense of obtaining, and delay the receipt of, necessary regulatory approvals. Even if we receive accelerated approval from the FDA, if our confirmatory trials do not verify clinical benefit, or if we do not comply with rigorous post- marketing requirements, the FDA may seek to withdraw any accelerated approval we have obtained. We may in the future seek an accelerated approval for Olvi- Vec or our future product candidates. Under the accelerated approval program, the FDA may grant accelerated approval to a product candidate designed to treat a serious or life- threatening condition that provides meaningful therapeutic benefit over available therapies upon a determination that such product candidate has an effect on a surrogate endpoint or intermediate clinical endpoint that is reasonably likely to predict clinical benefit. The FDA considers a clinical benefit to be a positive therapeutic effect that is clinically meaningful in the context of a given disease, such as irreversible morbidity or mortality. For the purposes of accelerated approval, a surrogate endpoint is a marker, such as a laboratory measurement, radiographic image, physical sign or other measure that is thought to predict clinical benefit, but is not itself a measure of clinical benefit. An intermediate clinical endpoint is a clinical endpoint that can be measured earlier than an effect on irreversible morbidity or mortality that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit. The accelerated approval pathway may be used in cases in which the advantage of a new drug over available therapy may not be a direct therapeutic advantage, but is a clinically important improvement from a patient and public health perspective. If granted, accelerated approval is usually contingent on the sponsor' s agreement to conduct, in a diligent manner, additional post- approval confirmatory studies to verify and describe the drug' s clinical benefit. If such confirmatory studies fail to confirm the drug' s clinical benefit or are not completed in a timely manner, the FDA may withdraw its approval of the drug on an expedited basis. In addition, in December 2022, the Food and Drug Omnibus Reform Act of 2022 was enacted, which, among other things, provided the FDA new statutory authority to mitigate potential risks to patients from continued marketing of ineffective drugs previously granted accelerated approval, and additional oversight over confirmatory trials. Under these provisions, the FDA may, among other things, require a sponsor of a product seeking accelerated approval to have a confirmatory trial underway prior to such approval being granted. Prior to seeking approval for Olvi- Vec or any future product candidate we intend to seek feedback from the FDA and will otherwise evaluate our ability to seek and receive accelerated approval. There can be no assurance that after our evaluation of the feedback and other factors we will decide to pursue or submit a BLA for accelerated approval or obtain any other form of expedited development, review, or approval. Furthermore, if we decide to submit an application for accelerated approval for Olvi- Vec or any future product candidate, 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. The FDA could also require us to conduct further studies prior to considering our application or granting approval of any type. A failure to obtain accelerated approval or any other form of expedited development, review, or approval for Olvi- Vec or any future product candidate would result in a longer time period to commercialization of such product candidate, if any, could increase the cost of development of such product candidate, and could harm our competitive position in the marketplace. Serious adverse events, undesirable side effects (including emergent drug- drug interactions between Olvi- Vec and any of the other therapeutic agents given to the clinical trial subjects) or other unexpected properties of our current or future product candidates may be identified during development or after approval, which could halt their development or lead to the discontinuation of our clinical development programs, refusal by regulatory authorities to approve our product candidates or, if discovered following marketing approval, revocation of marketing authorizations or limitations on the use of our product candidates thereby limiting the commercial potential of such product candidate. To date, Olvi- Vec is the only product candidate we have tested in humans. The most advanced trial with enrollment completed was our open- label, single- arm Phase 1b / 2 clinical trial in PRROC. Enrollment was completed in September 2019, and we reported multiple data readouts in 2020, 2021, 2022 and 2023 for our Phase 2 PRROC clinical trial. We expect the final readout, reported on May 25, 2023 and published in JAMA Oncology in May 2023, to remain essentially unchanged in the final study report. Additionally, we previously conducted five Phase 1 clinical trials and one Expanded Access Program in different indications, using different routes of administration and different dosing regimens. The most common treatment- related toxicities generally observed in our trials from different routes of administration were pyrexia, nausea, chills and fatigue with additional common treatment- related toxicities observed in our intraperitoneal administration trials being abdominal pain and abdominal distension. As we continue our development of Olvi- Vec and initiate clinical trials of any future product candidates, serious adverse events, undesirable side effects or unexpected characteristics may emerge or be reported, causing us to abandon these product candidates or limit their development to more narrow uses or subpopulations in which the serious adverse events, undesirable side effects or other characteristics are less prevalent, less severe or more acceptable from a risk- benefit perspective. Even if our product candidates initially show promise in early clinical trials, the side effects of therapies are frequently only detectable after the drug is tested in large, Phase 3 clinical trials or, in some cases, after they are made available to patients on a commercial scale after approval. Sometimes, it can be difficult to determine if the serious adverse or unexpected side effects were caused by the product candidate or another factor, especially in oncology subjects who may suffer from other medical conditions and be taking other medications. If serious adverse or unexpected side effects are identified during development and are determined to be attributed to our product candidates, or the result of drug- drug interactions between our product candidate and any of the concomitant therapies given to the trial subjects, we, the FDA or comparable foreign regulatory authorities, or IRBs and other reviewing entities, could interrupt, delay, or halt clinical trials and could result in a more restrictive label, a Risk Evaluation and Mitigation Strategy (REMS) or the delay or denial of regulatory approval by the FDA or comparable foreign regulatory authorities. The FDA or comparable foreign regulatory authorities may also require, or we may voluntarily develop strategies for managing adverse events during clinical development, which could include restrictions on our enrollment criteria, the use of stopping criteria, adjustments to a study' s design, or the monitoring of safety data by a data monitoring committee, among other strategies. Any requests from the FDA or comparable foreign regulatory authority for additional data or information could also result in substantial delays in the approval of our product candidates. Drug- related side effects could also affect subject recruitment or the ability of enrolled subjects to complete the trial or result in potential product liability claims. Any of these occurrences may harm our business, financial condition and prospects significantly. In addition, if one or more of our product candidates receives marketing approval, and we or others later identify undesirable side effects caused by such products, a number of potentially significant negative consequences could result, including: ● regulatory authorities may withdraw approvals of such product; ● regulatory authorities may require additional warnings on the label; ● we may be required to create a medication guide outlining the risks of such side effects for distribution to patients; ● we may be forced to suspend marketing of that product, or decide to remove the product from the marketplace; ● we may be required to change the way the product is administered; ● we could be subject to fines, injunctions, or the imposition of criminal or civil penalties; ● we could be sued and held liable for harm caused to patients; and ● the product may become less competitive, and our reputation may suffer. The therapeutic- related side effects could affect patient recruitment or the ability of enrolled patients to complete the trial or result in potential product liability claims. Any of these events could prevent us from achieving or maintaining market acceptance of the particular product candidate, if approved, and could significantly harm our business, financial condition, results of operations, stock price and prospects. We anticipate that many of our product candidates will be used in combination with third- party drugs and / or devices, some of which may still be in development, and we have limited or no control over the supply, regulatory status or regulatory approval of such drugs and / or devices. We anticipate developing our product candidates for use in combination with other oncology therapeutics, including chemotherapies and cellular and targeted therapies (e. g., immune checkpoint inhibitors), or medical devices (e. g. intraperitoneal catheter). For example, in our Phase 3 registration clinical trial, we are developing the intraperitoneal (catheter) delivery of Olvi- Vec in combination with a platinum- based chemotherapy doublet and bevacizumab (e. g., AVASTIN). Our ability to develop and ultimately commercialize our product candidates used in combination with platinum- based and other chemotherapies, and bevacizumab, or any other combination products (e. g., cellular and targeted therapies), and used with devices (e. g., catheters) will depend on our ability to access such drugs and devices on commercially reasonable terms for the clinical trials and their availability for use with the commercialized product, if approved. We cannot be certain that current or potential future commercial relationships will provide us with a steady supply of such drugs or devices on commercially reasonable terms or at all. Any failure to maintain or enter into new successful commercial relationships, or the expense of purchasing platinum- based and other chemotherapies, and bevacizumab, or any other combination products, or any devices in the market, may delay our development timelines, increase our costs and jeopardize our ability to develop our product candidates as commercially- viable therapies. If any of these occur, our business, financial condition, results of operations, stock

price and prospects may be materially harmed. Moreover, the development of product candidates for use in combination with another product or product candidate may present challenges that are not faced for single agent product candidates. For our product candidates that may be used in combination with platinum- based and other chemotherapies, and bevacizumab, or any other combination products or any devices, the FDA may require us to use more complex clinical trial designs in order to evaluate the contribution of each product and product candidate to any observed effects. It is possible that the results of these trials could show that there are adverse events tied to the interaction of Olvi- Vec with any of the other therapies, or that any positive previous trial results are attributable to the combination therapy and not our product candidates. Moreover, following product approval, the FDA may require that products or devices used in conjunction with each other be cross labeled for combined use. To the extent that we do not have rights to the other product or device, this may require us to work with a third party to satisfy such a requirement. The ability to obtain cooperation from the third party may impact our ability to respond to the FDA' s requests which could impact our ability to achieve regulatory approval. Moreover, developments related to the other product or device may impact our clinical trials as well as our commercial prospects should we receive marketing approval. Such developments may include changes to the safety or efficacy profile of the other product or device, changes to the availability of the approved product or device, and changes to the standard of care. In the event that any future collaborator or supplier of platinum- based and other chemotherapies, and bevacizumab, or any other products administered in combination, or any devices used, with our product candidates does not supply their products on commercially reasonable terms or in a timely fashion, we would need to identify alternatives for accessing these products. This could cause our clinical trials to be delayed and limit the commercial opportunities for our product candidates, in which case our business, financial condition, results of operations, stock price and prospects may be materially harmed. We may not be successful in our efforts to expand our pipeline of product candidates and develop marketable products. We expect initially to develop our lead product candidate, Olvi- Vec. We anticipate pursuing clinical development of other product candidates, alone or in collaboration with our partners. Research programs to identify new product candidates require substantial technical, financial and human resources. Developing, obtaining marketing approval for, and commercializing additional product candidates will require substantial additional funding and will be subject to the risks of failure inherent in medical product development. We cannot assure you that we will be able to successfully advance any of these additional product candidates through the development process. Even if we obtain approval from the FDA or comparable foreign regulatory authorities to market additional product candidates for the treatment of cancer, we cannot assure you that any such product candidates will be successfully commercialized, widely accepted in the marketplace, or more effective than other commercially available alternatives. If we are unable to successfully develop and commercialize additional product candidates, our commercial opportunity may be limited and our business, financial condition, results of operations, stock price and prospects may be materially harmed. We may expend our limited resources to pursue a particular product candidate or indication and fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success. Because we have limited financial and managerial resources, we must prioritize our research programs and will need to focus our product candidates on the potential treatment of certain indications. As a result, we may forego or delay pursuit of opportunities with other product candidates or for other indications that later prove to have greater commercial potential. 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 products. Additionally, we may pursue additional in-licenses or acquisitions of development- stage assets or programs, which entails additional risk to us. Identifying, selecting and acquiring promising product candidates requires substantial technical, financial, and human resources expertise. Efforts to do so may not result in the actual acquisition or license of a particular product candidate, potentially resulting in a diversion of our management' s time and the expenditure of our resources with no resulting benefit. For example, if we are unable to identify programs that ultimately result in approved products, we may spend material amounts of our capital and other resources evaluating, acquiring and developing products that ultimately do not provide a return on our investment. If we do not achieve our product development goals in the timeframes we announce and expect, the commercialization of our product candidates may be delayed and as a result our share price may decline. Drug development is inherently risky and uncertain. We cannot be certain that we will be able to: ● complete IND- enabling preclinical studies or develop manufacturing processes and associated analytical methods that meet current good manufacturing practice (cGMP) requirements in time to initiate or to complete our anticipated or future clinical trials in the timeframes we announce; ● obtain sufficient clinical supply of our product candidates to support our anticipated or future clinical trials; ● initiate clinical trials within the timeframes we announce; ● enroll and maintain a sufficient number of subjects to complete or timely complete any clinical trials; or ● collect and analyze the data from any completed clinical trials in the timeframes we announce. The actual timing of our development milestones could vary significantly compared to our estimates, in some cases for reasons beyond our control. If we are unable to achieve our goals within the timeframes we announce, the commercialization of our product candidates may be delayed and, as a result, the stock price of our common stock could fall and you may lose all of your investment. Even if we complete the necessary preclinical studies and clinical trials, the marketing approval process is expensive, time- consuming and uncertain and may prevent us or any of our existing or potential future collaboration partners from obtaining approvals for the commercialization of Olvi- Vec, V2ACT Immunotherapy and any other product candidate we develop. Any current or future product candidate we may develop, and the activities associated with their development and commercialization, including their design, testing, manufacture, safety, efficacy, recordkeeping, labeling, storage, approval, advertising, promotion, sale, and distribution, are subject to comprehensive regulation by the FDA and other regulatory authorities in the United States and by comparable authorities in other countries. Failure to obtain marketing approval for a product candidate will prevent us from commercializing the product candidate in a given jurisdiction. We have not received approval to market any product candidates from regulatory authorities in any jurisdiction and it is possible that none of the product candidates we may seek to develop in the future will ever obtain

regulatory approval. Securing marketing approval requires the submission of extensive preclinical and clinical data and supporting information to regulatory authorities for each therapeutic indication to establish the product candidate' s safety and efficacy for that indication. Securing marketing approval also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities and clinical trial sites by, the regulatory authorities. If we do not receive approval from the FDA and comparable foreign regulatory authorities for any of our product candidates, we will not be able to commercialize such product candidates in the United States or in other jurisdictions. If significant delays in obtaining approval for and commercializing our product candidates occur in any jurisdictions, our business, financial condition, results of operations, stock price and prospects will be materially harmed. Even if our product candidates are approved, they may: ● be subject to limitations on the indicated uses or patient populations for which they may be marketed, distribution restrictions, or other conditions of approval; ● contain significant safety warnings, including boxed warnings; ● contain significant contraindications, and precautions which could reduce the size of the patient population; ● not be approved with label statements necessary or desirable for successful commercialization; ● contain requirements for costly post- market testing and surveillance, or other requirements, including the submission of a REMS to monitor the safety or efficacy of the products; or ● be withdrawn from the market because a serious safety issue becomes known after approval is granted. The process of obtaining marketing approvals, both in the United States and abroad, is expensive, takes many years even if successful, and can vary substantially in and among jurisdictions based upon a variety of factors, including the type, complexity, and novelty of the product candidates involved. The number and types of preclinical studies and clinical trials that will be required for regulatory approval also varies depending on the product candidate, the disease or condition that the product candidate is designed to address, and the regulations applicable to any particular product candidate. Changes in marketing approval policies during the development period, changes in or the enactment of additional statutes or regulations, or changes in regulatory review for each submitted product application, may cause delays in the approval or rejection of an application. The FDA and comparable authorities in other countries have substantial discretion in the approval process and may refuse to accept any application or may decide that our data are insufficient for approval and require additional preclinical, clinical or other studies. In addition, varying interpretations of the data obtained from preclinical and clinical testing could delay, limit, or prevent marketing approval of a product candidate. It is possible that our product candidates will never obtain the appropriate regulatory approvals necessary for us to commence product sales, or any marketing approval we ultimately obtain may be limited or subject to restrictions or post-approval commitments that render the approved product not commercially viable. If we experience delays in obtaining approval or if we fail to obtain approval of any current or future product candidates we may develop, the commercial prospects for those product candidates may be harmed, and our ability to generate revenues will be materially impaired. We ~~plan to~~ **are currently** ~~conduct~~ **conducting** our Phase 2 clinical trial for Olvi- Vec in recurrent NSCLC in the United States and ~~potentially~~ **plan to conduct this trial** in China as part of a multi- regional clinical trial with our collaboration partner, Newsoara **, pending approval to proceed. We may conduct additional clinical trials in China** . However, the FDA and other comparable foreign regulatory authorities may not accept data from such trial, in which case our development plans will be delayed, which could materially harm our business. ~~Following FDA authorization, we began regulatory study startup of~~ **Newsoara is generally obligated under the Newsoara License Agreement to fund** a Phase 2, open- label, randomized, and controlled clinical trial designed to evaluate the efficacy and safety of intravenously delivered Olvi- Vec oncolytic VACV for patients with recurrent NSCLC in the United States ~~in~~ **, which VIRO- 25 trial is now ongoing with** the first ~~half of~~ **patient dosed in October** ~~2023~~ **2024** ~~. Newsoara is generally obligated under our collaboration agreement to fund this trial~~ . In November 2023, we agreed with Newsoara that we would directly engage a CRO on mutually agreeable terms to conduct certain startup activities for the NSCLC trial in the United States only, with Newsoara reimbursing us for the costs and expenses of such agreed- upon startup activities. Newsoara is permitted to defer such reimbursement payments until the completion of its next round of financing, which Newsoara expects to occur in **late 2025. As mentioned above, we dosed our first patient in the United States in October** 2024 ~~. We plan to conduct this trial under our current open IND~~ and, subject to regulatory authorization, ~~potentially~~ **intend to** launch **the NSCLC** ~~a multi- regional clinical~~ trial **in China** with Newsoara ~~in the United States and China~~ . Newsoara initiated a Phase 1 clinical trial of Olvi- Vec in patients with recurrent SCLC in China in the first half of 2023, and we anticipate they will initiate further trials in recurrent NSCLC and recurrent ovarian cancer in China. The acceptance of study data from clinical trials conducted outside the United States or another jurisdiction by the FDA or comparable foreign regulatory authority may be subject to certain conditions or may not be accepted at all. In addition, even where the foreign study data are not intended to serve as the sole basis for approval, the FDA will not accept the data as support for an application for marketing approval unless the study is well- designed and well- conducted in accordance with **International Conference on Harmonization (** ICH **)** , and Good Clinical Practice (GCP) requirements and the FDA is able to validate the data from the study through an onsite inspection if deemed necessary. Many foreign regulatory authorities have similar approval requirements. In addition, such foreign trials would be subject to the applicable local laws of the foreign jurisdictions where the trials are conducted. There can be no assurance that the FDA or any comparable foreign regulatory authority will accept data from trials conducted outside of the applicable jurisdiction. If the FDA or any comparable foreign regulatory authority does not accept such data, it would result in the need for additional trials, which could be costly and time- consuming, and which may result in current or future product candidates that we may develop not receiving approval for commercialization in the applicable jurisdiction. We believe that clinical data generated in China and the United States will be accepted by the FDA and its comparable foreign regulatory equivalents outside of China, which would enable us to commence Phase 3 and possibly registration clinical trials in the United States without the need for us to conduct additional Phase 2 clinical trials in the United States. However, there can be no assurance the FDA or comparable foreign regulatory authorities will accept data from our ~~planned~~ Phase 2 clinical trial in Olvi- Vec **, which is currently ongoing in the United States** . If the FDA or comparable foreign regulatory authorities do not accept any such data, we would likely be required to conduct additional Phase 2 clinical

trials, which would be costly and time consuming, and delay aspects of our development plan, which could harm our business. Conducting clinical trials outside the United States exposes us to additional risks, including risks associated with: ● additional foreign regulatory requirements; ● compliance with foreign manufacturing, customs, shipment and storage requirements; ● cultural differences in medical practice and clinical research; and ● diminished protection of intellectual property in some countries. Approval by the FDA or comparable foreign regulatory authorities to market a product candidate will be limited to those specific indications and conditions for which approval has been granted, and we may be subject to substantial fines, criminal penalties, injunctions, or other enforcement actions if we are determined to be promoting the use of any products for unapproved or " off- label " uses, resulting in damage to our reputation and business. We must comply with requirements concerning advertising and promotion for any product candidates for which we obtain marketing approval. Promotional communications with respect to therapeutics are subject to a variety of legal and regulatory restrictions and continuing review by the FDA, the U. S. Department of Justice, the U. S. Department of Health and Human Services' Office of Inspector General, state attorneys general, members of Congress, and the public. When the FDA or comparable foreign regulatory authorities issue regulatory approval to market a product candidate, the regulatory approval is limited to those specific uses and indications for which a product is approved. If we are not able to obtain FDA approval for desired uses or indications for our product candidates, we may not market or promote them for those indications and uses, referred to as off- label uses, and our business, financial condition, results of operations, stock price and prospects will be materially harmed. We also must sufficiently substantiate any claims that we make for any products we develop, including claims comparing our products to other companies' products, and must abide by the FDA' s strict requirements regarding the content of promotion and advertising. Because regulatory authorities in the United States generally do not restrict or regulate the behavior of physicians in their choice of treatment within the practice of medicine, physicians may in their independent medical judgment choose to prescribe products for uses that are not described in the product' s labeling and for uses that differ from those tested in clinical trials and approved by the regulatory authorities. Regulatory authorities do, however, limit communications by biopharmaceutical companies concerning off- label use. Therefore, we are prohibited from marketing and promoting the products for indications and uses that are not specifically approved by the FDA. If we are found to have impermissibly promoted any products that we may develop, we may become subject to significant liability and government fines. The FDA and other agencies actively enforce the laws and regulations regarding product promotion, particularly those prohibiting the promotion of off- label uses, and a company that is found to have improperly promoted a product may be subject to significant sanctions. The federal government has levied large civil and criminal fines against companies for alleged improper promotion and has enjoined several companies from engaging in off- label promotion. The FDA has also requested that companies enter into consent decrees or permanent injunctions under which specified promotional conduct is changed or curtailed. In the United States, the promotion of biopharmaceutical products is subject to additional FDA requirements and restrictions on promotional statements. If after one or more of our product candidates obtains marketing approval, the FDA determines that our promotional activities violate its regulations and policies pertaining to product promotion, it could request that we modify our promotional materials or subject us to regulatory or other enforcement actions, including issuance of warning letters or untitled letters, suspension or withdrawal of an approved product from the market, requests for recalls, payment of civil fines, disgorgement of money, imposition of operating restrictions, injunctions or criminal prosecution, and other enforcement actions. Similarly, industry codes in foreign jurisdictions may prohibit companies from engaging in certain promotional activities and regulatory agencies in various countries may enforce violations of such codes with civil penalties. If we become subject to regulatory and enforcement actions, our business, financial condition, results of operations, stock price and prospects will be materially harmed. Engaging in the impermissible promotion of our products, in the United States, following approval, for off- label uses can also subject us to false claims and other litigation under federal and state statutes. These include fraud and abuse and consumer protection laws, which can lead to civil and criminal penalties and fines, agreements with governmental authorities that materially restrict the manner in which we promote or distribute therapeutic products and conduct our business. These restrictions could include corporate integrity agreements, suspension or exclusion from participation in federal and state healthcare programs, and suspension and debarment from government contracts and refusal of orders under existing government contracts. These False Claims Act (**the "** FCA **"**) lawsuits against manufacturers of drugs and biological products have increased significantly in volume and breadth, leading to several substantial civil and criminal settlements, up to $ 3. 0 billion, pertaining to certain sales practices and promoting off- label uses. In addition, FCA lawsuits may expose manufacturers to follow- on claims by private payors based on fraudulent marketing practices. This growth in litigation has increased the risk that a biopharmaceutical company will have to defend a false claim action, pay settlement fines or restitution, as well as criminal and civil penalties, agree to comply with burdensome reporting and compliance obligations, and be excluded from Medicare, Medicaid, or other federal and state healthcare programs. If we do not lawfully promote our approved products, if any, we may become subject to such litigation and, if we do not successfully defend against such actions, those actions may have a material adverse effect on our business, financial condition, results of operations, stock price and prospects. Obtaining and maintaining marketing approval for our product candidates in one jurisdiction would not mean that we will be successful in obtaining marketing approval of that product candidate in other jurisdictions, which could prevent us from marketing our products internationally. Obtaining and maintaining marketing approval of our product candidates in one jurisdiction would not guarantee that we will be able to obtain or maintain marketing approval in any other jurisdiction, while a failure or delay in obtaining marketing approval in one jurisdiction may have a negative effect on the marketing approval process in others. For example, even if the FDA grants marketing approval of a product candidate, comparable foreign regulatory authorities must also approve the manufacturing, marketing and promotion of the product candidate in those countries. Approval procedures vary among jurisdictions and can involve requirements and administrative review periods different from, and greater than, those in the United States, including additional preclinical studies or clinical trials, as clinical trials conducted in one jurisdiction may not be accepted by regulatory authorities in other

jurisdictions. In many jurisdictions outside the United States, a product candidate must be approved for reimbursement before it can be approved for sale in that jurisdiction. In some cases, the price that we intend to charge for our products is also subject to approval. In cases where data from foreign clinical trials are intended to serve as the sole basis for marketing approval in the United States, the FDA will generally not approve the application on the basis of foreign data alone unless (i) the data are applicable to the U. S. population and U. S. medical practice; (ii) the trials were performed by clinical investigators of recognized competence and pursuant to GCP regulations; and (iii) the data may be considered valid without the need for an on-site inspection by the FDA, or if the FDA considers such inspection to be necessary, the FDA is able to validate the data through an on- site inspection or other appropriate means. Regulatory authorities in jurisdictions outside of the United States have requirements for approval of product candidates with which we must comply prior to marketing in those jurisdictions. Obtaining foreign marketing approvals and compliance with foreign regulatory requirements could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of our products in certain countries. If we fail to comply with the regulatory requirements in international markets and / or receive applicable marketing approvals, our target market will be reduced and our ability to realize the full market potential of our product candidates will be harmed. If we obtain approval for any product candidate and ultimately commercialize that product in foreign markets, we would be subject to additional risks and uncertainties, including the burden of complying with complex and changing foreign regulatory, tax, accounting and legal requirements and the reduced protection of intellectual property rights in some foreign countries. Even if our product candidates receive regulatory approval, we will be subject to ongoing obligations and continued regulatory review, which may result in significant additional expense and limit how we manufacture and market our products. Any product candidate for which we obtain marketing approval will be subject to extensive and ongoing requirements of and review by the FDA or comparable foreign regulatory authorities, including requirements related to the manufacturing processes, post- approval clinical data, labeling, packaging, distribution, adverse event reporting, storage, recordkeeping, export, import, advertising, marketing, and promotional activities for such product. These requirements further include submissions of safety and other post- marketing information, including manufacturing deviations and reports, registration and listing requirements, the payment of annual fees, continued compliance with cGMP requirements relating to manufacturing, quality control, quality assurance, and corresponding maintenance of records and documents, and GCPs for any clinical trials that we conduct post- approval. The FDA and comparable foreign regulatory authorities will continue to closely monitor the safety profile of any product even after approval. If the FDA or comparable foreign regulatory authorities become aware of new safety information after approval of any of our product candidates, they may withdraw approval, issue public safety alerts, require labeling changes or establishment of a REMS or similar strategy, impose significant restrictions on a product' s indicated uses or marketing, or impose ongoing requirements for potentially costly post- approval studies or post- market surveillance. Any such restrictions could limit sales of the product. We and any of our suppliers or collaborators, including our contract manufacturers, could be subject to periodic announced and unannounced inspections by the FDA to monitor and ensure compliance with cGMPs and other FDA regulatory requirements. Application holders must further notify the FDA, and depending on the nature of the change, obtain FDA pre-approval for product and manufacturing changes. In addition, later discovery of previously unknown adverse events or of the product being less effective than previously thought or other problems with our products, manufacturers or manufacturing processes, or failure to comply with regulatory requirements both before and after approval, may yield various negative results, including: ● restrictions on manufacturing, distribution, or marketing of such products; ● restrictions on the labeling, including required additional warnings, such as black boxed warnings, contraindications, precautions, and restrictions on the approved indication or use; ● modifications to promotional pieces; ● issuance of corrective information; ● requirements to conduct post-marketing studies or other clinical trials; ● clinical holds or termination of clinical trials; ● requirements to establish or modify a REMS or similar strategy; ● changes to the way the product candidate is administered; ● liability for harm caused to patients or subjects; ● reputational harm; ● the product becoming less competitive; ● warning, untitled, or cyber letters; ● suspension of marketing or withdrawal of the products from the market; ● regulatory authority issuance of safety alerts, Dear Healthcare Provider letters, press releases, or other communications containing warnings or other safety information about the product candidate; ● refusal to approve pending applications or supplements to approved applications that we submit; ● recalls of products; ● fines, restitution or disgorgement of profits or revenues; ● suspension or withdrawal of marketing approvals; ● refusal to permit the import or export of our products; ● product seizure or detention; ● FDA debarment, suspension and debarment from government contracts, and refusal of orders under existing government contracts, exclusion from federal healthcare programs, consent decrees, or corporate integrity agreements; or ● injunctions or the imposition of civil or criminal penalties, including imprisonment. Any of these events could prevent us from achieving or maintaining market acceptance of the particular product candidate, if approved, or could substantially increase the costs and expenses of commercializing such product, which in turn could delay or prevent us from generating significant revenues from its marketing and sale. Any of these events could have other material and adverse effects on our operations and business and could adversely impact our business, financial condition, results of operations, stock price and prospects. The FDA' s policies or those of comparable foreign regulatory authorities may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates, limit the marketability of our product candidates, or impose additional regulatory obligations on us. **For example, the U. S. Supreme Court' s June 2024 decision in Loper Bright Enterprises v. Raimondo overturned the longstanding Chevron doctrine, under which courts were required to give deference to regulatory agencies' reasonable interpretations of ambiguous federal statutes. The Loper decision could result in additional legal challenges to regulations and decisions issued by federal agencies, including the FDA, on which we rely. Any such legal challenges, if successful, could have a material impact on our business. Additionally, the Loper decision may result in increased regulatory uncertainty, inconsistent judicial interpretations, and other impacts to the agency rulemaking process, any of which could adversely impact our business and operations. In addition,** ~~Changes~~ **changes** in medical

practice and standard of care may also impact the marketability of our product candidates **. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative or executive action, either in the United States or abroad** . If we are slow or unable to adapt to changes in existing requirements, standards of care, or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and be subject to regulatory enforcement action. Should any of the above actions take place, we could be prevented from or significantly delayed in achieving profitability. Further, the cost of compliance with post- approval regulations may have a negative effect on our operations and business and could adversely impact our business, financial condition, results of operations, stock price and prospects. Risks Related to Manufacturing We are subject to multiple manufacturing risks, any of which could substantially increase our costs and limit supply of our product candidates. The manufacture of biopharmaceutical products requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. The process of manufacturing viral immunotherapies, including our product candidates, is particularly complex, time ~~-~~consuming, highly ~~-~~regulated and costly. Manufacturers of therapeutics often encounter difficulties in production, particularly in scaling up initial production, with such risks including: ● quality control, including stability of the product candidate and quality assurance testing; ● shortages of qualified personnel or key raw materials or components; ● product loss during the manufacturing process, including loss caused by contamination, equipment failure or improper installation or operation of equipment, or operator error. Even minor deviations from normal manufacturing processes could result in reduced production yields, product defects and other supply disruptions. If microbial, viral or other contaminations are discovered in our products or in the manufacturing facilities in which our products are made, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination; ● the manufacturing facilities in which our product candidates are made could be adversely affected by equipment failures, ~~labor and raw material shortages,~~ natural disasters, power failures and numerous other factors; and ● any adverse developments affecting manufacturing operations for our products may result in shipment delays, inventory shortages, lot failures, product withdrawals or recalls, or other interruptions in the supply of our product candidates. We may also have to take inventory write-offs and incur other charges and expenses for product candidate batches that fail to meet specifications, undertake costly remediation efforts or seek more costly manufacturing alternatives. As product candidates are developed through preclinical studies to later- stage clinical trials towards approval and commercialization, it is common that various aspects of the development program, such as manufacturing methods and formulation, are altered along the way in an effort to optimize processes and results. Changes in product candidate manufacturing or formulation may result in additional costs or delay. We previously engaged a third- party contract manufacturing organization (CMO) that specializes in the manufacture of vaccines to produce clinical- grade Olvi- Vec for all of our prior clinical trials. We have leased a building in San Diego, California and have established and equipped our own **cGMP** manufacturing facility in order to secure supplies for pivotal studies and commercial launch. This building is intended to give us control over key aspects of the supply chain for our products and product candidates and has additional space for expansion. We recently leased a second building in the same location which, when upgrades are completed, will provide laboratory capabilities and administrative offices. We have developed a new process for larger- scale manufacturing using a closed, mammalian- cell- based production system. This process is being implemented in our manufacturing facility and is intended to produce Olvi- Vec and other clinical products for use in our subsequent clinical trials and in our commercial launches. We may also make further changes to our manufacturing facilities and processes at various points during development or commercialization, for a number of reasons, such as controlling costs, achieving scale, decreasing processing time, increasing manufacturing success rate **, improving product quality** or for other reasons. The manufacturing changes could require changes in raw materials, components and services that are obtained from third- party suppliers. The inability of suppliers to provide those supplies or services or delays in acquiring the supplies or services would delay the manufacture of clinical or commercial product supplies. These changes carry the risk that they will not achieve their intended objectives, and any of these changes could cause our product candidates to perform differently and affect the results of our planned or future clinical trials. In some circumstances, changes in the facility or the manufacturing process, as was done with regard to changing to mammalian- cell manufacture, require notification to, or authorization by the FDA or a comparable foreign regulatory authority, which may be delayed or which we may never receive. Such changes may also require, prior to undertaking more advanced clinical trials, additional ~~ex vivo~~ **non- clinical** or clinical testing, to show the comparability of the product used in earlier clinical phases or at earlier portions of a trial to the product used in later clinical phases or later portions of the trial. For example, we previously modified our manufacturing process and had to demonstrate **analytical** comparability to the FDA in order to use Olvi- Vec manufactured by this process in our ongoing Phase 3 PRROC trial. Any future changes to our manufacturing process may similarly require comparability assessments by the FDA and could delay clinical trials or, if **the product of** the modified manufacturing process is not comparable, result in inconsistencies in trial results that may be difficult to explain. Even if the FDA agrees the products are comparable, the products may, in fact, perform differently and affect the results of our ongoing, planned or future clinical trials. This could delay completion of clinical trials, require the conduct of bridging clinical trials or studies, require the repetition of one or more clinical trials, increase clinical trial costs, delay approval of our product candidates and / or jeopardize our ability to commence product sales and generate revenue. We may rely on CMOs to conduct large- scale manufacture of Olvi- Vec in the future. The inability to identify and contract with suitable CMOs or their failure to meet their obligations to us could affect our ability to develop or commercialize Olvi- Vec in a timely manner. If the FDA, state or a comparable foreign regulatory authority does not approve our manufacturing facility for the manufacture of our product candidates or if it withdraws any such approval in the future, or our current facility is unable to meet our volume requirements, we may need to find alternative manufacturing facilities, which may significantly impact our ability to develop, obtain regulatory approval for or market our product candidates, if approved. Any alternative manufacturing facility would require obtaining the necessary equipment and materials and, if a third- party manufacturer, the necessary manufacturing know-

how, which may take substantial time and investment. We must also receive FDA approval for the use of any manufacturing facility for commercial supply. In such instance, we may need to enter into an appropriate third- party relationship. We may not succeed in our efforts to establish manufacturing relationships or other alternative arrangements for any of our product candidates or programs. Any product candidates we develop compete with other products and product candidates for access to manufacturing facilities. There are a limited number of manufacturers that operate under cGMP regulations that are both capable of manufacturing and filling our viral product for us and willing to do so. Reliance on third- party providers for certain manufacturing activities will reduce our control over these activities but will not relieve us of our responsibility to ensure compliance with all required regulations. Under certain circumstances, these third- party providers may be entitled to terminate their engagements with us. If a third- party provider terminates its engagement with us, or does not successfully carry out its contractual duties, meet expected deadlines or manufacture Olvi- Vec or any other product candidates in accordance with regulatory requirements, or if there are disagreements between us and a third- party provider, we may need to identify and qualify replacement suppliers, which may not be readily available or available on acceptable terms. In this instance, we may not be able to complete, or may be delayed in completing, the preclinical studies required to support future IND submissions, the clinical trials required for approval, and commercial supply of Olvi- Vec or any other product candidate, which would thereby have a negative impact on our business, financial condition, results of operations and prospects. If we are unable to manufacture and release any product candidates in the volumes that we require on a timely basis, or fail to comply with stringent regulations applicable to biopharmaceutical manufacturers, we may face delays in the development and commercialization of, or be unable to meet demand for, any product candidates, and may lose potential revenues. We intend to self- manufacture our clinical trial and commercial product supplies for the foreseeable future. We currently have only one manufacturing facility for use in our clinical trials. Our clinical product supply may be limited, interrupted, or of unsatisfactory quality or may be unavailable at acceptable prices. Any delays in obtaining adequate supplies of our product candidates that meet the necessary quality standards may delay our development or commercialization. We may be unable to comply with our specifications, applicable cGMP requirements or other FDA, state or foreign regulatory requirements of our product candidates for clinical trials and, if approved, commercial supply, and will be subject to FDA and comparable foreign regulatory authority inspection. These requirements include the qualification and validation of our manufacturing equipment and processes. We may not be able to develop, retain or acquire the internal expertise and resources necessary for effectively managing our ongoing manufacturing operations and complying with these requirements. Poor control of production processes can lead to the introduction of adventitious agents or other contaminants, or to inadvertent changes in the properties or stability of a product candidate that may not be detectable in final product testing. If we cannot successfully manufacture material that conforms to our specifications and the strict regulatory requirements of the FDA or other regulatory authorities, we will not be able to secure or maintain regulatory approval for our manufacturing facility. Any such deviations may also require remedial measures that may be costly and / or time- consuming for us to implement, particularly in areas relating to operations, quality, regulatory, facilities and information technology. Any such remedial measures imposed upon us may include the temporary or permanent suspension of a clinical trial or the temporary or permanent closure of our facility and could materially harm our business. A failure to comply with the applicable regulatory requirements, including periodic regulatory inspections, may result in regulatory enforcement actions against us or our raw material and component suppliers (including fines and civil and criminal penalties, including imprisonment), suspension or restrictions of production, injunctions, delay or denial of product approval or supplements to approved products, clinical holds or termination of clinical trials, warning or untitled letters, regulatory authority communications warning the public about safety issues with the product candidate, refusal to permit the import or export of the products, product seizure, detention, or recall, operating restrictions, consent decrees, withdrawal of product approval, environmental or safety incidents and other liabilities. If the safety of any quantities supplied is compromised due to our failure or our raw material and component suppliers' failure to adhere to applicable laws or for other reasons, we may not be able to obtain regulatory approval for or successfully commercialize our product candidates. Any problems or delays we experience in commercial- scale manufacturing of a product candidate or component may result in a delay in product development timelines and FDA or comparable foreign regulatory authority approval of the product candidate or may impair our ability to manufacture commercial quantities or such quantities at an acceptable cost and quality, which could result in the delay, prevention, or impairment of clinical development and commercialization of any product candidates and may materially harm our business, financial condition, results of operations, stock price and prospects. Risks Related to Reliance on Third Parties We rely, and expect to continue to rely, on third parties to supply and quality- test the ingredients for our product candidates and components for our manufacturing process, and to package and distribute our products. While we are responsible for the manufacturing of our product candidates, drug substance and drug product, reliance on raw material and component suppliers entails risks, including: ● reduced control for certain aspects of our manufacturing activities; ● termination or nonrenewal of the applicable supplier and service agreements in a manner or at a time that is costly or damaging to us; ● variability of properly released raw materials between batches from a single supplier or between suppliers; ● the possible breach by our third- party suppliers and service providers of our agreements with them; ● the failure of our third- party suppliers and service providers to comply with applicable regulatory requirements; ● the inability to provide adequate supplies of our product; ● disruptions to the operations of our third- party suppliers and service providers caused by conditions unrelated to our business or operations, including the bankruptcy of the manufacturer or service provider; and ● the possible misappropriation of our proprietary information, including our trade secrets and know- how. Any failure or refusal to supply our product candidates, raw materials or components for our product candidates that we may develop could delay, prevent or impair our clinical development or commercialization efforts. In addition, we do not have any long- term commitments or guaranteed prices from our suppliers of raw materials, manufacturing equipment components or devices or combination products. In particular, any change in our suppliers could require significant effort and expertise because there may be a limited number of qualified replacements. Further, the terms of any new arrangement could be less favorable and transfer

costs relating to technology and processes could be significant. Any of these events could lead to clinical trial delays or failure to obtain regulatory approval, impact our ability to successfully commercialize any of our product candidates or otherwise harm our business, financial condition, results of operations, stock price and prospects. Some of these events could be the basis for FDA or other regulatory authority action, including injunction, recall, seizure or total or partial suspension of product manufacture. We rely, and expect to continue to rely, on third parties to conduct, supervise, and monitor our preclinical studies and clinical trials. If those third parties do not perform satisfactorily, including failing to meet deadlines for the completion of such trials or failing to comply with regulatory requirements, we may be unable to obtain regulatory approval for our product candidates or any other product candidates that we may develop in the future. We rely, and will rely, on third- party CROs, study sites and others to conduct, supervise, and monitor our preclinical studies and clinical trials for our product candidates. We expect to continue to rely on third parties, such as CROs, clinical data management organizations, medical institutions, and clinical investigators, to conduct our preclinical studies and clinical trials. Although we have agreements governing their activities, we have limited influence over their actual performance and control only certain aspects of their activities. The failure of these third parties to successfully carry out their contractual duties or meet expected deadlines could substantially harm our business because we may be delayed in completing or unable to complete the studies required to support future approval of our product candidates, or we may not obtain marketing approval for or commercialize our product candidates in a timely manner or at all. Moreover, these agreements might terminate for a variety of reasons, including a failure to perform by the third parties. If we need to enter into alternative arrangements, our product development activities would be delayed and our business, financial condition, results of operations, stock price and prospects may be materially harmed. Our reliance on these third parties for development activities will reduce our control over these activities. Nevertheless, we are responsible for ensuring that each of our studies is conducted in accordance with the applicable protocol, legal, regulatory, and scientific standards and our reliance on third parties does not relieve us of our regulatory responsibilities. For example, we will remain responsible for ensuring that each of our trials is conducted in accordance with the general investigational plan and protocols for the trial. We must also ensure that our preclinical ~~trials~~ **studies** are conducted in accordance with the FDA' s Good Laboratory Practice regulations, as appropriate. Moreover, the FDA and comparable foreign regulatory authorities require us to comply with standards, commonly referred to as GCP guidelines, for conducting, recording, and reporting the results of clinical trials to assure that data and reported results are credible and accurate and that the rights, integrity, and confidentiality of trial participants are protected. Regulatory authorities enforce these requirements through periodic inspections of trial sponsors, clinical investigators, and trial sites. If we or any of our third parties fail to comply with applicable GCPs or other regulatory requirements, we or they may be subject to enforcement or other legal actions. For example, the data generated in our trials may not have been appropriately collected or documented, and thereby be deemed unreliable and the FDA or comparable foreign regulatory authorities may conclude the study findings are not adequate and require us to perform additional studies. In addition, we will be required to report certain financial interests of our third- party investigators if these relationships exceed certain financial thresholds or meet other criteria. The FDA or comparable foreign regulatory authorities may question the integrity of the data from those clinical trials conducted by investigators who may have conflicts of interest. We cannot assure you that upon inspection by a given regulatory authority, such regulatory authority will determine that any of our trials comply with the applicable regulatory requirements. In addition, our clinical trials must be conducted with product candidates that were produced under cGMP regulations. Failure to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory approval process. We also are required to register certain clinical trials and post the results of certain completed clinical trials on one or more government- sponsored databases, e. g., ClinicalTrials. gov, within specified timeframes. Failure to do so can result in enforcement actions and adverse publicity. The third parties with which we work may also have relationships with other entities, some of which may be our competitors, for whom they may also be conducting trials or other therapeutic development activities that could harm our competitive position. In addition, such third parties are not our employees, and except for remedies available to us under our agreements with such third parties we cannot control whether or not they devote sufficient time and resources to our ongoing clinical, non- clinical, and preclinical programs. If these third parties do not successfully carry out their contractual duties, meet expected deadlines or conduct our preclinical studies or clinical trials in accordance with regulatory requirements or our stated protocols, if they need to be replaced or if the quality or accuracy of the data they obtain is compromised due to the failure to adhere to our protocols, regulatory requirements or for other reasons, our trials may be repeated, extended, delayed, or terminated; we may not be able to obtain, or may be delayed in obtaining, marketing approvals for our product candidates; we may not be able to, or may be delayed in our efforts to, successfully commercialize our product candidates; or we or they may be subject to regulatory enforcement actions. As a result, our results of operations and the commercial prospects for our product candidates would be harmed, our costs could increase and our ability to generate revenues could be delayed. To the extent we are unable to successfully identify and manage the performance of third- party service providers in the future, our business, financial condition, results of operations, stock price and prospects may be materially harmed. If any of our relationships with these third parties terminate, we may not be able to enter into arrangements with alternative providers or to do so on commercially reasonable terms. Switching or adding additional third parties involves additional cost and requires management time and focus. In addition, there is a natural transition period when a new third party commences work. As a result, delays could occur, which could compromise our ability to meet our desired development timelines. We will also rely on other third parties to store and distribute our product candidates for the clinical trials that we conduct. Any performance failure on the part of our distributors could delay clinical development, marketing approval, or commercialization of our product candidates, which could result in additional losses and deprive us of potential product revenue. We have entered into, and may in the future enter into, certain collaboration agreements and strategic alliances to maximize the potential of our product candidates, and we may not realize the anticipated benefits of such collaborations or alliances. We expect to continue to form collaborations in the future with respect to our product candidates, but may be unable to do so or to

realize the potential benefits of such transactions, which may cause us to alter or delay our development and commercialization plans. We may form or seek other strategic alliances, joint ventures, or collaborations, or enter into additional licensing arrangements with third parties that we believe will complement or augment our development and commercialization efforts with respect to product candidates we develop. These transactions can entail numerous operational and financial risks, including exposure to unknown liabilities, disruption of our business and diversion of our management' s time and attention in order to manage a collaboration. We also cannot be certain that, following a strategic transaction or license, we will achieve the revenue or other anticipated benefits that led us to enter into the arrangement. Additionally, the success of any collaboration arrangements may depend on the efforts and activities of our collaborators. Collaborators generally have significant discretion in determining the efforts and resources that they will apply to these arrangements. Disagreements between parties to a collaboration arrangement regarding clinical development and commercialization matters can lead to delays in the development process or commercializing the applicable product candidate and, in some cases, termination of the collaboration arrangement. These disagreements can be difficult to resolve if neither of the parties has final decision- making authority. If we are not able to establish future collaborations on commercially reasonable terms, we may have to alter our development and commercialization plans for one or more of our other development programs. We face significant competition in seeking appropriate additional collaborators. Our ability to reach a definitive agreement for any collaboration will depend, among other things, upon our assessment of the collaborator' s resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator' s evaluation of a number of factors. If we are unable to reach agreements with suitable collaborators on a timely basis, on acceptable terms, or at all, we may have to curtail the development of a product candidate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to fund and undertake development or commercialization activities on our own, we may need to obtain additional expertise and additional capital, which may not be available to us on acceptable terms, or at all. If we fail to enter into collaborations and do not have sufficient funds or expertise to undertake the necessary development and commercialization activities, we may not be able to further develop our product candidates or bring them to market or continue to develop our product platform and our business may be materially and adversely affected. Our current and any future collaborations are not a guarantee of success, and all collaborations are as risky, or more risky, than undertaking the activities ourselves. Our current collaborations with TVAX and Newsoara, and potential future collaborations we might enter into for Olvi- Vec or our other product candidates, may pose a number of risks, including the following: ● collaborators may not perform their obligations as expected; ● collaborators may not pursue development and commercialization of product candidates that achieve regulatory approval or may elect not to continue or renew development or commercialization programs based on clinical trial results, changes in the collaborators' strategic focus or available funding, or external factors, such as an acquisition, that divert resources or create competing priorities; ● collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial or abandon a product candidate, repeat or conduct new clinical trials or require a new formulation of a product candidate for clinical testing; ● collaborators could fail to make timely regulatory submissions for a product candidate; ● collaborators may not comply with all applicable regulatory requirements or may fail to report safety data in accordance with all applicable regulatory requirements, which could subject them or us to regulatory enforcement actions; ● collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our products or product candidates if the collaborators believe that competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours; ● product candidates discovered in collaboration with us may be viewed by our collaborators as competitive with their own product candidates or products, which may cause collaborators to cease to devote resources to the commercialization of our product candidates; ● a collaborator with marketing and distribution rights to one or more of our product candidates that achieve regulatory approval may not commit sufficient resources to the marketing and distribution of such product candidate or product; ● disagreements with collaborators, including disagreements over proprietary rights, contract interpretation or the preferred course of development, might cause delays or termination of the research, development or commercialization of product candidates, might lead to additional responsibilities for us with respect to product candidates, or might result in litigation or arbitration, any of which would be time consuming and expensive; ● collaborators may not properly maintain or defend our intellectual property rights or may use our proprietary information in such a way as to invite litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential litigation; and ● collaborators may infringe the intellectual property rights of third parties, which may expose us to litigation and potential liability. For example, Newsoara is generally obligated under ~~our collaboration~~ **the Newsoara License** ~~agreement~~ **Agreement** to fund a Phase 2, open- label, randomized, and controlled clinical trial designed to evaluate the efficacy and safety of intravenously delivered Olvi- Vec oncolytic VACV for patients with recurrent NSCLC in the United States, which ~~began regulatory study startup in~~ **VIRO- 25 trial is now ongoing with** the first ~~half of~~ **patient dosed in October** ~~2023~~ **2024** . Newsoara has also agreed to reimburse us for the costs and expenses of a CRO to conduct certain startup activities for the NSCLC trial in the United States only, but is permitted to defer such reimbursement payments until the completion of its next round of financing, which Newsoara expects to occur in **late** ~~2024~~ **2025** . If Newsoara is unable or unwilling to provide this funding and / or reimbursement in a timely manner or at all, we would need to obtain the funding on our own and / or scale back or discontinue these clinical development activities. In addition, all of the risks relating to product development, regulatory approval and commercialization described in this Annual Report also apply to the activities of any of our current or future collaborators. Collaborations with biopharmaceutical companies and other third parties often are terminated or allowed to expire by the other party. Any such termination or expiration could adversely affect us financially and could harm our business reputation. If any collaborations we have entered into or might enter into do not result in the successful development and commercialization of products or if one of our collaborators subsequently terminates its agreement with us, we

may not receive any future research funding or milestone or royalty payments under such collaboration. If we do not receive the funding we expect under the agreements, our development of our product candidates could be delayed and we may need additional resources to develop our product candidates and our product platform. Additionally, if any collaborator of ours is involved in a business combination, the collaborator might deemphasize or terminate development or commercialization of any product candidate licensed to it by us. If one of our collaborators terminates its agreement with us, we may find it more difficult to attract new collaborators and our reputation in the business and financial communities could be adversely affected. We face significant competition in seeking appropriate collaborators. Our ability to reach a definitive agreement for any collaboration will depend, among other things, upon our assessment of the collaborator' s resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator' s evaluation of a number of factors. Disruptions at the FDA and other government agencies caused by funding shortages or global health concerns could hinder their ability to hire and retain key leadership and other personnel, or otherwise prevent new products and services from being developed or commercialized in a timely manner, 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, ability to hire and retain key personnel and accept the payment of user fees, and statutory, regulatory, and policy changes. Average review times at the agency have fluctuated in recent years as a result. In addition, government funding of other government agencies that fund research and development activities is subject to the political process, which is inherently fluid and unpredictable. Disruptions at the FDA and other agencies may also slow the time necessary for new drugs 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 employees and stop critical activities. **More recently, such agencies, including the FDA, have conducted layoffs and may, from time to time, conduct additional layoffs.** If a prolonged government shutdown **or significant layoffs** ~~occurs~~ **occur**, it could significantly impact the ability of the FDA ~~to timely review and process our regulatory submissions, which could have a material adverse effect on our business. Separately, the FDA and regulatory authorities outside the United States adopted restrictions or other policy measures in response to the COVID- 19 pandemic that diverted resources and delayed their attention to routine submissions. If a prolonged government shutdown occurs, or if global health concerns prevent the FDA or other regulatory authorities from conducting their regular inspections, reviews, or other regulatory activities, it could significantly impact the ability of the FDA or other regulatory authorities~~ to timely review and process our regulatory submissions, which could have a material adverse effect on our business. Risks Related to Commercialization If we, or our collaboration partners, are unable to successfully commercialize any product candidate for which we receive regulatory approval, or experience significant delays in doing so, our business will be materially harmed. If we, or our collaboration partners, are successful in obtaining marketing approval from applicable regulatory authorities for Olvi-Vec or any other product candidate, our ability to generate revenues from any such products will depend on our success in: ● launching commercial sales of such products, whether alone or in collaboration with others; ● receiving approved labels with claims that are necessary or desirable for successful marketing, and that do not contain safety or other limitations that would impede our ability to market such products; ● creating market demand for such products through marketing, sales and promotion activities; ● hiring, training, and deploying a sales force or contracting with third parties to commercialize such products in the United States; ● creating partnerships with, or offering licenses to, third parties to promote and sell such products in foreign markets where we receive marketing approval; ● manufacturing such products in sufficient quantities and at acceptable quality and cost to meet commercial demand at launch and thereafter; ● establishing and maintaining agreements with wholesalers, distributors, and group purchasing organizations on commercially reasonable terms; ● maintaining patent and trade secret protection and regulatory exclusivity for such products; ● achieving market acceptance of such products by patients, the medical community, and third- party payors; ● achieving coverage and adequate reimbursement from third- party payors for such products; ● achieving patients' willingness to pay out- of- pocket in the absence of such coverage and adequate reimbursement from third- party payors; ● competing effectively with other therapies; and ● maintaining a continued acceptable safety profile of such products following launch. To the extent we are not able to do any of the foregoing, our business, financial condition, results of operations, stock price and prospects will be materially harmed. We face significant competition from other biopharmaceutical and biotechnology companies, academic institutions, government agencies, and other research organizations, which may result in others discovering, developing or commercializing products more quickly or marketing them more successfully than us. If their product candidates are shown to be safer or more effective than ours, our commercial opportunity may be reduced or eliminated. The development and commercialization of cancer immunotherapy products is characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary rights. We face competition with respect to our current product candidates and will face competition with respect to any product candidates that we may seek to develop or commercialize in the future, from major biopharmaceutical companies, specialty biopharmaceutical companies, and biotechnology companies worldwide. There are a number of large biopharmaceutical and biotechnology companies that currently market and sell products or are pursuing the development of products for the treatment of solid tumors, including viral immunotherapy and cancer vaccine approaches. Potential competitors also include academic institutions, government agencies, and other public and private research organizations that conduct research, seek patent protection, and establish collaborative arrangements for research, development, manufacturing, and commercialization. We are aware of a number of companies developing competing therapies for the treatment of cancer which generally fall into the following treatment groups: ● Oncolytic viral immunotherapies, including Amgen' s IMLYGIC (talimogene laherparepvec), the only FDA- approved oncolytic immunotherapy, which is approved for the local treatment of unresectable cutaneous, subcutaneous, and nodal lesions in patients with melanoma recurrent after initial surgery and is in development for several other indications ~~,~~ and **Daiichi Sankyo Company, Limited' s DELYTACT (teserpaturev / G47 Δ), which received conditional and time- limited marketing**

approval in Japan as a regenerative medical product for treatment of malignant glioma. ~~other~~ **Other** oncolytic ~~viruses~~ **viral immunotherapies** in development **include those** by companies such as **Akamis Bio,** AstraZeneca PLC (AstraZeneca), Boehringer Ingelheim, **Circio Holding ASA,** CG Oncology, Inc., Candel Therapeutics, ~~Inc., Daiichi Sankyo Company, Limited, DNAtrix~~ Inc., Imugene Limited, Johnson & Johnson, Merck & Co., Inc. (Merck), Oncolytics Biotech Inc., Otsuka Holdings Co. Ltd., Pfizer Inc., ~~PsiOxus Therapeutics, Ltd.~~, Regeneron Pharmaceuticals, Inc., Replimune Group, Inc., SillaJen, Inc. (SillaJen) ~~, Targovax USA~~, Theriva Biologics, Inc., Transgene SA (Transgene) ~~, Turnstone Biologics Corp.~~ and Vyriad, Inc.; ● Approved immunotherapy antibodies and immunotherapy agents in clinical development, including antibody agents, bispecific T cell engagers, including those in development by Amgen, and immuno- oncology companies focused on IL- 12, such as Ziopharm Oncology Inc.; ● Cancer vaccines, including personalized vaccines and those targeting tumor neoantigens, including neoantigen therapies in development by companies such as Advaxis, Inc., Agenus Inc., AstraZeneca, Bavarian Nordic A / S, BioNTech SE, Genocea Biosciences, Inc., Gritstone Oncology, Inc., Heat Biologics, Inc., ImmunityBio, Inc., IMV Inc., Moderna, Inc., SOTIO a. s., Transgene, and VBI Vaccines Inc.; ● Cell- based therapies, including tumor infiltrating lymphocytes in development by Iovance Biotherapeutics, Inc., **TVAX** ~~TVaxBiomedical, Inc.~~ and Turnstone Biologics, Corp. and approved and in- development CAR T cell therapies, including those commercialized by BMS, Gilead Sciences Inc. and Novartis AG, T cell receptor and NK cell therapies; ● Therapies aimed at activating innate immunity such as those targeting stimulator of interferon genes protein (and toll- like receptors including those in development by Bristol- Myers Squibb Company, Checkmate Pharmaceuticals Inc., Chinook Therapeutics Inc., GlaxoSmithKline plc, Idera Pharmaceuticals, Inc., Merck, Mologen AG, Nektar Therapeutics, TriSalus Life Sciences, and UroGen Pharma Inc.; and ● Traditional cancer therapies, including chemotherapy, surgery, radiation and targeted therapies. We are aware of several other companies developing therapies based on VACV. To our knowledge, the only clinical product based on VACV that has advanced beyond Phase 1 clinical development is Pexa- Vec, being jointly developed by SillaJen and Transgene. Pexa- Vec has a different product profile from Olvi- Vec, including a different strain of VACV and different transgenes. In August 2019, SillaJen announced the discontinuation of its Phase 3 PHOCUS trial of Pexa- Vec in advanced liver cancer for futility. We are also aware of other companies either marketing or focused on developing competing therapies for the treatment of ovarian cancer, including PRROC: Currently marketed products for ovarian cancer include generic products cisplatin (manufactured by 18 companies), carboplatin (manufactured by 22 companies) **topotecan hydrochloride (8 manufacturers** and paclitaxel (manufactured by 19 companies), along with the following brand products (and generic manufacturers): Abbvie' s Elahere, Sanofi- Aventis' s Taxotere (17 manufacturers), Celgene Corp.' s Abraxane (one manufacturer), Esai Inc.' s Hexalen, Roche Holding AG' s (Roche) Xeloda, Roche / Genentech, Inc.' s Avastin (four manufacturers), Baxter Healthcare' s Cytoxan and Ifex, Etoposide (10 manufacturers), Eli Lilly and Company' s Gemzar (15 manufacturers) and Alimta (14 manufacturers), Pfizer Inc.' s CamPtosar (19 manufacturers), Janssen Pharmaceutical' s Doxil (one manufacturer), Aspen Pharmacare' s Alkeran ~~, Meitheal Pharmaceuticals' s Topotecan~~, Laboratoires Pierre Fabre' s Navelbine (four manufacturers), GSK' s Zejula, AstraZeneca' s Lynparza, and ~~Clovis Oncology~~ **pharmaand GMBH** ' s Rubraca. Product candidates in registration trials or later development for PRROC include: ● ~~Nemvaleukin alfa, an engineered interleukin- 2 by Mural Oncology; ●~~ Relacorilant, an anti- glucocorticoid, by Corcept Therapeutics Inc.; ~~and ●~~ Luveltamab tazevibulin, an anti- folate receptor alpha (FolRα) antibody drug conjugate (ADC), by Sutro Biopharma **; ● ● Navicixizumab, an anti- DLL4 / VEGF bispecific antibody, by OncXerna Therapeutics, Inc . in partnership with Mereo Biopharma Group PLC; ● Raludotatug deruxtecan, a CDH6 directed DXd ADC, developed by Daichii Sankyo; ● Anlotinib, a receptor tyrosine kinase inhibitor, developed by Advenchen Laboratories; and ● Afureserib, an ATP- competitive AKT inhibitor, developed by Laekna Therapeutics. We are also aware of other companies either marketing or focused on developing competing therapies for the treatment of SCLC: Currently marketed products for SCLC include topotecan hydrochloride (manufactured by 8 companies), Amgen' s IMDELLTRA, Jazz Pharmaceuticals' ZEPZELCA, Roche / Genentech, Inc.' s Tecentriq, AstraZeneca' s IMFINZI, Merck' s KEYTRUDA and Bristol Myers Squibb' s OPDIVO YERVOY. Product candidates in registration trials or later development for SCLC include: ● Nibrozetone, a dinitroazetidine radiosensitizer by EpicentRx; ● Tremelimumab, a monoclonal antibody CTLA- 4, by AstraZeneca; ● Ifinatamab deruxtecan, a B7- H3 directed ADC by Daiichi Sankyo and Merck; ● Tifcemalimab, a monoclonal antibody targeting B- and T- lymphocyte attenuator (BTLA), by Junshi Biosciences; ● Serplulimab, a monoclonal antibody targeting PD- 1 by Shanghai Henlius Biotech;** While certain of our product candidates may be used in combination with other drugs with different mechanisms of action, if and when marketed they will still compete with a number of drugs that are currently marketed or in development that also target cancer. To compete effectively with these drugs, our product candidates will need to demonstrate advantages in clinical efficacy and safety compared to these competitors when used alone or in combination with other drugs. Our commercial opportunities could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are easier to administer or are less expensive alone or in combination with other therapies than any products that we may develop alone or in combination with other therapies. Our competitors also may obtain FDA or comparable foreign regulatory authorities' approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market. In addition, our ability to compete may be affected in many cases by third- party payors' coverage and reimbursement decisions. Many of the companies with which we are competing or may compete in the future have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals, and marketing approved products than we do. Mergers and acquisitions in the biopharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. Early- stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These third parties compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial

sites and patient registration for clinical trials, as well as in developing or acquiring technologies complementary to, or necessary for, our programs. If we are unable to successfully compete with these companies, our business, financial condition, results of operations, stock price and prospects may be materially harmed. If we are unable to establish effective marketing, sales and distribution capabilities or enter into agreements with third parties to market and sell our product candidates, if they are approved, the revenues that we generate may be limited and we may never become profitable. We currently do not have a commercial infrastructure for the marketing, sale, and distribution of any products that we may develop. If and when our product candidates receive marketing approval, we intend to commercialize our product candidates on our own or in collaboration with others and potentially with pharmaceutical or biotechnology partners in other geographies. In order to commercialize our products, we must build our marketing, sales, and distribution capabilities or make arrangements with third parties to perform these services. We may not be successful in doing so. Should we decide to move forward in developing our own marketing capabilities, we may incur expenses prior to product launch or even approval in order to recruit a sales force and develop a marketing and sales infrastructure. If a commercial launch is delayed as a result of the FDA or comparable foreign regulatory authority requirements or other reasons, we would incur these expenses prior to being able to realize any revenue from sales of our product candidates. Even if we are able to effectively hire a sales force and develop a marketing and sales infrastructure, our sales force and marketing teams may not be successful in commercializing our product candidates. This may be costly, and our investment would be lost if we cannot retain or reposition our sales and marketing personnel. We may also or alternatively decide to collaborate with third- party marketing and sales organizations to commercialize any approved product candidates, in which event, our ability to generate product revenues may be limited. To the extent we rely on third parties to commercialize any products for which we obtain regulatory approval, we may receive less revenues than if we commercialized these products ourselves, which could materially harm our prospects. In addition, we would have less control over the sales efforts of any other third parties involved in our commercialization efforts, and could be held liable if they failed to comply with applicable legal or regulatory requirements. We have no prior experience in the marketing, sale, and distribution of biopharmaceutical products, and there are significant risks involved in building and managing a commercial infrastructure. The establishment and development of commercial capabilities, including compliance plans, to market any products we may develop will be expensive and time consuming and could delay any product launch, and we may not be able to successfully develop this capability. We will have to compete with other biopharmaceutical and biotechnology companies, including oncology- focused companies, to recruit, hire, train, manage, and retain marketing and sales personnel, which is expensive and time consuming and could delay any product launch. Developing our sales capabilities may also divert resources and management attention away from product development. In the event we are unable to develop a marketing and sales infrastructure, we may not be able to commercialize our product candidates, which could limit our ability to generate product revenues and materially harm our business, financial condition, results of operations, stock price and prospects. Factors that may inhibit our efforts to commercialize our product candidates include: ● the inability to recruit, train, manage, and retain adequate numbers of effective sales and marketing personnel; ● the inability of sales personnel to obtain access to physicians or educate adequate numbers of physicians on the benefits of prescribing our product candidates; ● our inability to effectively oversee a geographically dispersed sales and marketing team; ● the costs associated with training personnel, including sales and marketing personnel, on compliance matters and monitoring their actions; ● an inability to secure coverage and adequate reimbursement by third- party payors, including government and private health plans; ● the unwillingness of patients to pay out- of- pocket in the absence of coverage and adequate reimbursement from third- party payors; ● the clinical indications for which the products are approved and the claims that we may make for the products; ● limitations or warnings, including distribution or use restrictions, contained in the products' approved labeling; ● any distribution and use restrictions imposed by the FDA or comparable foreign regulatory authorities or to which we agree as part of a mandatory REMS or voluntary risk management plan; ● liability for our personnel, including sales or marketing personnel, who fail to comply with applicable law; ● the lack of complementary products to be offered by sales personnel, which may put us at a competitive disadvantage relative to companies with more extensive product lines; and ● unforeseen costs and expenses associated with creating an independent sales and marketing organization or engaging a contract sales organization. Even if any of our product candidates receive marketing approval, they may fail to achieve the degree of market acceptance by physicians, patients, hospitals, cancer treatment centers, third- party payors and others in the medical community necessary for commercial success. The revenues that we generate from their sales may be limited, and we may never become profitable. We have never commercialized a product candidate for any indication. Even if our product candidates are approved by the appropriate regulatory authorities for marketing and sale, they may not gain acceptance among physicians, patients, third- party payors, and others in the medical community. If any product candidates for which we obtain regulatory approval does not gain an adequate level of market acceptance, we could be prevented from or significantly delayed in achieving profitability. Market acceptance of our product candidates by the medical community, patients, and third- party payors will depend on a number of factors, some of which are beyond our control. For example, physicians are often reluctant to switch their patients and patients may be reluctant to switch from existing therapies even when new and potentially more effective or safer treatments enter the market. Efforts to educate the medical community and third-party payors on the benefits of our product candidates may require significant resources and may not be successful. If any of our product candidates is approved but does not achieve an adequate level of market acceptance, we could be prevented from or significantly delayed in achieving profitability. The degree of market acceptance of any product for which we receive marketing approval will depend on a number of factors, including: ● the efficacy of our product, including in combination with other cancer therapies; ● the commercial success of any cancer therapies with which our product may be co- administered; ● the prevalence and severity of adverse events associated with our product or those products with which it is co- administered; ● the clinical indications for which our product is approved and the approved claims that we may make with respect to the product; ● limitations or warnings contained in the FDA- approved labeling of the product or the labeling approved by comparable foreign

regulatory authorities, including potential limitations or warnings for our product that may be more restrictive than other competitive products; ● changes in the standard of care for the targeted indications for our product, which could reduce the marketing impact of any claims that we could make following FDA approval or approval by comparable foreign regulatory authorities, if obtained; ● the relative convenience and ease of administration of our product and any products with which it is co- administered; ● the cost of treatment compared with the economic and clinical benefit of alternative treatments or therapies; ● the availability of coverage and adequate reimbursement by third- party payors, such as private insurance companies and government healthcare programs, including Medicare and Medicaid; ● the ability to have our product placed on approved formularies; ● patients' willingness to pay out- of- pocket in the absence of such coverage and adequate reimbursement from third- party payors; ● the price concessions required by third- party payors to obtain coverage and adequate reimbursement; ● the extent and strength of our marketing and distribution of our product; ● the safety, efficacy, and other potential advantages over, and availability of, alternative treatments already used or that may later be approved; ● distribution and use restrictions imposed by the FDA or comparable foreign regulatory authorities with respect to our product or to which we agree as part of a REMS or voluntary risk management plan; ● the timing of market introduction of our product, as well as competitive products; ● our ability to offer our product for sale at competitive prices; ● the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies; ● the extent and strength of our raw material supplier and service provider support; ● the actions of companies that market any products with which our product is co- administered; ● the approval of other new products; ● adverse publicity about our product or any products with which it is co- administered, or favorable publicity about competitive products; and ● potential product liability claims. The size of the potential market for our product candidates is difficult to estimate and, if any of our assumptions are inaccurate, the actual markets for our product candidates may be smaller than our estimates. If the market opportunities for any product candidates we develop are smaller than we believe they are, our potential revenues may be adversely affected, and our business may suffer. The potential market opportunities for our product candidates are difficult to estimate and will depend in large part on the drugs with which our product candidates are co- administered and the success of competing therapies and therapeutic approaches. In particular, the market opportunity for viral immunotherapies is hard to estimate given that it is an emerging field with only one existing FDA-approved viral immunotherapy, T- VEC, which has yet to enjoy broad market acceptance. Our projections of both the number of people who have these diseases, as well as the subset of people with these diseases who have the potential to benefit from treatment with our product candidates, are based on estimates. Our estimates of the potential market opportunities are predicated on many assumptions, which may include industry knowledge and publications, third- party research reports, and other surveys. Although we believe that our internal assumptions are reasonable, these assumptions involve the exercise of significant judgment on the part of our management, are inherently uncertain, and their reasonableness has not been assessed by an independent source. 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 our product. If any of the assumptions proves to be inaccurate, the actual markets for our product candidates could be smaller than our estimates of the potential market opportunities. 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. Negative developments in the field of immuno- oncology could damage public perception of our oncolytic VACV platform and our product candidates, including Olvi- Vec, and negatively affect our business. The commercial success of our product candidates will depend in part on public acceptance of the use of cancer viral immunotherapies. Adverse events in clinical trials of our product candidates, including Olvi- Vec, or in clinical trials of others developing similar products and the resulting publicity, as well as any other negative developments with respect to the field of immuno- oncology that may occur in the future, including in connection with competitor therapies, or with respect to products with which our product is co- administered, could result in a decrease in demand for Olvi- Vec or any other product candidates that we may develop. These events could also result in the suspension, discontinuation, or clinical hold of or modification to our clinical trials. If public perception is influenced by claims that the use of cancer immunotherapies is unsafe, whether related to our therapies or those of our competitors, our product candidates may not be accepted by the general public or the medical community and potential clinical trial subjects may be discouraged from enrolling in our clinical trials. As a result, we may not be able to continue or may be delayed in conducting our development programs. As our product candidates consist of oncolytic VACVs, adverse developments in anti- cancer vaccines or clinical trials of other viral immunotherapy products based on viruses may result in a disproportionately negative effect for Olvi- Vec or our other product candidates as compared to other products in the field of immuno- oncology that are not based on viruses. We do not fully understand the biological characteristics of our therapeutic viruses, and their interactions with other drugs and the human immune and other defense systems, which may cause us to fail to demonstrate the safety and effectiveness of our product candidates in clinical trials. Therapeutic viruses are novel, and we are still determining the biological characteristics of these viruses. In addition, we are still investigating the response of the human immune system to our therapeutic viruses, and the immune system may play a role in limiting their tumor- killing effect. We also do not know the extent to which therapeutic viruses and our treatment processes may be toxic. Moreover, we do not understand all of the many factors that contribute to the formation of each individual patient' s cancer; these factors make each tumor unique. The novelty and scientific uncertainties regarding our therapeutic viruses and the uniqueness of human cancers from patient to patient increase the risk that we will not successfully develop our product candidates or prove their safety and effectiveness in clinical trials. Even if we succeed in developing our product candidates, our product candidates may not have a therapeutic effect in a broad patient population. Future negative developments in the field of immuno- oncology or the biopharmaceutical industry could also result in greater governmental regulation, stricter labeling requirements and potential regulatory delays in the testing or approvals of our products. Any increased scrutiny could delay or increase the costs of obtaining marketing approval for Olvi- Vec or our other

product candidates. Risks Related to Our Intellectual Property If we are unable to obtain, maintain and protect our intellectual property rights for our technology and product candidates, or if our intellectual property rights are inadequate, our competitive position could be harmed. Our commercial success will depend in part on our ability to obtain and maintain patent and other intellectual property protection in the United States and other countries with respect to our technology, including our oncolytic VACV platform, and Olvi- Vec, V2ACT Immunotherapy and our other product candidates. We also rely in part on trade secret, copyright and trademark laws, and confidentiality, licensing and other agreements with employees and third parties, all of which offer only limited protection. We seek to protect our proprietary position by filing and prosecuting patent applications in the United States and abroad related to our technology and product candidates. The patent positions of biotechnology and pharmaceutical companies generally are highly uncertain, involve complex legal and factual questions and have in recent years been the subject of much litigation. As a result, the issuance, scope, validity, enforceability and commercial value of our licensed patents and any patents we own are highly uncertain. The steps we have taken to protect our proprietary rights may not be adequate to preclude misappropriation of our proprietary information or infringement of our intellectual property rights, both inside and outside of the United States. Further, the examination process may require us to narrow the claims for our pending patent applications, which may limit the scope of patent protection that may be obtained if these applications issue. Our pending and future patent applications may not result in patents being issued that protect our product candidates, in whole or in part, or which effectively prevent others from commercializing competitive product candidates. The scope of a patent may also be reinterpreted after issuance. The rights that may be granted under our issued patents may not provide us with the proprietary protection or competitive advantages we are seeking. Even if our patent applications issue as patents, they may not issue in a form that will provide us with any meaningful protection, prevent competitors from competing with us or otherwise provide us with any competitive advantage. If we are unable to obtain and maintain patent protection for our technology or for Olvi- Vec, V2ACT Immunotherapy or our other product candidates, or if the scope of the patent protection obtained is not sufficient, our competitors could develop and commercialize products similar or superior to ours in a non- infringing manner, and our ability to successfully commercialize Olvi- Vec, V2ACT Immunotherapy or our other product candidates and future technologies may be adversely affected. It is also possible that we will fail to identify patentable aspects of inventions made in the course of our development and commercialization activities before it is too late to obtain patent protection on them. In addition, the patent prosecution process is expensive, time- consuming and complex, and we may not be able to file, prosecute, maintain, enforce or license all necessary or desirable patent applications at a reasonable cost or in a timely manner. 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, collaborators, 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. It is also possible that we will fail to identify patentable aspects of our research and development efforts in time to obtain patent protection. For the core technology in our CHOICE platform and Olvi- Vec and our other product candidates, patents have issued and applications are pending at each of the U. S. provisional, Patent Cooperation Treaty, and national stages with, at a minimum, filings submitted to the United States, European Patent Conventions and Japan. As of December 31, ~~2023~~ **2024** , our patent portfolio consisted of ~~19~~ **11** issued U. S. patents, ~~one~~ **1** pending U. S. patent application, ~~14~~ **9** issued foreign patents, and ~~six~~ **7** pending foreign patent applications, which relate generally to the composition of our current and potential future products, and their methods of use. V2ACT **LLC** has **exclusive rights to V2ACT Immunotherapy under** one issued U. S. patent, one pending U. S. patent application and two pending non- U. S. patent applications. Any future provisional patent applications are not eligible to become issued patents until, among other things, we file a non- provisional patent application within 12 months of filing of one or more of our related provisional patent applications. If we do not timely file any non- provisional patent applications, we may lose our priority date with respect to our provisional patent applications and any patent protection on the inventions disclosed in our provisional patent applications. Although we intend to timely file non- provisional patent applications relating to our provisional patent applications, we cannot predict whether any of our future patent applications will result in the issuance of patents that effectively protect our technology or Olvi- Vec, V2ACT Immunotherapy or our other product candidates, or if any of our future issued patents will effectively prevent others from commercializing competitive products. We may be subject to a third- party pre- issuance submission of prior art to the U. S. Patent and Trademark Office (USPTO). 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 until they are issued as a patent. Therefore, we cannot be certain that we were the first to make the inventions claimed in our pending patent applications, or that we were the first to file for patent protection of such inventions. Our pending applications cannot be enforced against third parties practicing the inventions claimed in such applications unless and until a patent issues from such applications with a claim that covers infringing third- party activity. Because the issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, issued patents that we license from third parties or own in the future may be challenged in the courts or patent offices in the United States and abroad, including through opposition proceedings, derivation proceedings, post- grant review, inter partes review, interference proceedings or litigation. Such proceedings may result in the loss of patent protection, the narrowing of claims in such patents or the invalidity or unenforceability of such patents, which could limit our ability to stop others from using or commercializing similar or identical products, or limit the duration of the patent protection for our technology. Protecting against the unauthorized use of our patented inventions, trademarks and other intellectual property rights is expensive, time consuming, difficult and in some cases may not be possible. In some cases, it may be difficult or impossible to detect third- party infringement or misappropriation of our intellectual property rights, even in relation to issued patent claims, and proving any such infringement may be even more difficult. If we are unable to obtain, maintain, and protect our intellectual property, our competitive advantage could be harmed, and it could result in a material adverse effect on our business, financial condition, results of operations, stock price and

prospects. If we fail to comply with our obligations in the agreements under which we may license intellectual property rights from third parties or otherwise experience disruptions to our business relationships with our licensors, we could lose intellectual property rights that are important to our business. We may need to obtain licenses from others to advance our research and development activities or allow the commercialization of our current or future product candidates. We expect any such license agreements will impose various development, diligence, commercialization, and other obligations on us. In spite of our efforts, our licensors 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 the intellectual property under any such license agreements. If such in- licenses were to be terminated, or if the underlying patents were to fail to provide the intended exclusivity, competitors or other third parties would have the freedom to seek regulatory approval of, and to market, products identical to ours and we may be required to cease our development and commercialization our product candidates. Any of the foregoing could have a material adverse effect on our competitive position, business, financial conditions, results of operations, and prospects. Moreover, disputes may arise regarding intellectual property subject to a licensing agreement, including: ● the scope of rights granted under the license agreement and other interpretation- related issues; ● the extent to which our product candidates, technology and processes infringe on intellectual property of the licensor that is not subject to the licensing agreement; ● the sublicensing of patent and other rights under our collaborative development relationships; ● our diligence obligations under the license agreement and what activities satisfy those diligence obligations; ● the inventorship and ownership of inventions and know- how resulting from the joint creation or use of intellectual property by our licensors and us and our partners; and ● the priority of invention of patented technology. In addition, the agreements under which we may license intellectual property or technology from third parties are likely to be complex, and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology, or increase what we believe to be our financial or other obligations under the relevant agreement, either of which could have a material adverse effect on our business, financial condition, results of operations, and prospects. Moreover, if disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on commercially acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates, which could have a material adverse effect on our business, financial conditions, results of operations, and prospects. If we are unable to protect the confidentiality of our proprietary information and know- how, the value of our technology and products could be adversely affected. In addition to seeking patent protection, we also rely on other proprietary rights, including protection of trade secrets, know- how and confidential and proprietary information. To maintain the confidentiality of our trade secrets and proprietary information, we enter into confidentiality agreements with our employees, consultants, collaborators, contractors, and other third parties who have access to our trade secrets. Our agreements with employees and consultants also provide that any inventions conceived by the individual employee or consultant in the course of rendering services to us shall be our exclusive property. However, we may not obtain these agreements in all circumstances, and individuals with whom we have these agreements may not comply with their terms. 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. In addition, we cannot be certain that our trade secrets and other confidential proprietary information will not be disclosed or that competitors will not otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques. In the event of unauthorized use or disclosure of our trade secrets or proprietary information, these agreements, even if obtained, may not provide meaningful protection, particularly for our trade secrets or other confidential information. To the extent that our employees, consultants or contractors use technology or know- how owned by third parties in their work for us, disputes may arise between us and those third parties as to the rights in related inventions. Adequate remedies may not exist in the event of unauthorized use or disclosure of our confidential information including a breach of our confidentiality agreements. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive, and time consuming, and the outcome is unpredictable. In addition, some courts in and outside of the United States are less willing or unwilling to protect trade secrets. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor or other third party, we would have no right to prevent them from using that technology or information to compete with us. The disclosure of our trade secrets or the independent development of our trade secrets by a competitor or other third party would impair our competitive position and may materially harm our business, financial condition, results of operations, stock price and prospects. Third parties may initiate legal proceedings alleging that we are infringing their intellectual property rights, the outcome of which would be uncertain and could harm our business. Our commercial success depends on our ability and the ability of any future collaborators to develop, manufacture, market and sell Olvi- Vec and our other product candidates, and to use our related 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. We may become party to, or threatened with, adversarial proceedings or litigation regarding intellectual property rights with respect to our current and any other future product candidates, including interference proceedings, post- grant review, inter partes review and derivation proceedings before the USPTO. Third parties may assert infringement or other intellectual property claims against us based on existing patents or patents that may be granted in the future. Numerous U. S. and foreign- issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we are pursuing development candidates. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that we may be subject to claims of infringement of the patent rights of third parties. If we are found to infringe a third party' s intellectual property rights, and we are unsuccessful in demonstrating that such intellectual property rights are invalid or unenforceable, we could be

required to obtain a license from such third party to continue developing, manufacturing and commercializing Olvi- Vec and our other product candidates. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be non- exclusive, thereby giving our competitors and other third parties access to the same technologies licensed to us, and it could require us to make substantial licensing and royalty payments. We also could be forced, including by court order, to cease developing, manufacturing, and commercializing Olvi- Vec or our other product candidates. In addition, in any such proceeding or litigation, 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. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations, stock price and prospects. Any claims by third parties that we have misappropriated their confidential information or trade secrets could have a similar material adverse effect on our business. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business. Parties making claims against us may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation or administrative proceedings, there is a risk that some of our confidential information could be compromised by disclosure. In addition, any uncertainties resulting from the initiation and continuation of any litigation could have material adverse effect on our ability to raise additional funds or otherwise have a material adverse effect on our business, results of operations, financial condition and prospects. Furthermore, we plan to develop our product candidates in combination with products developed by companies that may be covered by patents or licenses held by those entities to which we do not have a license or a sublicense. In the event that a labeling instruction is required in product packaging recommending that combination, we could be accused of, or held liable for, infringement of the third- party patents covering the product candidate or product recommended for administration with Olvi- Vec or our other product candidates. In such a case, we could be required to obtain a license from the other company or institution to use the required or desired package labeling, which may not be available on commercially reasonable terms, or at all. We may not be able to protect our intellectual property and proprietary rights throughout the world. Filing, prosecuting and defending patents on our technology 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. In addition, the laws and practices of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop and / or manufacture their own products, and 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 products and our patent claims or other intellectual property rights may not be effective or sufficient to prevent them from so competing. Many companies have encountered significant problems in protecting and defending intellectual property rights in certain foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the granting or enforcement of patents, trade secrets and other intellectual property protection, particularly those relating to biopharmaceuticals, which could make it difficult for us to obtain patent rights or stop the infringement of our patents or marketing of competing products in violation of our intellectual property and proprietary rights generally in those countries. Proceedings to enforce our intellectual property and proprietary rights in foreign jurisdictions could result in substantial cost and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate, and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to protect and enforce our intellectual property and proprietary rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property we develop or license. In addition, the laws of certain foreign countries may not protect our rights to the same extent as the laws of the United States, and those foreign laws may also be subject to change. For example, methods of treatment and manufacturing processes may not be patentable in certain jurisdictions, and the requirements for patentability may differ in certain countries. Furthermore, biosimilar product manufacturers or other competitors may challenge the scope, validity and enforceability of our patents, requiring us to engage in complex, lengthy and costly litigation or proceedings. Moreover, many countries have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. 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 are forced to grant a license to third parties with respect to any patents relevant to our business, our competitive position may be impaired, and our business and results of operations may be adversely affected. Obtaining and maintaining patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non- compliance with these requirements. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process and to maintain patents after they are issued. For example, periodic maintenance fees, renewal fees, annuity fees and various other government fees on issued patents and patent applications often must be paid to the USPTO and foreign patent agencies over the lifetime of our licensed patents or any patents we own. In certain circumstances, we may rely on future licensing partners to take the necessary action to comply with these requirements with respect to licensed intellectual property. Although an unintentional lapse can be cured for a period of time by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant

jurisdiction. Non- compliance events that could result in abandonment or lapse of a patent or patent application include, but are not limited to, failure to respond to official actions within prescribed time limits, non- payment of fees and failure to properly legalize and submit formal documents. If we fail to obtain and maintain the patents and patent applications covering our products or procedures, we may not be able to stop a competitor from marketing products that are the same as or similar to Olvi-Vec or our other product candidates, which could have a material adverse effect on our business. Changes to the patent law in the United States and other jurisdictions could diminish the value of patents in general, thereby impairing our ability to protect Olvi- Vec, V2ACT Immunotherapy and our other product candidates. As is the case with other biopharmaceutical companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biopharmaceutical industry involves 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 in the United States or other jurisdictions in which we have or seek patent protection could increase the uncertainties and costs surrounding the prosecution of patent applications and the enforcement or defense of issued patents. Patent reform legislation in the United States and other countries, including the Leahy- Smith America Invents Act (the “Leahy- Smith Act”) signed into law in the United States on September 16, 2011, could increase those uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents. The Leahy- Smith Act includes a number of significant changes to U. S. patent law. These include provisions that affect the way patent applications are prosecuted, redefine prior art and provide more efficient and cost- effective avenues for competitors to challenge the validity of patents. These include allowing third- party submission of prior art to the USPTO during patent prosecution and additional procedures to attack the validity of a patent by USPTO administered post- grant proceedings, including post- grant review, inter partes review, and derivation proceedings. After March 2013, under the Leahy- Smith Act, the United States transitioned to a first inventor to file system in which, assuming that the other statutory requirements are met, the first inventor to file a patent application will be entitled to the patent on an invention regardless of whether a third party was the first to invent the claimed invention. However, the Leahy- Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business, financial condition, results of operations, stock price and prospects. The U. S. Supreme Court has ruled on several patent cases in recent years, either narrowing the scope of patent protection available in certain circumstances or weakening the rights of patent owners in certain situations. Depending on future actions by the U. S. Congress, the U. S. courts, the USPTO and the relevant law-making bodies in other countries, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future. We may become involved in lawsuits to protect or enforce our intellectual property, which could be expensive, time- consuming and unsuccessful and have a material adverse effect on the success of our business. Competitors may infringe our licensed patents or any patent we own, or misappropriate or otherwise violate our intellectual property rights. Litigation may be necessary in the future to enforce or defend our intellectual property rights, to protect our trade secrets, or to determine the validity and scope of our own intellectual property rights or the proprietary rights of others. If we were to initiate legal proceedings against a third party to enforce a patent covering our product candidates, the defendant could counterclaim that the patent covering our product candidate is invalid and / or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity and / or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness, written description 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. The outcome following legal assertions of invalidity and unenforceability is unpredictable. Our licensed patents and any patents we own in the future may become involved in priority or other intellectual property related disputes. Interference or derivation proceedings provoked by third parties or brought by us or declared by the USPTO may be necessary to determine the priority of inventions with respect to our patents or patent applications. Also, third parties may initiate legal proceedings against us to challenge the validity or scope of our owned or licensed intellectual property rights. These proceedings can be expensive and time consuming. Many of our current and potential competitors have the ability to dedicate substantially greater resources to conduct intellectual property related litigations or proceedings than we can. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. Accordingly, despite our efforts, we may not be able to prevent third parties from infringing upon or misappropriating our intellectual property. Litigation and other intellectual property related proceedings could result in substantial costs and diversion of management resources, which could harm our business and financial results. In addition, in an infringement proceeding, a court may decide that a patent owned by or licensed to us is invalid or unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation or other intellectual property related proceeding could put one or more of our patents at risk of being invalidated, held unenforceable or interpreted narrowly. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation in the United States, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. There could also be public announcements of the results of hearings, motions or other interim proceedings or developments in any such proceedings. If securities analysts or investors perceive these results to be negative, it could have a material adverse effect on the price of shares of our common stock, and could have a material adverse effect on our ability to raise the funds necessary to continue our clinical trials, continue our research programs, license necessary technology from third parties, or enter into development partnerships that would help us bring our product candidates to market. Any of the foregoing may have a material adverse effect our business, financial condition, results of operations, stock price and prospects. We may be subject to claims by third parties asserting that we, our employees or any future collaborators have misappropriated their intellectual property, or claiming ownership of what

we regard as our own intellectual property. Many of our employees, including our senior management team, were previously employed at, or consulted for, universities or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Some of these people, including each member of our senior management team, executed proprietary rights, non- disclosure and non- competition agreements, or similar agreements, in connection with such previous employment or consulting agreements, that assigned ownership of intellectual property relating to work performed under such agreements to the contracting third party. Although we try to ensure that our employees do not use, claim as theirs, or misappropriate the intellectual property, proprietary information or know- how of others in their work for us, we may be subject to claims that we or these employees have used, claimed as theirs, misappropriated or disclosed intellectual property, including trade secrets or other proprietary information, of any such individual' s current or former employer. Litigation may be necessary to defend against such claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel or sustain damages. Such intellectual property rights could be awarded to a third party, and we could be required to obtain a license from such third party to commercialize our technology or products. Such a license may not be available on commercially reasonable terms, or at all. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management. Any of the foregoing may have a material adverse effect on our business, financial condition, results of operations, stock price and prospects. We may be subject to damages resulting from claims that we or our employees have wrongfully used or disclosed confidential information of third parties or are in breach of non- competition or non- solicitation agreements with our competitors. We could be subject to claims that we or our employees, including senior management, have inadvertently or otherwise used or disclosed alleged trade secrets or other confidential information of former employers or competitors or others. Although we try to ensure that our employees and consultants do not use the intellectual property, proprietary information, know- how or trade secrets of others in their work for us, we may be subject to claims that we caused an employee to breach the terms of their non- competition or non- solicitation agreement, or that we or these individuals have, inadvertently or otherwise, used or disclosed the alleged trade secrets or other proprietary information of a former employer or competitor or other party. Litigation may be necessary to defend against these claims. Even if we are successful in defending against these claims, litigation could result in substantial costs and could be a distraction to management. If our defenses to these claims fail, in addition to requiring us to pay monetary damages, a court could prohibit us from using technologies or features that are essential to Olvi- Vec and our other product candidates, if such technologies or features are found to incorporate or be derived from the trade secrets or other proprietary information of the former employers, competitors or other parties. An inability to incorporate such technologies or features would have a material adverse effect on our business, and may prevent us from successfully commercializing Olvi- Vec and our other product candidates. In addition, we may lose valuable intellectual property rights or personnel as a result of such claims. Moreover, any such litigation or the threat thereof may adversely affect our ability to hire employees or consultants. A loss of key personnel or their work product could hamper or prevent our ability to develop and commercialize Olvi- Vec and our other product candidates, which could have an adverse effect on our business, financial condition, results of operations, stock price and prospects. If we obtain any issued patents covering our technology, such patents could be found invalid or unenforceable if challenged in court or before the USPTO or comparable foreign regulatory authority. If we or one of our licensing partners initiate legal proceedings against a third party to enforce a patent covering any of our technology, the defendant could counterclaim that the patent covering our product candidate is invalid or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity 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, among other things, 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, among other things, 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. Such mechanisms include re- examination, inter partes review, post- grant review, interference proceedings, derivation proceedings and equivalent proceedings in foreign jurisdictions, such as opposition proceedings. Such proceedings could result in revocation, cancellation or amendment to our patents in such a way that they no longer cover and protect Olvi- Vec, V2ACT Immunotherapy and our other product candidates. The outcome following legal assertions of invalidity and unenforceability is unpredictable. For example, with respect to the validity of our licensed patents or any patents we obtain in the future, we cannot be certain that there is no invalidating prior art of which we, our patent counsel or our licensing partner' s patent counsel (s), and the patent examiner were unaware during prosecution. If a third party were to prevail on a legal assertion of invalidity and / or unenforceability, we would lose at least part, and perhaps all, of the patent protection on Olvi- Vec, V2ACT Immunotherapy and our other product candidates. Such a loss of patent protection could have a material adverse impact on our business. Patent terms may be inadequate to protect our competitive position on our products for an adequate amount of time, and our product candidates for which we intend to seek approval as biological products may face competition sooner than anticipated. Patents have a limited lifespan. In the United States, if all maintenance fees are timely paid, the natural expiration of a patent is generally 20 years from its earliest U. S. non- provisional filing date. Various extensions may be available, but the life of a patent, and the protection it affords, is limited. Even if patents covering our product candidates are obtained, once the patent life has expired, 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, such as Olvi- Vec and our other product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. 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. In the United States, the Drug Price Competition and Patent Term Restoration Act of 1984 permits a patent term extension of up to five years beyond the normal expiration of the patent, but no

longer than 14 years from the product' s approval date, which is limited to the approved indication (or any additional indications approved during the period of extension). However, the applicable authorities, including the FDA and the USPTO in the United States, and any equivalent regulatory authorities in other countries, may not agree with our assessment of whether such extensions are available, and may refuse to grant extensions to our patents, or may grant more limited extensions than we request. If this occurs, our competitors may be able to take advantage of our investment in development and clinical trials by referencing our clinical and preclinical data and launch their products earlier than might otherwise be the case, which could have a material adverse effect on our business, financial condition, results of operations, stock price and prospects. The enactment of the Biologics Price Competition and Innovation Act of 2009 (BPCIA) as part of the Patient Protection and Affordable Care Act as amended by the Health Care and Education Reconciliation Act of 2010 (collectively, the **"** ACA **"**) created an abbreviated pathway for the approval of biosimilar and interchangeable biological products. The abbreviated regulatory pathway establishes legal authority for the FDA to review and approve biosimilar biological products, including the possible designation of a biosimilar as " interchangeable " based on its similarity to an existing brand product. Under the BPCIA, an application for a biosimilar product cannot be approved by the FDA until 12 years after the original branded product was approved under a BLA. Certain changes, however, and supplements to an approved BLA, and subsequent applications filed by the same sponsor, manufacturer, licensor, predecessor in interest, or other related entity do not qualify for the 12- year exclusivity period. Olvi-Vec and our other product candidates are all biological product candidates. We anticipate being awarded ~~market~~ **data** exclusivity for each of our biological product candidates that is subject to its own BLA for 12 years in the United States, 10 years in Europe and significant durations in other markets. However, the term of the patents that cover such product candidates may not extend beyond the applicable market exclusivity awarded by a particular country. For example, in the United States, if all of the patents that cover our particular biological product expire before the 12- year market exclusivity expires, a third party could submit a marketing application for a biosimilar product four years after approval of our biological product, the FDA could immediately review the application and approve the biosimilar product for marketing 12 years after approval of our biological product, and the biosimilar sponsor could then immediately begin marketing. Alternatively, a third party could submit a full BLA for a similar or identical product any time after approval of our biological product, and the FDA could immediately review and approve the similar or identical product for marketing and the third party could begin marketing the similar or identical product upon expiry of all of the patents that cover our particular biological product. There is also a risk that this exclusivity could be changed in the future. For example, this exclusivity could be shortened due to congressional action or through other actions, including future proposed budgets, international trade agreements and other arrangements or proposals. Additionally, there is a risk that the FDA will not consider our product candidates to be reference products for competing products, potentially creating the opportunity for biosimilar competition sooner than anticipated. The extent to which a biosimilar, once approved, will be substituted for any one of our reference products in a way that is similar to traditional generic substitution for non- biological products is not yet clear, and will depend on a number of marketplace and regulatory factors that are still developing. It is also possible that payors will give reimbursement preference to biosimilars over reference biological products, even absent a determination of interchangeability. To the extent that we do not receive any anticipated periods of regulatory exclusivity for our product candidates, or the FDA or foreign regulatory authorities approve any biosimilar, interchangeable, or other competing products to our product candidates, it could have a material adverse effect on our business, financial condition, results of operations, stock price and prospects. If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected. Our current or future trademarks or trade names may be challenged, infringed, circumvented or declared generic or descriptive or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks and trade names or may be forced to stop using these names, which we need for name recognition by potential partners or customers in our markets of interest. During trademark registration proceedings, we may receive rejections of our applications by the USPTO or in other foreign jurisdictions. Although we would be given an opportunity to respond to those rejections, we may be unable to overcome such rejections. In addition, in the USPTO and in comparable agencies in many foreign jurisdictions, third parties are given an opportunity to oppose pending trademark applications and to seek to cancel registered trademarks. Opposition or cancellation proceedings may be filed against our trademarks, and our trademarks may not survive such proceedings. If we are unable to establish name recognition based on our trademarks and trade names, we may not be able to compete effectively, and our business may be adversely affected. We may license our trademarks and trade names to third parties, such as distributors. Although these license agreements may provide guidelines for how our trademarks and trade names may be used, a breach of these agreements or misuse of our trademarks and tradenames by our licensees may jeopardize our rights in or diminish the goodwill associated with our trademarks and trade names. Moreover, any name we have proposed to use with our product candidate in the United States must be approved by the FDA, regardless of whether we have registered it, or applied to register it, as a trademark. Similar requirements exist in Europe. The FDA typically conducts a review of proposed product names, including an evaluation of potential for confusion with other product names. If the FDA (or an equivalent administrative body in a foreign jurisdiction) objects to any of our proposed proprietary product names, it may be required to expend significant additional resources in an effort to identify a suitable substitute name that would qualify under applicable trademark laws, not infringe the existing rights of third parties and be acceptable to the FDA. Furthermore, in many countries, owning and maintaining a trademark registration may not provide an adequate defense against a subsequent infringement claim asserted by the owner of a senior trademark. At times, competitors or other third parties may adopt trade names or trademarks similar to ours, thereby impeding our ability to build brand identity and possibly leading to market confusion. In addition, there could be potential trade name or trademark infringement claims brought by owners of other registered trademarks or trademarks that incorporate variations of our registered or unregistered trademarks or trade names. If we assert trademark infringement claims, a court may determine that the marks we have asserted are invalid or unenforceable, or that the party against whom we have

asserted trademark infringement has superior rights to the marks in question. In this case, we could ultimately be forced to cease use of such trademarks. Risks Related to Government Regulation If we fail to comply with federal and state healthcare laws, including fraud and abuse laws, we could face substantial penalties and our business, financial condition, results of operations, stock price and prospects will be materially harmed. Our current and future arrangements with healthcare providers, third- party payors, customers, and others may expose us to broadly applicable healthcare fraud and abuse, and other healthcare laws, which may constrain the business or financial arrangements and relationships through which we research, as well as sell, market and distribute any products for which we obtain marketing approval. The applicable federal, state and foreign healthcare laws and regulations that may affect our ability to operate include, but are not limited to: ● The federal Anti- Kickback Statute, which prohibits, among other things, individuals and entities from knowingly and willfully soliciting, receiving, offering or paying any remuneration (including any kickback, bribe, or rebate), directly or indirectly, overtly or covertly, in cash or in kind, to induce, or in return for, either the referral of an individual for, or the purchase, lease, order or recommendation of, any good, facility, item or service for which payment may be made, in whole or in part, under a federal healthcare program, such as the Medicare and Medicaid programs. ● The federal civil and criminal false claims laws, including, without limitation, the civil FCA, and the federal Civil Monetary Penalties Law, which prohibit individuals or entities from, among other things, knowingly presenting, or causing to be presented, false or fraudulent claims for payment of federal funds, and knowingly making, or causing to be made, a false record or statement material to a false or fraudulent claim to avoid, decrease or conceal an obligation to pay money to the federal government. ● The Health Insurance Portability and Accountability Act (HIPAA), which prohibits, among other things, knowingly and willfully executing, or attempting to execute, a scheme or artifice to defraud any healthcare benefit program or obtain, by means of false or fraudulent pretenses, representations, or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of the payor (e. g., public or private), willfully obstructing a criminal investigation of a healthcare offense, and knowingly and willfully falsifying, concealing or covering up by any trick or device a material fact or making any materially false, fictitious or fraudulent statements in connection with the delivery of, or payment for, healthcare benefits, items or services relating to healthcare matters. ● The U. S. Federal Food, Drug and Cosmetic Act, which prohibits, among other things, the adulteration or misbranding of drugs, biological products and medical devices. ● The federal physician payment transparency requirements, sometimes referred to as the Physician Payments Sunshine Act, created under the ACA and its implementing regulations, which require certain manufacturers of drugs, devices, biological products and medical supplies for which payment is available under Medicare, Medicaid or the Children' s Health Insurance Program (with certain exceptions) to report annually to the Centers for Medicare & Medicaid Services (CMS) information related to payments or other transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), other healthcare professionals (such as physician assistants and nurse practitioners), and teaching hospitals, as well as ownership and investment interests held by such physicians and their immediate family members. ● Analogous state and foreign anti- kickback and false claims laws that may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non- governmental third- party payors, including private insurers, or that apply regardless of payor; state laws that require pharmaceutical companies to comply with the pharmaceutical industry' s voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government; state and local laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures; state laws that require the reporting of information related to drug pricing; and state and local laws requiring the registration of pharmaceutical sales representatives. If we or our operations are found to be in violation of any federal or state healthcare law, or any other governmental laws or regulations that apply to us, we may be subject to penalties, including significant civil, criminal, and administrative penalties, damages, monetary fines, disgorgement, imprisonment, suspension and debarment from government contracts, and refusal of orders under existing government contracts, exclusion from participation in U. S. federal or state health care programs, additional reporting requirements and / or oversight if we become subject to corporate integrity agreements or similar agreement to resolve allegations of non- compliance, contractual damages, reputational harm, diminished profits and future earnings, and the curtailment or restructuring of our operations, any of which could materially adversely affect our ability to operate our business and our financial results. If any of the physicians or other healthcare providers or entities with whom we expect to do business is found not to be in compliance with applicable laws, it may be subject to significant criminal, civil or administrative sanctions, including but not limited to, exclusions from participation in U. S. federal or state healthcare programs, which could also materially affect our business. Although an effective compliance program can mitigate the risk of investigation and prosecution for violations of these laws, the risks cannot be entirely eliminated. Moreover, achieving and sustaining compliance with such laws may prove costly. Any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management' s attention from the operation of our business. If the government or third- party payors fail to provide adequate coverage, reimbursement and payment rates for our product candidates, or if health maintenance organizations or long- term care facilities choose to use therapies that are less expensive or considered a better value, our revenue and prospects for profitability will be limited. In both domestic and foreign markets, sales of our products will depend in part upon the availability of coverage and adequate reimbursement from third- party payors or placement on approved product formularies. Such third-party payors include government health programs such as Medicare and Medicaid, managed care providers, private health insurers, and other organizations. Coverage decisions may depend upon clinical and economic standards that disfavor new therapeutic products when more established or lower cost therapeutic alternatives are already available or subsequently become available, even if our products are alone in a class. Third- party payors establish reimbursement levels. Therefore, even if coverage is provided, the approved reimbursement amount may not be high enough to allow us to establish or maintain a market share sufficient to realize a sufficient return on our or their investments. If reimbursement is not available, or is available only to limited levels, our product candidates may be competitively disadvantaged, and we may not be able to successfully

commercialize our product candidates. Alternatively, securing favorable reimbursement terms may require us to compromise pricing and prevent us from realizing an adequate margin over cost. Our failure to obtain or maintain timely or adequate pricing or formulary placement of our products, or failure to obtain such formulary placement at favorable pricing may negatively impact our revenue. Additionally, coverage policies and third- party payor reimbursement rates may change at any time. Therefore, even if favorable coverage and reimbursement status is attained, less favorable coverage policies and reimbursement rates may be implemented in the future. There is significant uncertainty related to third- party payor coverage and reimbursement of newly approved therapeutics. Marketing approvals, pricing, and reimbursement for new therapeutic products vary widely from country to country. Current and future legislation may significantly change the approval requirements in ways that could involve additional costs and cause delays in obtaining approvals. Some countries require approval of the sale price of a therapeutic before it can be marketed. In many countries, the pricing review period begins after marketing or product licensing approval is granted. In some foreign markets, prescription biopharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we might obtain marketing approval for a product in a particular country, but then be subject to price regulations that delay commercial launch of the product, possibly for lengthy time periods, which may negatively impact the revenues we are able to generate from the sale of the product in that country. Adverse pricing limitations may hinder our ability to recoup our investment in one or more product candidates, even if our product candidates obtain marketing approval. Our ability to commercialize our product candidates will depend in part on the extent to which coverage and reimbursement for these products and related treatments will be available from third- party payors. A significant trend within the healthcare industry is cost containment, both in the United States and elsewhere. Third- party payors, whether foreign or domestic, or governmental or commercial, are developing increasingly sophisticated methods of controlling healthcare costs, including use of formularies. Exclusion of a product from a formulary or other restrictions can significantly impact drug usage in the patient population and beyond. Consequently, pharmaceutical companies compete to gain access to formularies for their products, typically on the basis of unique product features, such as greater efficacy, better patient ease of use, or fewer side effects, as well as the overall cost of the therapy. Certain third- party payors are requiring that companies provide them with predetermined discounts from list prices, are using preferred drug lists to leverage greater discounts in competitive classes, are disregarding therapeutic differentiators within classes, are challenging the prices charged for therapeutics, and are negotiating price concessions based on performance goals. In addition, third- party payors are increasingly requiring higher levels of evidence of the benefits and clinical outcomes of new technologies, benchmarking against other therapies, seeking performance- based discounts, and challenging the prices charged. We cannot be sure that coverage will be available for any product candidate that we commercialize and, if available, that the reimbursement rates will be adequate. If payors subject our product candidates to maximum payment amounts or impose limitations that make it difficult to obtain reimbursement, providers may choose to use therapies which are less expensive when compared to our product candidates. Additionally, if payors require high copayments, beneficiaries may seek alternative therapies. We may need to conduct post-marketing studies in order to demonstrate the cost- effectiveness of any products to the satisfaction of hospitals, other target customers and their third- party payors. Such studies might require us to commit a significant amount of management time and financial and other resources. Our products might not ultimately be considered cost- effective. Adequate third- party coverage and reimbursement might not be available to enable us to maintain price levels sufficient to realize an appropriate return on investment in product development. In addition, in the United States, no uniform policy of coverage and reimbursement for products exists among third- party payors. Therefore, coverage and reimbursement for products can differ significantly from payor to payor. Further, we believe that future coverage and reimbursement will likely be subject to increased restrictions both in the United States and in international markets. Third- party coverage and reimbursement for our products or product candidates for which we receive regulatory approval may not be available or adequate in either the United States or international markets, which could have a negative effect on our business, financial condition, results of operations, stock price and prospects. There may also be delays in obtaining coverage and reimbursement for newly approved therapeutics, and coverage may be more limited than the indications for which the product is approved by the FDA or comparable foreign regulatory authorities. Such delays have made it increasingly common for manufacturers to provide newly approved drugs to patients experiencing coverage delays or disruption at no cost for a limited period in order to ensure that patients are able to access the drug. Moreover, eligibility for reimbursement does not imply that any therapeutic will be paid for in all cases or at a rate that covers our costs, including research, development, manufacture, sale, and distribution. Interim reimbursement levels for new therapeutics, if applicable, may also not be sufficient to cover our costs and may only be temporary. Reimbursement rates may vary, by way of example, according to the use of the product and the clinical setting in which it is used. Reimbursement rates may also be based on reimbursement levels already set for lower cost products or may be incorporated into existing payments for other services. An inability to promptly obtain coverage and adequate reimbursement from third- party payors for any of our product candidates for which we obtain marketing approval could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize products and our overall financial condition. We are subject to new legislation, regulatory proposals and third- party payor initiatives that may increase our costs of compliance, and adversely affect our ability to market our products, obtain collaborators, and raise capital. In the United States and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval of our product candidates, restrict or regulate post- approval activities and affect our ability to profitably sell any products for which we obtain marketing approval. We expect that current laws, as well as other healthcare reform measures that may be adopted in the future, may result in more rigorous coverage criteria and in additional downward pressure on the price that we may receive for any approved products. For example, the ACA was passed in March 2010 and substantially changed the way healthcare is financed by both governmental and private insurers and continues to significantly impact the U. S. pharmaceutical industry. There have been executive, judicial and congressional challenges **and amendments** to certain aspects

of the ACA. For example ~~, legislation enacted in 2017, informally titled the Tax Cuts and Jobs Act of 2017 (the Tax Act), includes a provision repealing, effective January 1, 2019, the tax- based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the " individual mandate. " On June 17, 2021, the U. S. Supreme Court dismissed a challenge on procedural grounds that argued the ACA is unconstitutional in its entirety because the " individual mandate " was repealed by Congress. Further, prior to the U. S. Supreme Court ruling, on January 28, 2021, President Biden issued an executive order that initiated a special enrollment period for purposes of obtaining health insurance coverage through the ACA marketplace. The executive order also instructed certain governmental agencies to review and reconsider their existing policies and rules that limit access to healthcare, including among others, reexamining Medicaid demonstration projects and waiver programs that include work requirements, and policies that create unnecessary barriers to obtaining access to health insurance coverage through Medicaid or the ACA. In addition~~ , on August 16, 2022, ~~President Biden signed~~ the Inflation Reduction Act of 2022 (the **"** IRA **"**) **was signed** into law, which among other things, extends enhanced subsidies for individuals purchasing health insurance coverage in ACA marketplaces through plan year 2025. The IRA also eliminates the " donut hole " under the Medicare Part D program beginning in 2025 by significantly lowering the beneficiary maximum out- of- pocket cost through a newly established manufacturer discount program. It is possible that the ACA will be subject to judicial or Congressional challenges in the future. It is unclear how any such challenges and the healthcare reform measures of the ~~Biden~~ **second Trump** administration will impact the ACA and our business. Other legislative changes have been proposed and adopted in the United States since the ACA. For example, through the process created by the Budget Control Act of 2011, there are automatic reductions of Medicare payments to providers up to 2 % per fiscal year, which went into effect in April 2013 and, due to subsequent legislative amendments, will remain in effect until 2032 unless additional Congressional action is taken. In addition, there have been a number of other legislative and regulatory proposals aimed at changing the biopharmaceutical industry. For instance, the Drug Quality and Security Act of 2013 imposes obligations on manufacturers of biopharmaceutical products related to product tracking and tracing. Further, manufacturers have product investigation, quarantine, disposition, and notification responsibilities related to counterfeit, diverted, stolen, and intentionally adulterated products that would result in serious adverse health consequences of death to humans, as well as products that are the subject of fraudulent transactions or which are otherwise unfit for distribution such that they would be reasonably likely to result in serious health consequences or death. Compliance with the federal track and trace requirements may increase our operational expenses and impose significant administrative burdens. As a result of these and other new proposals, we may determine to change our current manner of operation, provide additional benefits or change our contract arrangements, any of which could have a material adverse effect on our business, financial condition, results of operations, stock price and prospects. There has been heightened governmental scrutiny in the United States of pharmaceutical pricing practices in light of the rising cost of prescription drugs and biological products. Such scrutiny has resulted in presidential executive orders, congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for products. At the federal level, ~~on March 11, 2021, President Biden signed~~ the American Rescue Plan Act of 2021 ~~into law, which eliminates~~ **eliminated** the statutory Medicaid drug rebate cap, ~~currently~~ **previously** set at 100 % of a drug' s average manufacturer price, for single source and innovator multiple source drugs, ~~beginning~~ **effective** January 1, 2024 ~~. In July 2021, the Biden administration released an executive order, " Promoting Competition in the American Economy, " with multiple provisions aimed at prescription drugs. In response to Biden' s executive order, on September 9, 2021, HHS released a Comprehensive Plan for Addressing High Drug Prices that outlines principles for drug pricing reform and sets out a variety of potential legislative policies that Congress could pursue as well as potential administrative actions HHS can take to advance these principles~~ . In addition, the IRA directs the Secretary of HHS to establish a Drug Price Negotiation Program (the Program) to lower prices for certain **high- expenditure,** single- source prescription ~~drugs and~~ biologics **that have been on the market for at least 11 years** covered under Medicare Parts B and D, based on criteria established under the IRA. Under the Program, the Secretary of HHS will publish a list of " selected drugs, " and will then negotiate maximum fair prices (MFP) with their manufacturers. Beginning in 2026, the first year of the Program, the number will be limited to 10 Part D drugs and biologics. By 2029, and in subsequent years thereafter, the number will increase to 20 drugs and biologics covered under Part D and Part B. Agreements between HHS and manufacturers will remain in place until a drug or biologic is no longer considered a " selected drug " for negotiation purposes. Manufacturers who do not comply with the negotiated prices set under the Program will be subject to an excise tax based on a percentage of total sales of a " selected drug " up to 95 % and the potential of civil monetary penalties. Further, the IRA imposes rebates under Medicare Part B and Medicare Part D to penalize price increases that outpace inflation. These provisions **began to** take effect progressively ~~starting~~ in fiscal year 2023. On August ~~29~~ **15** , ~~2023~~ **2024** , HHS announced the ~~list~~ **agreed- upon price** of the first 10 drugs that **were** ~~will be~~ subject to price negotiations, although the ~~Medicare drug price negotiation program~~ **Program** is currently subject to legal challenges **. On January 17, 2025, HHS selected fifteen additional products covered under Part D for price negotiation in 2025** . The IRA permits HHS to implement many of these provisions through guidance, as opposed to regulation, for the initial years. HHS has and will continue to issue and update guidance as these programs are implemented ~~. It is currently unclear how the IRA will be implemented but is likely to have a significant impact on the pharmaceutical industry and could negatively affect our business and financial condition. Further, in response to the Biden administration' s October 2022 executive order, on February 14, 2023, HHS released a report outlining three new models for testing by the CMS Innovation Center which will be evaluated on their ability to lower the cost of drugs, promote accessibility, and improve quality of care. It is unclear whether the models will be utilized in any health reform measures in the future. Additionally, on December 7, 2023, the Biden administration announced an initiative to control the price of prescription drugs through the use of march- in rights under the Bayh- Dole Act~~ . On December 8, 2023, the National Institute of Standards and Technology published for comment a Draft

Interagency Guidance Framework for Considering the Exercise of March- In Rights which for the first time includes the price of a product as one factor an agency can use when deciding to exercise march- in rights. While march- in rights have not previously been exercised, it is uncertain if that practice will continue under the new framework **. The current Trump administration is pursuing policies to reduce regulations and expenditures across government including at HHS, the FDA, CMS and related agencies. These actions, presently directed by executive orders or memoranda from the Office of Management and Budget, may propose policy changes that create additional uncertainty for our business. These actions may, for example, include directives to reduce agency workforce, rescinding a Biden administration executive order tasking the Center for Medicare and Medicaid Innovation (CMMI) to consider new payment and healthcare models to limit drug spending and eliminating the Biden administration' s executive order that directed HHS to establishing an AI task force and developing a strategic plan. Additionally, in its June 2024 decision in Loper Bright Enterprises v. Raimondo (Loper Bright), the U. S. Supreme Court overturned the longstanding Chevron doctrine, under which courts were required to give deference to regulatory agencies' reasonable interpretations of ambiguous federal statutes. The Loper Bright decision could result in additional legal challenges to current regulations and guidance issued by federal agencies applicable to our operations, including those issued by the FDA. Congress may introduce and ultimately pass health care related legislation that could impact the drug approval process and make changes to the Medicare Drug Price Negotiation Program created under the IRA** . At the state level, legislatures have increasingly passed legislation and implemented 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. For example, on January 5, 2024, the FDA approved Florida' s Section 804 Importation Program (SIP) proposal to import certain drugs from Canada for specific state healthcare programs. It is unclear how this program will be implemented, including which drugs will be chosen, and whether it will be subject to legal challenges in the United States or Canada. Other states have also submitted SIP proposals that are pending review by the FDA. Any new laws or regulations, including those that may result in additional reductions in Medicare and other healthcare funding, could have a material adverse effect on customers for our products, if approved, and, accordingly, on our results of operations. We expect that the ACA, as well as other federal and state healthcare reform measures that may be adopted in the future, may result in more rigorous coverage criteria, increased regulatory burdens and operating costs, decreased net revenue from our biopharmaceutical products, decreased potential returns from our development efforts, and additional downward pressure on the price that we receive for any approved product. Any reduction in reimbursement from Medicare or other government healthcare 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 commercializing our products and being able to generate revenue, and we could be prevented from or significantly delayed in achieving profitability. We are subject to the U. S. Foreign Corrupt Practices Act and other anti- corruption laws, as well as import and export control laws, customs laws, sanctions laws and other laws governing our operations. If we fail to comply with these laws, we could be subject to civil or criminal penalties, and other consequences, which could adversely affect our business, financial condition, results of operations, stock price and prospects. Our operations are subject to anti- corruption laws, including the U. S. Foreign Corrupt Practices Act (FCPA) and other anti- corruption laws that apply in countries where we do business. The FCPA and these other anti- corruption laws generally prohibit us and our employees and intermediaries from authorizing, promising, offering, providing, soliciting, or receiving, directly or indirectly, corrupt or improper payments or anything else of value to or from recipients in the public or private sector. We can be held liable for the corrupt or other illegal activities of our personnel or intermediaries, even if we do not explicitly authorize or have prior knowledge of such activities. We are also subject to other laws and regulations governing our international operations, including applicable import and export control regulations, economic sanctions on countries and persons, anti- money laundering laws, customs requirements and currency exchange regulations, collectively referred to as the trade control laws. We can provide no assurance that we will be completely effective in ensuring our compliance with all applicable anti- corruption laws or other legal requirements, including trade control laws. If we are not in compliance with applicable anti- corruption laws or trade control laws, we may be subject to criminal and civil penalties, disgorgement and other sanctions and remedial measures, and legal expenses, which could have an adverse impact on our business, financial condition, results of operations, stock price and prospects. In addition, we cannot predict the nature, scope or effect of future regulatory requirements to which our international operations might be subject or the manner in which existing laws might be administered or interpreted. An investigation of any potential violations of anti- corruption laws or trade control laws by U. S. or other authorities could also have an adverse impact on our reputation, our business, financial condition, results of operations, stock price and prospects. We **and the third parties with whom we work** are subject to stringent and evolving U. S. and foreign laws, regulations, and rules, contractual obligations **, industry standards** , policies and other obligations related to data privacy and security. Our **(or the third parties with whom we work)** actual or perceived failure to comply with such obligations could lead to regulatory investigations or actions; litigation (including class **- action** claims) and mass arbitration demands; fines and penalties; disruptions of our business operations; reputational harm; loss of revenue or profits; loss of customers or sales; and other adverse business consequences. In the ordinary course of our business, we collect, receive, process, generate, use, transfer, make accessible, protect, secure, dispose of, transmit and store (collectively, process) ~~confidential~~ **personal data** and **other** sensitive information, including ~~personal~~ **proprietary and confidential business** data, intellectual property, trade secrets, **data we collect about trial participants in connection with clinical trials** and ~~proprietary information owned or controlled by~~ **sensitive third- party data. Our data processing activities subject** us ~~or other third parties. Accordingly, we may be subject~~ to numerous data privacy and security obligations, **such as various** ~~including federal, state, local, and foreign~~ laws, regulations ~~, and rules~~ , guidance, industry standards, external and internal privacy and security policies, contractual requirements and other obligations ~~related~~ **relating** to data privacy and security. In the United States,

federal, state, and local governments have enacted numerous data privacy and security laws, including data breach notification laws, personal data privacy laws, consumer protection laws (e. g., Section 5 of the Federal Trade Commission Act), and other similar laws (e. g., wiretapping laws). For example, HIPAA, as amended by ~~the Health Information Technology for Economic and Clinical Health Act (~~ HITECH ~~)~~, imposes specific requirements relating to the privacy, security, and transmission of individually identifiable protected health information. **Numerous U. S. states have enacted comprehensive privacy laws that impose certain obligations on covered businesses, including providing specific disclosures in privacy notices and affording residents certain rights concerning their personal data.** As ~~another~~ **applicable, such rights may include the right to access, correct, or delete certain personal data, and to opt- out of certain data processing activities, such as targeted advertising, profiling, and automated decision- making. The exercise of these rights may impact our business and ability to provide our products and services. Certain states also impose stricter requirements for processing certain personal data, including sensitive information, such as conducting data privacy impact assessments. These state laws allow for statutory fines for noncompliance. For** example, the ~~California Consumer Privacy Act of 2018, as amended by the California Privacy Rights Act (CPRA) (collectively,~~ CCPA ~~),~~ applies to **the** personal ~~information~~ **data** of consumers, business representatives and employees who are California residents, and requires covered businesses to provide specific disclosures in privacy notices and ~~to~~ honor **requests of such individuals to exercise** certain **privacy rights** ~~requests of California residents related to their personal data, such as those noted below~~. The CCPA ~~allows~~ **provides** for ~~administrative penalties for noncompliance (up to $ 7, 500 per violation)~~ and allows private litigants affected by certain data breaches to recover **significant** statutory damages. **The** ~~Although the~~ CCPA ~~exempts some data processed in the context of clinical trials, the CCPA increases compliance costs~~ and ~~potential liability with respect to~~ other **comprehensive U** ~~personal data we maintain about California residents~~. **S** ~~In addition, the CPRA expanded the CCPA' s requirements, including by establishing a new California Privacy Protection Agency to implement and enforce the CPRA and adding a new right for individuals to correct their personal information~~. ~~Other states~~ - **state** ~~have enacted or proposed data~~ privacy laws ~~. For example, Virginia passed the Consumer Data Protection Act, and Colorado passed the Colorado Privacy Act, which took effect this year. While these states, like the CCPA, also~~ exempt some data processed in the context of clinical trials, **but** these developments **may** further complicate compliance efforts, and increase legal risk and compliance costs for us ~~and~~ **,** the third parties ~~upon which~~ **with whom** we ~~rely~~ **work and our customers** . ~~These~~ **Similar laws are being considered in several other states, as well as at the federal and local levels, and we expect more states to pass similar laws in the future. We may also be subject to new U. S.** state laws ~~and~~ **governing** the ~~CCPA~~ **privacy of consumer health data. For example, we are subject to Washington' s My Health My Data Act (MHMD) broadly defines consumer health data, places restrictions on processing consumer health data (including imposing stringent requirements for consents),** ~~provide~~ **provides consumers** ~~individuals with~~ certain rights ~~concerning~~ **with respect to** their ~~personal information~~ **health data** , ~~including the~~ **and creates a private** right **of action** to ~~access, correct,~~ **allow individuals to sue** ~~or~~ **for violations** ~~delete certain personal information, and opt- out~~ of ~~certain data processing activities, such as targeted advertising, profiling, and automated decision- making. The exercise of these~~ -- **the** ~~rights~~ **law. Other states are considering and** may **adopt similar laws** ~~impact our business and ability to provide our products and services~~. Outside the United States, an increasing number of laws, regulations, and industry standards govern data privacy and security. For example, the ~~European Union' s General Data Protection Regulation (~~ EU GDPR **and** ~~),~~ the **UK** ~~United Kingdom' s~~ GDPR (~~UK~~ **collectively, "** GDPR **"** ~~) (collectively, GDPR~~), and the Swiss Federal Act on Data Protection impose strict requirements for processing personal data. For example, under the GDPR, **companies** ~~government regulators~~ may ~~impose~~ **face** temporary or definitive bans on data processing ~~, as well as~~ **and other corrective actions;** fines of up to 20 million euros under the EU GDPR **,** ~~(or~~ 17. 5 million pounds sterling under the UK GDPR ~~)~~ or, in each case, 4 % of annual global revenue, whichever is greater **; or** ~~. Further, companies may face~~ private litigation related to processing of personal data brought by classes of data subjects or consumer protection organizations authorized at law to represent their interests. In the ordinary course of business, we ~~may~~ transfer personal data from Europe and other jurisdictions to the United States or other countries. Europe and other jurisdictions have enacted laws requiring data to be localized or limiting the transfer of personal data to other countries. In particular, the EEA and the UK have significantly restricted the transfer of personal data to the United States and other countries whose privacy laws it **generally** believes are ~~generally~~ inadequate. Other jurisdictions may adopt **or have already adopted** similarly stringent ~~interpretations of their~~ data localization and cross- border data transfer laws. Although there are currently various mechanisms that may be used to transfer personal data from the EEA and UK to the United States in compliance with law, such as the EEA ~~' s~~ standard contractual clauses, the UK' s International Data Transfer Agreement / Addendum, and the EU- U. S. Data Privacy Framework and the UK extension thereto (which allows for transfers ~~for~~ **to** relevant U. S.- based organizations who self- certify compliance and participate in the Framework), these mechanisms are subject to legal challenges, and there is no assurance that we can satisfy or rely on these measures to lawfully transfer personal data to the United States **. Regulators in the United States such as the Department of Justice are also increasingly scrutinizing certain personal data transfers and have proposed and may enact certain data localization requirements, for example, the Biden Administration' s executive order Preventing Access to Americans' Bulk Sensitive Personal Data and United States Government- Related Data by Countries of Concern** . If there is no lawful manner for us to transfer personal data from the EEA, the UK or other jurisdictions to the United States, or if the requirements for a legally- compliant transfer are too onerous, we could face significant adverse consequences, including the interruption or degradation of our operations, the need to relocate part of or all of our business or data processing activities to other jurisdictions (such as Europe) at significant expense, increased exposure to regulatory actions, substantial fines and penalties, the inability to transfer data and work with partners, vendors and other third parties, ~~which could limit our ability to conduct clinical trial activities in the EEA, the UK or elsewhere,~~ and injunctions against our processing or transferring of personal data necessary to operate our business **. Additionally, companies that transfer personal data out of the EEA and UK to other jurisdictions, particularly to the United States, are subject to increased scrutiny from**

regulators, individual litigants, and activist groups . Some European regulators have ~~prevented~~ **ordered certain** companies ~~from~~ **to suspend or permanently cease certain** ~~transferring~~ **transfers** ~~personal data~~ out of **Europe** ~~the EEA or the UK~~ for allegedly violating the ~~EU and UK~~ GDPR ~~and their~~ **' s** cross- border data transfer limitations. In addition **to data privacy and security laws** , we **are** ~~may be~~ contractually subject to ~~data privacy and security obligations, including~~ industry standards adopted by industry groups and **, we are and** may become **in the future,** subject to ~~new~~ **such obligations. We are also bound by contractual obligations related to** data privacy and security **, and our efforts to comply with such** obligations ~~in the future~~ **may not be successful** . For example, certain privacy laws, such as the ~~EU~~ GDPR, ~~UK GDPR,~~ and the CCPA, require ~~companies~~ **our customers** to impose specific contractual restrictions on their service providers. ~~Moreover~~ **Additionally** , some ~~clinical trial~~ **of our customer contracts require us to host personal data locally. Our employees and personnel may use generative artificial intelligence (AI) technologies to perform their work, and the disclosure and use of personal data in generative AI technologies is** ~~subjects~~ **subject** ~~about whom~~ **to various privacy laws and other privacy obligations. Governments have passed and are likely to pass additional laws regulating generative AI. Our use of this technology could result in additional compliance costs, regulatory investigations and actions, and lawsuits. If** we ~~or our potential collaborators obtain information, as well as the providers who share~~ -- **are unable to** ~~this information with us~~ **use generative AI** , **it could make our business less efficient and result in competitive disadvantages. We** may ~~contractually limit our ability to use and disclose the information. We~~ publish privacy policies, marketing materials **, whitepapers,** and other statements ~~regarding~~ **, such as statements related to compliance with certain certifications or self- regulatory principles, concerning** data privacy and security. ~~If~~ **Regulators in the United States are increasingly scrutinizing these statements, and if** these policies, materials or statements are found to be deficient, lacking in transparency, deceptive, unfair **, misleading** , or misrepresentative of our practices, we may be subject to investigation, enforcement actions by regulators or other adverse consequences. Obligations related to data privacy and security (and consumers' data privacy expectations) are quickly changing, becoming increasingly stringent, and creating uncertainty. Additionally, these obligations may be subject to differing applications and interpretations, which may be inconsistent or conflict among jurisdictions. Preparing for and complying with these obligations requires significant resources ~~and~~ **, which** may necessitate changes to our **services,** information technologies, systems, and practices and to those of any third parties that process personal data on our behalf. **We** ~~Although we endeavor to comply with all applicable data privacy and security obligations, we~~ may at times fail (or be perceived to have failed) **in our efforts** to ~~do so~~ **comply with our data privacy and security obligations** . Moreover, despite our efforts, our personnel or third parties ~~upon~~ **with** whom we ~~rely~~ **work** may fail to comply with such obligations, which could negatively impact our business operations. **If we or** ~~Such failures can subject us to potential foreign, local, state and federal action if they~~ **the third parties with whom we work fail, or** are ~~found~~ **perceived** to ~~be deceptive~~ **have failed** , **to address** ~~unfair, or misrepresentative of our~~ **or** ~~actual practices, which could negatively impact our business operations and compliance posture. For example, any failure by a third- party processor to~~ comply with applicable ~~law, regulations, or contractual obligations could result in adverse effects, including inability to or interruption in our ability to operate our business and proceedings against us by governmental entities or others. If we fail, or are perceived to have failed, to address or comply with~~ data privacy and security obligations, we could face significant consequences **,** ~~. These consequences may include~~ **including** , but ~~are~~ not limited to ~~,~~ **:** government enforcement actions (e. g., investigations, fines, penalties, audits, inspections, and similar); litigation (including class- ~~related~~ **action** claims) and mass arbitration demands; additional reporting requirements and / or oversight; bans **or restrictions** on processing personal data; orders to destroy or not use personal data; and imprisonment of company officials. In particular, plaintiffs have become increasingly more active in bringing privacy- related claims against companies, including class claims and mass arbitration demands. Some of these claims allow for the recovery of statutory damages on a per violation basis, and, if viable, carry the potential for monumental statutory damages, depending on the volume of data and the number of violations. Any of these events could have a material adverse effect on our reputation, business, or financial condition, including but not limited to: loss of customers; interruptions or stoppages in our business operations (including, as relevant, clinical trials); inability to process personal data or to operate in certain jurisdictions; limited ability to develop or commercialize our products; expenditure of time and resources to defend any claim or inquiry; adverse publicity; or ~~revision~~ **substantial changes to** ~~or~~ **our** ~~restructuring of~~ **business model** ~~our~~ **or** operations. Violations of or liabilities under environmental, health and safety laws and regulations could subject us to fines, penalties or other costs that could have a material adverse effect on the success of our business. We are subject to numerous federal, state and local environmental, health and safety laws and regulations, including those governing laboratory procedures, the handling, use, storage, treatment and disposal of hazardous materials and wastes and the cleanup of contaminated sites. Our operations involve the controlled production, storage, use and disposal of hazardous and flammable materials, including chemicals and biological materials such as infectious agents and various radioactive compounds. We would incur substantial costs as a result of violations of or liabilities under environmental requirements in connection with our operations or property, including fines, penalties and other sanctions, investigation and cleanup costs and third- party claims. Although we generally contract with third parties for the disposal of hazardous materials and wastes from our operations, 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. We also could incur significant costs associated with civil or criminal fines and penalties, as well as our curtailment of the use of these materials or even shutting down our facilities and operations. Although we maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials, this insurance may not provide adequate coverage against potential liabilities. While we maintain insurance covering our manufacturing facility only, and not our other facilities, for environmental liability or toxic tort claims that may be asserted against us in connection with our storage or disposal of biological or hazardous materials, such insurance coverage may not be sufficient to cover extraordinary or unanticipated events at our manufacturing facility. Risks Related to Our Business and

Operations We are highly dependent on our key personnel, including our President, Chief Executive Officer and Chairman. If we are not successful in attracting, motivating and retaining highly qualified personnel, we may not be able to successfully implement our business strategy. Our ability to compete in the highly competitive biotechnology and pharmaceutical industries depends upon our ability to attract, motivate and retain highly qualified managerial, scientific and medical personnel. We are highly dependent on our management and particularly on the services of our personnel, including Thomas Zindrick, J. D., our President, Chief Executive Officer and Chairman. We believe that their drug discovery and development experience and overall biopharmaceutical company management experience, would be difficult to replace. Any of our executive officers could leave our employment at any time, as all of our employees are " at- will " employees. We currently do not have " key person " insurance on any of our employees. The loss of the services of our key personnel and any of our other executive officers, key employees, and scientific and medical advisors, and our inability to find suitable replacements, could result in delays in our research and development objectives and harm our business. Recruiting and retaining qualified employees, consultants and advisors for our business, including scientific and technical personnel, will also be critical to our success. We conduct our operations at our facilities in Southern California, a region that is home to many other biopharmaceutical companies and many academic and research institutions. Competition for skilled personnel is intense and the turnover rate can be high. We may not be able to attract and retain personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies and academic institutions for skilled individuals. In addition, failure to succeed in preclinical studies, clinical trials or applications for marketing approval may make it more challenging to recruit and retain qualified personnel. The inability to recruit, or the 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, stock price and prospects. To induce valuable employees to remain at our company, in addition to salary and cash incentives, we have provided stock option grants that vest over time. The value to employees of these equity grants that vest over time may be significantly affected by movements in our stock price that are beyond our control, and may at any time be insufficient to counteract more lucrative offers from other companies. Although we have employee agreements with our key employees, these agreements provide for at- will employment, which means that any of our employees could leave our employment at any time, with or without notice. We do not maintain " key person " insurance policies on the lives of all of these individuals or the lives of any of our other employees. We will need to continue to expand the size of our organization, and we may experience difficulties in managing this growth, which could disrupt our operations. As of December 31, ~~2023~~ **2024**, we had ~~23~~ **24** full- time and part- time employees, including 15 employees engaged in research and development and manufacturing. As our development and commercialization plans and strategies develop, we expect to need additional managerial, operational, sales, marketing, financial and other personnel. Future growth would impose significant added responsibilities on members of management, including: ● identifying, recruiting, integrating, maintaining and motivating additional employees; ● managing our internal development efforts effectively, including the clinical, FDA and comparable foreign regulatory review process for our product candidates, while complying with our contractual obligations to contractors and other third parties; and ● improving our operational, financial and management controls, reporting systems and procedures. Our future financial performance and our ability to commercialize Olvi- Vec, V2ACT Immunotherapy and any other product candidates we develop will depend, in part, on our ability to effectively manage any future growth, and our management may also have to divert a disproportionate amount of its attention away from day- to- day activities in order to devote a substantial amount of time to managing these growth activities. We currently rely, and for the foreseeable future will continue to rely, in substantial part on certain independent organizations, advisors and consultants to provide certain services. The services include substantially all aspects of clinical trial management and manufacturing. We cannot assure you that the services of independent organizations, advisors and consultants will continue to be available to us on a timely basis when needed, or that we can find qualified replacements. In addition, if we are unable to effectively manage our outsourced activities or if the quality or accuracy of the services provided by consultants is compromised for any reason, our clinical trials may be extended, delayed or terminated, and we may not be able to obtain marketing approval of Olvi- Vec and our other product candidates or otherwise advance our business. We cannot assure you that we will be able to manage our existing consultants or find other competent outside contractors and consultants on economically reasonable terms, or at all. If we are not able to effectively expand our organization by hiring qualified new employees and expanding our groups of consultants and contractors, we may not be able to successfully implement the tasks necessary to further develop and commercialize Olvi- Vec and our other product candidates and, accordingly, may not achieve our research, development and commercialization goals. If we engage in future acquisitions or strategic partnerships, this may increase our capital requirements, dilute our stockholders, cause us to incur debt or assume contingent liabilities, and subject us to other risks. We may evaluate various acquisitions and strategic partnerships, including licensing or acquiring complementary products, intellectual property rights, technologies, or businesses. Any potential acquisition or strategic partnership may entail numerous risks, including: ● increased operating expenses and cash requirements; ● the assumption of additional indebtedness or contingent liabilities; ● the issuance of our equity securities; ● assimilation of operations, intellectual property and products of an acquired company, including difficulties associated with integrating new personnel; ● the diversion of our management' s attention from our existing product programs and initiatives in pursuing such a strategic merger or acquisition; ● retention of key employees, the loss of key personnel, and uncertainties in our ability to maintain key business relationships; ● risks and uncertainties associated with the other party to such a transaction, including the prospects of that party, their regulatory compliance status, and their existing products or product candidates and marketing approvals; and ● our inability to generate revenue from acquired technology and / or products sufficient to meet our objectives in undertaking the acquisition or even to offset the associated acquisition and maintenance costs. In addition, if we undertake acquisitions, we may issue dilutive securities, assume or incur debt obligations, incur large one- time expenses and acquire intangible assets that could result in significant future amortization expense. Moreover, we may not be able to locate suitable acquisition opportunities and this

inability could impair our ability to grow or obtain access to technology or products that may be important to the development of our business. Any of the foregoing may materially harm our business, financial condition, results of operations, stock price and prospects. Unfavorable market and economic conditions may have serious adverse consequences on our business, financial condition, results of operations, stock price and prospects. Our results of operations could be adversely affected by general conditions in the global economy and in the global financial markets. A severe or prolonged economic downturn could result in a variety of risks to our business, including a reduced ability to raise additional capital when needed on acceptable terms, if at all. A weak or declining economy could also strain our 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. Public health crises such as pandemics could materially and adversely affect our preclinical studies and clinical trials, business, financial condition and results of operations. As a result of pandemics and related governmental orders and other public health guidance measures, we have and may in the future experience disruptions that could materially and adversely impact our preclinical studies, clinical trials, business, financial condition and results of operations. Potential disruptions might include but are not limited to: ● delays or difficulties in enrolling patients in our clinical trials; ● delays or difficulties in initiating or expanding clinical trials, including delays or difficulties with clinical site initiation and recruiting clinical site investigators and clinical site staff; ● increased rates of patients withdrawing from our clinical trials following enrollment as a result of contracting health conditions or being forced to quarantine; ● interruption of key clinical trial activities, such as clinical trial site data monitoring and efficacy, safety and translational data collection, processing and analyses, due to limitations on travel imposed or recommended by federal, state or local governments, employers and others or interruption of clinical trial subject visits, which may impact the collection and integrity of subject data and clinical study endpoints; ● diversion of healthcare resources away from the conduct of clinical trials, including the diversion of hospitals serving as our clinical trial sites and hospital staff supporting the conduct of our clinical trials; ● delays or disruptions in preclinical experiments and studies due to restrictions of on- site staff and unforeseen circumstances at CROs and vendors; ● interruption or delays in the operations of the FDA and comparable foreign regulatory agencies; ● interruption of, or delays in receiving, supplies of our product candidates from third- party providers due to staffing shortages, production slowdowns or stoppages and disruptions in delivery systems; ● limitations on employee or other resources that would otherwise be focused on the conduct of our clinical trials and preclinical work, including because of sickness of employees or their families, the desire of employees to avoid travel or contact with large groups of people, an increased reliance on working from home, school closures or mass transit disruptions; ● changes in regulations which may require us to change the ways in which our clinical trials are conducted, which may result in unexpected costs, or to discontinue the clinical trials altogether; and ● delays in necessary interactions with regulators, ethics committees and other important agencies and contractors due to limitations in employee resources or forced furlough of government or contractor personnel. Future developments in these and other areas present material uncertainty and risk with respect to our clinical trials, business, financial condition and results of operations. If our information technology systems or ~~data, or~~ those ~~of~~ third parties ~~upon which~~ **with whom** we ~~rely,~~ **work or our data** are or were compromised, we could experience adverse consequences resulting from such compromise, including but not limited to regulatory investigations or actions; litigation ~~and mass arbitration demands~~ ; fines and penalties; disruptions of our business operations; reputational harm; loss of revenue or profits; loss of customers or sales; and other adverse consequences. In the ordinary course of our business, we ~~may~~ **and the third parties with whom we work** process proprietary, confidential, and sensitive data, including ~~de- identified~~ personal data ~~(such as~~ **, de- identified** health- related data ~~)~~ , intellectual property, proprietary business information and trade secrets (collectively, **“** sensitive information **”**). Cyber- attacks, malicious internet-based activity, online and offline fraud, and other similar activities threaten the confidentiality, integrity, and availability of our sensitive information and information technology systems, and those of the third parties ~~upon which~~ **with whom** we ~~rely~~ **work** . Such threats are prevalent and continue to ~~increase~~ **rise** , are becoming increasingly difficult to detect, and come from a variety of sources, including traditional computer “ hackers, ” **threat actors,** “ hacktivists, ” organized criminal threat actors, personnel (such as through theft or misuse), sophisticated nation states, and nation- state- supported actors. Some actors now engage and are expected to continue to engage in cyber- attacks, including without limitation nation- state actors for geopolitical reasons and in conjunction with military conflicts and defense activities. During times of war and other major conflicts, we and the third parties ~~upon which~~ **with whom** we ~~rely~~ **work** may be vulnerable to a heightened risk of these attacks, including retaliatory cyber- attacks, that could materially disrupt our systems and operations, supply chain, and ability to produce, sell and distribute our goods and services. We and the third parties ~~upon which~~ **with whom** we ~~rely~~ **work** are subject to a variety of evolving threats, including but not limited to social- engineering attacks (including through deep fakes, which may be increasingly more difficult to identify as fake, and phishing attacks), malicious code (such as viruses and worms), malware (including as a result of advanced persistent threat intrusions), denial- of- service attacks, credential stuffing attacks, credential harvesting, personnel misconduct or error, ransomware attacks, supply- chain attacks, software bugs, server malfunctions, software or hardware failures, loss of data or other information technology assets, adware, telecommunications failures, earthquakes, fires, floods, attacks enhanced or facilitated by **AI** ~~artificial intelligence~~ , and other similar threats. **In particular, severe** ~~Ransomware~~ **ransomware** attacks ~~, including by organized criminal threat actors, nation- states, and nation- state- supported actors,~~ are becoming increasingly prevalent and ~~severe and~~ can lead to significant interruptions in our operations, **ability to provide our products or services,** disruption of clinical trials, loss of **sensitive** data ~~(including data related to clinical trials)~~ and income, reputational harm, and diversion of funds. Extortion payments may alleviate the negative impact of a ransomware attack, but we may be unwilling or unable to make such payments due to, for example, applicable laws or regulations prohibiting such payments. **It may be difficult and / or costly to detect, investigate, mitigate, contain, and remediate a security incident. Our efforts to do so may not be successful. Actions taken by us or the third parties with whom we work to detect, investigate, mitigate, contain, and remediate a security incident could result in outages, data losses, and disruptions of**

our business. Threat actors may also gain access to other networks and systems after a compromise of our networks and systems. Remote work has ~~become more common and has~~ increased risks to our information technology systems and data, as ~~more of~~ our employees utilize network connections, computers, and devices outside our premises or network, including working at home, while in transit and in public locations. Future or past business transactions (such as acquisitions or integrations) could expose us to additional cybersecurity risks and vulnerabilities, as our systems could be negatively affected by vulnerabilities present in acquired or integrated entities' systems and technologies. Furthermore, we may discover security issues that were not found during due diligence of such acquired or integrated entities, and it may be difficult to integrate companies into our information technology environment and security program. We rely ~~upon~~ **on** third **parties** ~~- party service providers and technologies~~ to operate critical business systems to process sensitive information in a variety of contexts, including, without limitation, ~~third- party providers of information technology infrastructure,~~ cloud- based infrastructure **, data center facilities** , encryption and authentication technology, employee email, content delivery to customers, and other functions. Our ability to monitor these third parties' information security practices is limited, and these third parties may not have adequate information security measures in place. If ~~our~~ **the** third ~~- party service providers~~ **parties with whom we work** experience a security incident or other interruption, we could experience adverse consequences. While we may be entitled to damages if ~~our~~ **the** third ~~- party service providers~~ **parties with whom we work** fail to satisfy their privacy or security- related obligations to us, any award may be insufficient to cover our damages, or we may be unable to recover such award. In addition, supply- chain attacks have increased in frequency and severity, and we cannot guarantee that third parties ~~and~~ **'** infrastructure in our supply chain or ~~our~~ **that of the** third ~~- party partners~~ - **parties** **'** ~~supply chains~~ **with whom we work** have not been compromised. ~~We may expend significant resources or modify our business activities (including our clinical trial activities) to try to protect against security incidents. Certain data privacy and security obligations may require us to implement and maintain specific security measures, industry- standard or reasonable security measures to protect our information technology systems and sensitive information.~~ While we have **implemented** ~~established physical, electronic and organizational~~ security measures designed to **protect** ~~safeguard and secure our systems~~ against security incidents, there can be no assurance that these measures will be effective. We take steps designed to detect, mitigate and remediate vulnerabilities in our information technology systems (such as our hardware and / or software, including that of third parties ~~upon which~~ **with whom** we ~~rely~~ **work**). We **have not and** may not **in the future** , however, detect and remediate all such vulnerabilities including on a timely basis. Further, we **have (and** may **in the future)** ~~experience~~ **experienced** delays in developing and deploying remedial measures and patches designed to address identified vulnerabilities. Vulnerabilities could be exploited and result in a security incident. ~~Any~~ **Certain** of the previously identified or similar threats ~~could~~ **have in the past and may in the future** cause a security incident or other interruption **that** ~~. A security incident or other interruption~~ could result in unauthorized, unlawful, or accidental acquisition, modification, destruction, loss, alteration, encryption, disclosure of, or access to our sensitive information **or our information technology systems or those of the third parties with whom we work** . A security incident or other interruption could disrupt our ability (and that of third parties ~~upon~~ **with** whom we ~~rely~~ **work**) to provide our products ~~. For example, the loss of clinical trial data from completed or ongoing or planned clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data~~ . Our current security measures may be insufficient to prevent or deter such incidents or interruptions. **We may expend significant resources or modify our business activities (including our clinical trial activities) to try to protect against security incidents. Certain data privacy and security obligations have required us to implement and maintain specific security measures, industry- standard or reasonable security measures to protect our information technology systems and sensitive information.** Applicable data privacy and security obligations may require us **, or we may voluntarily choose,** to notify relevant stakeholders, including affected individuals, customers, regulators, and investors, of security incidents **, or to take other actions, such as providing credit monitoring and identity theft protection services** . Such disclosures ~~are~~ **and related actions can be** costly, and the disclosure or the failure to comply with such **applicable** requirements could lead to adverse consequences. If we (or a third party ~~upon~~ **with** whom we ~~rely~~ **work**) experience a security incident or are perceived to have experienced a security incident, we may experience adverse consequences, such as government enforcement actions (for example, investigations, fines, penalties, audits, and inspections); additional reporting requirements and / or oversight; restrictions on processing sensitive information (including personal data); litigation (including class **- action** claims); indemnification obligations; negative publicity; reputational harm; monetary fund diversions; diversion of management attention; interruptions in our operations (including availability of data); financial loss; and other **similar** harms. Security incidents and attendant consequences may **prevent or** cause customers to stop ~~or prevent customers from~~ using our products, deter new customers from using our products, and negatively impact our ability to grow and operate our business. Our contracts may not contain limitations of liability, and even where they do, there can be no assurance that limitations of liability in our contracts are sufficient to protect us from liabilities, damages, or claims related to our data privacy and security obligations. We cannot be sure that our insurance coverage will be adequate or sufficient to protect us from or to mitigate liabilities arising out of our privacy and security practices, that such coverage will continue to be available on commercially reasonable terms or at all, or that such coverage will pay future claims. In addition to experiencing a security incident, third parties may gather, collect, or infer sensitive information about us from public sources, data brokers, or other means that reveals competitively sensitive details about our organization and could be used to undermine our competitive advantage or market position **. Additionally, sensitive information of the Company or our customers could be leaked, disclosed, or revealed as a result of or in connection with our employees', personnel' s, or vendors' use of generative AI technologies** . We face potential product liability exposure, and if successful claims are brought against us, we may incur substantial liability and have to limit the commercialization of any approved products and / or our product candidates. The use of our product candidates in clinical trials, and the sale of any product for which we obtain regulatory approval, exposes us to the risk of product liability claims. We face inherent risk of product liability related to the testing of our product candidates in human clinical trials,

including liability relating to the actions and negligence of our investigators, and will face an even greater risk if we commercially sell any product candidates that we may develop. For example, we may be sued if any product candidate we develop allegedly causes injury or is found to be otherwise unsuitable during clinical testing, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability or a breach of warranties. Claims could also be asserted under state consumer protection acts. Product liability claims might be brought against us by consumers, healthcare providers or others using, administering or selling our products. If we cannot successfully defend ourselves against these claims, we will incur substantial liabilities or be required to limit commercialization of our product candidates. Even successful defense would require significant financial and management resources. Regardless of merit or eventual outcome, liability claims may result in: ● loss of revenue from decreased demand for our products and / or product candidates; ● impairment of our business reputation or financial stability; ● costs of related litigation; ● substantial monetary awards to patients or other claimants; ● diversion of management attention; ● withdrawal of clinical trial participants and potential termination of clinical trial sites or entire clinical programs; ● the inability to commercialize our product candidates; ● significant negative media attention; ● decreases in our stock price; ● initiation of investigations and enforcement actions by regulators; and ● product recalls, withdrawals or labeling, marketing or promotional restrictions, including withdrawal of marketing approval. We believe we have sufficient insurance coverage in place for our business operations. However, our insurance coverage may not reimburse us or may not be sufficient to reimburse us for any expenses or losses we may suffer. Moreover, insurance coverage is becoming increasingly expensive, and, in the future, we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses due to liability. We intend to expand our insurance coverage to include clinical trials and the sale of commercial products if we obtain FDA or comparable foreign regulatory approval for our product candidates in development, but we may be unable to obtain commercially reasonable product liability insurance for any products approved for marketing, or at all. Failure to obtain and retain sufficient product liability insurance at an acceptable cost could prevent or inhibit the commercialization of products we develop. On occasion, large judgments have been awarded in class action lawsuits based on therapeutics that had unanticipated side effects. A successful product liability claim or series of claims brought against us could cause our stock price to fall and, if judgments exceed our insurance coverage, could decrease our cash, and materially harm our business, financial condition, results of operations, stock price and prospects. Our employees, independent contractors, consultants, commercial partners, principal investigators, CMOs, or CROs may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements and insider trading, which could have a material adverse effect on our business. We are exposed to the risk of employee fraud or other misconduct. Misconduct by employees, independent contractors, consultants, commercial partners, principal investigators, CMOs or CROs could include intentional, reckless, negligent, or unintentional failures to comply with FDA regulations, comply with applicable fraud and abuse laws, provide accurate information to the FDA, properly calculate pricing information required by federal programs, report financial information or data accurately or disclose unauthorized activities to us. This misconduct could also involve the improper use or misrepresentation of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. It is not always possible to identify and deter this type of misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. Moreover, it is possible for a whistleblower to pursue an FCA case against us even if the government considers the claim unmeritorious and / or declines to intervene, which could require us to incur costs defending against such a claim. In addition, we are subject to the risk that a person or government could allege such fraud or other misconduct, even if none occurred. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, financial condition, results of operations, stock price and prospects, including the imposition of significant civil, criminal and administrative penalties, damages, monetary fines, disgorgement, possible exclusion from participation in U. S. federal healthcare programs, integrity oversight and reporting obligations to resolve allegations of non- compliance, imprisonment, contractual damages, reputational harm, diminished profits and future earnings, and curtailment of our operations. We have generated significant net operating loss (NOL) carryforwards and research and development tax credits, and our ability to utilize our net operating loss carryforwards and research and development tax credits to reduce future tax payments may be limited or restricted. We have generated significant NOL carryforwards and research and development tax credits (R & D credits) as a result of our incurrence of losses and our conduct of research activities since inception. As of December 31, ~~2023~~ **2024**, we had federal and state NOL carryforwards of approximately $ ~~160~~ **165**. 0 million and $ ~~134~~ **160**. 0 million, respectively. We do not anticipate generating revenue from sales of products for the foreseeable future, if ever, and we may never achieve profitability. Our U. S. federal NOL carryforwards generated in taxable years beginning before January 1, 2018 can be carried forward to each of the 20 taxable years following the year of the loss. These NOL carryforwards could expire unused and be unavailable to offset future income tax liabilities. Under current law, U. S. federal NOLs incurred in tax years beginning after December 31, 2017, totaling $ ~~50~~ **66**. ~~0~~ **5** million, may be carried forward indefinitely, but the utilization of such U. S. federal NOLs is limited. As of December 31, ~~2023~~ **2024**, we also had federal and state R & D credit carryforwards of $ ~~2~~ **4**. ~~6~~ **0** million and $ ~~2~~ **3**. ~~0~~ **1** million, respectively. Our U. S. federal R & D credit carryforwards can be carried forward 20 taxable years. If not utilized in that period, these R & D credit carryforwards could expire unused and be unavailable to offset future income tax liabilities. Under current law, the California state R & D credits carry forward indefinitely until utilized. Under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, and corresponding provisions of state law, if a corporation undergoes an " ownership change, " the corporation' s ability to use its pre- change NOL carryforwards and R & D credits to offset its post- change income and taxes, respectively, may be limited. For purposes of these rules, an " ownership change " generally occurs if one or more stockholders or groups of stockholders who

own at least 5 % of a company' s stock increase their ownership by more than 50 percentage points over their lowest ownership percentage within a rolling three- year period. The application of these rules could limit the amount of NOLs or R & D credit carryforwards that we can utilize annually to offset future taxable income or tax liabilities. In addition, at the state level, there may be periods during which the use of NOLs is suspended or otherwise limited, which could accelerate or permanently increase state taxes owed. **For example, California recently imposed limits on the usability of California state NOL carryforwards and certain state tax credits in tax years beginning after 2023 and before 2027.** Our NOL and R & D credit carryforwards are subject to review and possible adjustment by U. S. and state tax authorities. If we fail to maintain proper and effective internal controls over financial reporting our ability to produce accurate and timely financial statements could be impaired. We are required to maintain internal controls over financial reporting. Commencing with our fiscal year ending December 31, 2024, we must perform system and process design evaluation and testing of the effectiveness of our internal controls over financial reporting to allow management to report on the effectiveness of our internal controls over financial reporting in our Form 10- K filing for that year, as required by Section 404 of the Sarbanes- Oxley Act **of 2002, as amended (the " Sarbanes- Oxley Act ")** . This will require that we incur substantial additional professional fees and internal costs to expand our accounting and finance functions and that we expend significant management efforts. Prior to our initial public offering (IPO), we had never been required to test our internal controls within a specified period and, as a result, we may experience difficulty in meeting these reporting requirements in a timely manner. If we are not able to comply with the requirements of Section 404 of the Sarbanes- Oxley Act in a timely manner, or if we are unable to maintain proper and effective internal controls over financial reporting, we may not be able to produce timely and accurate financial statements. If that were to happen, our investors could lose confidence in our reported financial information, the market price of our stock could decline, and we could be subject to sanctions or investigations by the ~~U. S. Securities and Exchange Commission (the~~ SEC ~~)~~, Nasdaq or other regulatory authorities. These inherent limitations include the realities that judgments in decision- making can be faulty, and that breakdowns can occur because of simple error or mistake. For example, our directors or executive officers could inadvertently fail to disclose a new relationship or arrangement causing us to fail to make a required related party transaction disclosure. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in our control system, misstatements due to error or fraud may occur and not be detected. Our disclosure controls and procedures may not prevent or detect all errors or acts of fraud. We are subject to the periodic reporting requirements of the Securities Exchange Act of 1934, as amended (the **"** Exchange Act **"**). We must design our disclosure controls and procedures to reasonably assure that information we must disclose in reports we file or submit under the Exchange Act is accumulated and communicated to management, and recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. We believe that any disclosure controls and procedures or internal controls and procedures, no matter how well- conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. We may discover weaknesses in our system of internal financial and accounting controls and procedures that could result in a material misstatement of our consolidated financial statements. Our internal control over financial reporting will not prevent or detect all errors and all fraud. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud will be detected. Risks Related to Our Common Stock An active, liquid and orderly trading market for our common stock may not be sustained. Prior to the closing of our IPO in January 2023, there was no public market for shares of our common stock. An active trading market for our shares may not be sustained. You may not be able to sell your shares quickly or at the market price if trading in shares of our common stock is not active. As a result of these and other factors, you may be unable to resell your shares of our common stock. Further, an inactive market may also impair our ability to raise capital by selling shares of our common stock and may impair our ability to enter into strategic partnerships or acquire companies or products by using our shares of common stock as consideration. Our operating results may fluctuate significantly or may fall below the expectations of investors or securities analysts, each of which may cause our stock price to fluctuate or decline. We expect our operating results to be subject to quarterly fluctuations, which makes it difficult for us to predict our future operating results. Our net loss and other operating results will be affected by numerous factors, including: ● the timing and cost of, and level of investment in, research and development and commercialization activities relating to our current and any future product candidates, which will change from time to time; ● the total expenses we incur in connection with establishing, equipping, and operating our current and any future manufacturing facility (ies); ● the cost of manufacturing our current and any future product candidates, which may vary depending on the FDA' s and comparable foreign regulatory authorities' guidelines and requirements, the quantity of production and the terms of any agreements with suppliers; ● results of preclinical studies **and current** and future clinical trials, or the addition or termination of future clinical trials or funding support by us, or future collaborators or licensing partners; ● our execution of any collaboration, licensing or similar arrangements, and the timing of payments we may make or receive under existing or future arrangements or the termination or modification of any such existing or future arrangements; ● any intellectual property infringement lawsuit or opposition, interference or cancellation proceeding in which we may become involved; ● additions and departures of key personnel; ● strategic decisions by us, such as acquisitions, divestitures, spin- offs, joint ventures, strategic investments or changes in business strategy; ● if any of our product candidates receives regulatory approval, the terms of such approval and market acceptance and demand for such product candidates; ● regulatory developments affecting our product candidates; ● changes in accounting pronouncements or changes in our accounting policies; ● **ineffectiveness of our internal controls; ●** changes in the variables used as a basis for valuing these stock- based awards, resulting in changes in the magnitude of the expense that we must recognize **; ● general geopolitical and macroeconomic conditions, including as a result of bank failures, tariffs, global pandemics, the Russia / Ukraine conflict or the Israel- Hamas war** ; and ● potential unforeseen business disruptions that increase our costs or expenses. These factors could result in large fluctuations and

unpredictability in our quarterly and annual operating results. As a result, comparing our operating results on a period- to- period basis may not be meaningful. Investors should not rely on our past results as an indication of our future performance. This variability and unpredictability could also result in our failing to meet the expectations of industry or financial analysts or investors for any period. If our revenue or operating results fall below the expectations of analysts or investors or below any forecasts we may provide to the market, or if the forecasts we provide to the market are below the expectations of analysts or investors, the price of our common stock could decline substantially. Such a stock price decline could occur even when we have met any previously publicly stated revenue and / or earnings guidance we may provide. The market price of our common stock may be volatile and fluctuate substantially, which could result in substantial losses for purchasers of our common stock. The market price of our common stock has fluctuated, and may continue to fluctuate, widely, due to many factors, some of which may be beyond our control. These factors include, without limitation: ● " short squeezes "; ● comments by securities analysts or other third parties, including blogs, articles, message boards and social and other media; ● large stockholders exiting their position in our common stock or an increase or decrease in the short interest in our common stock; ● actual or anticipated fluctuations in our financial and operating results; ● negative public perception of us, our competitors, or the biopharmaceutical and biotechnology industries; and ● overall general market fluctuations. The stock market in general, and the markets for pharmaceutical, biopharmaceutical and biotechnology stocks in particular, have experienced extreme price and volume fluctuations that have been often unrelated or disproportionate to the operating performance of the issuer. In particular, the trading prices for pharmaceutical, biopharmaceutical and biotechnology companies have been highly volatile, and we note recent instances of extreme stock price run- ups followed by rapid price declines and stock price volatility seemingly unrelated to company performance following a number of recent initial public offerings, particularly among companies with relatively smaller public floats. For example, the daily closing market price for our common stock has varied significantly since the commencement of trading of our common stock on Nasdaq on January 26, 2023, ranging between a high price of $ ~~38~~ **40** . ~~00~~ **98** on June ~~21~~ **22** , 2023, and a low price of $ **1. 60 on August** 5 ~~. 56 on February 3~~ , ~~2023~~ **2024** . **Since** ~~During this time,~~ the **closing** ~~price per share~~ of **our IPO** ~~common stock has ranged from an intra- day low of $ 5. 35 per share to an intra- day high of $ 40. 98 per share. During this time~~ , we have not experienced any material changes in our financial condition or results of operations that would explain such price volatility or trading volume. These broad market fluctuations may adversely affect the trading price of our common stock. In particular, a large proportion of our common stock has been and may continue to be traded by short sellers which has put and may continue to put pressure on the supply and demand for our common stock, further influencing volatility in its market price. Additionally, these and other external factors have caused and may continue to cause the market price and demand for our common stock to fluctuate, which may limit or prevent investors from readily selling their shares of common stock and may otherwise negatively affect the liquidity of our common stock. In addition, if the trading volumes of our common shares are low, persons buying or selling in relatively small quantities may easily influence prices of our common shares. This low volume of trades could also cause the price of our common shares to fluctuate greatly, with large percentage changes in price occurring in any trading day session. Holders of our common shares may also not be able to readily liquidate their investment or may be forced to sell at depressed prices due to low volume trading. A decline in the market price of our common shares also could adversely affect our ability to issue additional shares of common shares or other securities and our ability to obtain additional financing in the future. No assurance can be given that an active market in our common shares will develop or be sustained. The market price for our common stock may be influenced by many factors, including: ● results from, and any delays in, our clinical ~~trial~~ **trials** for Olvi- Vec, our preclinical studies and any other future clinical development programs; ● actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts; ● commencement or termination of collaboration, licensing or similar arrangements for our development programs; ● announcements by our competitors of significant acquisitions, strategic partnerships, joint ventures, collaborations or capital commitments; ● failure or discontinuation of any of our development programs; ● our ability to commercialize Olvi- Vec and our other product candidates, if approved, inside and outside of the United States, either independently or working with third parties; ● our partners' and collaborators' ability to successfully commercialize their licensed product candidates; ● developments or setbacks related to drugs that are co- administered with any of our product candidates, such as cellular and targeted therapies; ● regulatory or legal developments in the United States and other countries; ● developments or disputes concerning patent applications, issued patents or other proprietary rights; ● the recruitment or departure of key personnel; ● the level of expenses related to the development of Olvi- Vec and any other product candidate we may develop; ● changes in the competitive landscape in our industry, including results of clinical trials of existing and potential future products that compete with Olvi- Vec and our other product candidates; ● our ability to adequately support future growth; ● variations in our financial results or those of companies that are perceived to be similar to us; ● future accounting pronouncements or changes in our accounting policies; ● announcements or expectations of additional financing efforts by us; ● sales of our common stock by us, our insiders or other stockholders; ● recommendations and changes in estimates or recommendations by securities analysts, if any, that cover our stock; ● changes in the structure of healthcare payment systems; ● market conditions in the pharmaceutical and biotechnology sectors; ● general economic, political, and market conditions and overall fluctuations in the financial markets in the United States and abroad, including bank failures, **tariffs,** global pandemics, the Russia / Ukraine conflict or the ~~war~~ **conflicts** in the Middle East; and ● investors' general perception of us and our business. These and other market and industry factors may cause the market price and demand for our common stock to fluctuate rapidly and substantially, including any stock price run- up, regardless of our actual or expected operating performance and financial condition or prospects, which may limit, prevent or make it difficult for prospective investors to assess the rapidly changing value of our common stock or to sell their shares at or above the price paid for the shares and may otherwise negatively affect the liquidity of our common stock. We do not intend to pay dividends on our common stock so any returns will be limited to the value of our stock. You should not rely on an investment in our common stock to provide dividend income. We currently anticipate that we will retain future earnings for

the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future. Any return to stockholders will therefore be limited to the appreciation of their stock, which may never occur, as the only way to realize any return on their investment. Our principal stockholders and management own a significant percentage of our stock and are able to exert significant control over matters subject to stockholder approval. Our executive officers and directors, combined with our stockholders who own more than 5 % of our outstanding capital stock, beneficially own shares representing a significant percentage of our common stock. Therefore, these stockholders have the ability to influence us through this ownership position. These stockholders may be able to determine all matters requiring stockholder approval. For example, these stockholders may be able to control elections of directors, amendments of our organizational documents, or approval of any merger, sale of assets, or other major corporate transaction. This may prevent or discourage unsolicited acquisition proposals or offers for our common stock that you may feel are in your best interest as one of our stockholders. Sales of a substantial number of shares of our common stock by our existing stockholders in the public market could cause our stock price to fall. Sales of a substantial number of shares of our common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock. ~~For example, Aladar Szalay, Ph. D. and his affiliated entities have sold a substantial number of shares of our common stock since July 24, 2023, the lock- up agreement expiration date in connection with our initial public offering.~~ In addition, shares of common stock that are either subject to outstanding options or reserved for future issuance under our employee benefit plans will become eligible for sale in the public market to the extent permitted by the provisions of various vesting schedules and Rule 144 and Rule 701 under the Securities Act of 1933, as amended (**the "** Securities Act **"**). If these additional shares of common stock are sold, or if it is perceived that they will be sold, in the public market, the trading price of our common stock could decline. Future sales and issuances of our common stock or rights to purchase common stock, including pursuant to our equity incentive plans, could result in additional dilution of the percentage ownership of our stockholders and could cause our stock price to fall. We expect that we will need significant additional capital in the future to continue our planned operations, including conducting clinical trials, commercialization efforts, expanded research and development activities, and costs associated with operating a public company. To raise capital, we may sell common stock, convertible securities or other equity securities in one or more transactions at prices and in a manner we determine from time to time. If we sell common stock, convertible securities or other equity securities, investors may be materially diluted by subsequent sales. Such sales may also result in material dilution to our existing stockholders, and new investors could gain rights, preferences and privileges senior to the holders of our common stock. **In May 2024, we completed an underwritten follow- on public offering of 7, 500, 000 shares of our common stock and accompanying warrants to purchase 7, 500, 000 shares of our common stock, including the partial exercise of the underwriters' option to purchase additional shares, at a combined offering price of $ 4. 00 per share. The total net proceeds from the offering were approximately $ 27. 7 million, after deducting underwriting discounts, commissions and offering expenses payable by us. In February 2024, we entered into a Sales Agreement with Guggenheim Securities, LLC (Guggenheim) implementing an " at- the- market " offering program (the ATM). In the ATM, we may offer and sell, from time to time and at our option, up to an aggregate of $ 100. 0 million of shares of our common stock through Guggenheim, acting as sales agent. Guggenheim is entitled to a fixed commission rate of up to 3. 0 % of the gross sales proceeds of shares sold under the ATM. During the year ended December 31, 2024, we sold an aggregate of 5, 460 shares of common stock under the ATM.** Pursuant to our 2022 Equity Incentive Plan (the **"** 2022 Plan **"**) and the 2023 Inducement Plan (the **"** Inducement Plan **"**), we are authorized to grant equity awards to our employees, directors and consultants. Additionally, the number of shares of our common stock reserved for issuance under our 2022 Plan will automatically increase on January 1 of each year, beginning on January 1, 2024 and continuing through and including January 1, 2032, by 5 % of the total number of shares of our capital stock outstanding on December 31 of the preceding calendar year, or a lesser number of shares determined by our board of directors. In addition, pursuant to our ~~ESPP~~ **Employee Stock Purchase Plan** , the number of shares of our common stock reserved for issuance will automatically increase on January 1 of each calendar year, beginning on January 1, 2024 through January 1, 2032, by the lesser of (i) 1 % of the total number of shares of our common stock outstanding on December 31 of the preceding calendar year, and (ii) 2, 100, 000 shares of common stock; provided that before the date of any such increase, our board of directors may determine that such increase will be less than the amount set forth in clauses (i) and (ii). Unless our board of directors elects not to increase the number of shares available for future grant each year, our stockholders may experience additional dilution, which could cause our stock price to fall. We are an emerging growth company and a smaller reporting company, and the reduced reporting 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 ~~Tax~~ **Jumpstart our Business Startups** Act **of 2012 (the " JOBS Act ")** . For as long as we continue to be an emerging growth company, we may take advantage of certain exemptions from various public company reporting requirements, including being permitted to provide only two years of audited financial statements, in addition to any required unaudited interim financial statements with correspondingly reduced " Management' s Discussion and Analysis of Financial Condition and Results of Operations " disclosure in this Annual Report, not being required to have our internal control over financial reporting audited by our independent registered public accounting firm under Section 404 of the Sarbanes- Oxley Act, reduced disclosure obligations regarding executive compensation in this Annual Report and our periodic reports and proxy statements, 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. We may take advantage of these exemptions until the last day of the fiscal year ending after the fifth anniversary of our IPO (i. e. ~~January 25~~ **December 31** , 2028) or until we are no longer an emerging growth company, whichever is earlier. We will cease to be an emerging growth company prior to the end of such five- year period if certain earlier events occur, including if we become a " large accelerated filer " as defined in Rule 12b- 2 under the

Exchange Act, our annual gross revenues exceed $ 1. 235 billion or we issue more than $ 1. 0 billion of non- convertible debt in any three- year period. Under the ~~Tax~~ **JOBS** Act, emerging growth companies can also delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have elected to use this extended transition period under the ~~Tax~~ **JOBS** Act until the earlier of the date we (i) are no longer an emerging growth company or (ii) affirmatively and irrevocably opt out of the extended transition period provided in the ~~Tax~~ **JOBS** Act. We are also a " smaller reporting company " as defined in the Exchange Act. We may continue to be a smaller reporting company even after we are no longer an emerging growth company, which would allow us to take advantage of many of the same exemptions available to emerging growth companies, including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes- Oxley Act and reduced disclosure obligations regarding executive compensation. We will be able to take advantage of these scaled disclosures for so long as our voting and non- voting common stock held by non- affiliates is less than $ 250. 0 million measured on the last business day of our second fiscal quarter, or our annual revenue is less than $ 100. 0 million during the most recently completed fiscal year and our voting and non- voting common stock held by non- affiliates is less than $ 700. 0 million measured on the last business day of our second fiscal quarter. Investors may find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile. Provisions in our amended and restated certificate of incorporation and amended and restated bylaws and under Delaware law could make an acquisition of us, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management. Provisions in our amended and restated certificate of incorporation and our amended and restated bylaws and provisions of Delaware law may discourage, delay or prevent a merger, acquisition or other change in control of us that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares. These provisions also could limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. In addition, because our board of directors is responsible for appointing the members of our management team, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. Among other things, these provisions: ● establish a classified board of directors such that not all members of the board are elected at one time; ● allow the authorized number of our directors to be changed only by resolution of our board of directors; ● limit the manner in which stockholders can remove directors from the board; ● establish advance notice requirements for stockholder proposals that can be acted on at stockholder meetings and nominations to our board of directors; ● require that stockholder actions must be effected at a duly called stockholder meeting and prohibit actions by our stockholders by written consent; ● prohibit our stockholders from calling a special meeting of our stockholders; ● authorize our board of directors to issue preferred stock without stockholder approval, which could be used to institute a stockholder rights plan, or so- called " poison pill, " that would work to dilute the stock ownership of a potential hostile acquirer, effectively preventing acquisitions that have not been approved by our board of directors; and ● require the approval of the holders of at least 66 2 / 3 % of the votes that all our stockholders would be entitled to cast to amend or repeal certain provisions of our charter or bylaws. Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which prohibits a person who owns 15 % or more 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 15 % or more of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner. These provisions could discourage potential acquisition proposals and could delay or prevent a change in control transaction. They could also have the effect of discouraging others from making tender offers for our common stock, including transactions that may be in your best interests. These provisions may also prevent changes in our management or limit the price that investors are willing to pay for our stock. Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware and the U. S. federal district courts are the exclusive forums for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees. Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware is the exclusive forum for the following types of actions or proceedings under Delaware statutory or common law: ● any derivative action or proceeding brought on our behalf; ● any action asserting a breach of fiduciary duty; ● any action asserting a claim against us arising under the Delaware General Corporation Law, our amended and restated certificate of incorporation or our amended and restated bylaws; and ● any action asserting a claim against us that is governed by the internal affairs doctrine. This provision does not apply to suits brought to enforce a duty or liability created by the Exchange Act. Furthermore, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all such Securities Act actions. Accordingly, both state and federal courts have jurisdiction to entertain such claims. To prevent having to litigate claims in multiple jurisdictions and the threat of inconsistent or contrary rulings by different courts, among other considerations, our amended and restated certificate of incorporation further provides that the federal district courts of the United States will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act. While the Delaware courts have determined that such choice of forum provisions are facially valid and several state trial courts have enforced such provisions and required that suits asserting Securities Act claims be filed in federal court, there is no guarantee that courts of appeal will affirm the enforceability of such provisions and a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive forum provisions. In such instance, we would expect to vigorously assert the validity and enforceability of the exclusive forum provisions of our amended and restated certificate of incorporation. This may require significant additional costs associated with resolving such action in other jurisdictions and the provisions may be enforced by a court in those other jurisdictions. If a court were to find the exclusive forum provision in our amended and restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur further significant additional costs associated with

litigating Securities Act claims in state court, or both state and federal court, which could harm our business, financial condition, results of operations, and prospects. Further, this exclusive forum provision may limit a stockholder' s ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers, or other employees, which may discourage lawsuits against us and our directors, officers and other employees. General Risk Factors We incur significantly increased costs as a result of operating as a public company, and our management is required to devote substantial time to new compliance initiatives and corporate governance practices. As a public company, we incur significant legal, accounting, and other expenses that we did not incur as a private company. We are subject to the reporting requirements of the Exchange Act, which require, among other things, that we file with the SEC annual, quarterly, and current reports with respect to our business and financial condition. In addition, the Sarbanes- Oxley Act, as well as rules subsequently adopted by the SEC and Nasdaq to implement provisions of the Sarbanes- Oxley Act, impose significant requirements on public companies, including requiring establishment and maintenance of effective disclosure and financial controls and changes in corporate governance practices. Further, in July 2010, the Dodd- Frank Wall Street Reform and Consumer Protection Act (the " Dodd- Frank Act ") was enacted. There are significant corporate governance and executive compensation related provisions in the Dodd- Frank Act that require the SEC to adopt additional rules and regulations in these areas such as " say on pay " and proxy access. Emerging growth companies and smaller reporting companies are exempted from certain of these requirements, but we may be required to implement these requirements sooner than budgeted or planned and thereby incur unexpected expenses. Stockholder activism, the current political environment and the current high level of government intervention and regulatory reform may lead to substantial new regulations and disclosure obligations, which may lead to additional compliance costs and impact the manner in which we operate our business in ways we cannot currently anticipate. We expect the rules and regulations applicable to public companies to substantially increase our legal and financial compliance costs and to make some activities more time- consuming and costly. If these requirements divert the attention of our management and personnel from other business concerns, they could have a material adverse effect on our business, financial condition, and results of operations. The increased costs will decrease our net income or increase our net loss, and may require us to reduce costs in other areas of our business or increase the prices of our products or services. For example, we expect these rules and regulations to make it more difficult and more expensive for us to obtain director and officer liability insurance and we may be required to incur substantial costs to maintain the same or similar coverage. We cannot predict or estimate the amount or timing of additional costs we may incur to respond to these requirements. The impact of these requirements could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, our board committees or as executive officers. Failure to build our finance infrastructure and improve our accounting systems and controls could impair our ability to comply with the financial reporting and internal controls requirements for publicly traded companies. As a public company, we operate in an increasingly demanding regulatory environment, which requires us to comply with the Sarbanes- Oxley Act, the regulations of the Nasdaq Capital Market, the rules and regulations of the SEC, expanded disclosure requirements, accelerated reporting requirements and more complex accounting rules. Company responsibilities required by the Sarbanes- Oxley Act include establishing corporate oversight and adequate internal control over financial reporting and disclosure controls and procedures. Effective internal controls are necessary for us to produce reliable financial reports and are important to help prevent financial fraud. Commencing with our fiscal year ending December 31, 2024, we must perform system and process evaluation and testing of our internal controls over financial reporting to allow management to report on the effectiveness of our internal controls over financial reporting in our **Annual Report on** Form 10- K filing for that year, as required by Section 404 of the Sarbanes- Oxley Act. Prior to our IPO, we had never been required to test our internal controls within a specified period and, as a result, we may experience difficulty in meeting these reporting requirements in a timely manner. We anticipate that the process of building our accounting and financial functions and infrastructure will require significant additional professional fees, internal costs and management efforts. For example, we expect that we will need to implement new systems to enhance and streamline the management of our financial, accounting, human resources and other functions. However, such systems will likely require us to complete many processes and procedures for the effective use of the systems, which may result in substantial costs. Any disruptions or difficulties in implementing or using these systems could adversely affect our controls and harm our business. Moreover, such disruption or difficulties could result in unanticipated costs and diversion of management attention. In addition, we may discover weaknesses in our system of internal financial and accounting controls and procedures that could result in a material misstatement of our financial statements. Our internal control over financial reporting will not prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system' s objectives will be met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud will be detected. If we are not able to comply with the requirements of Section 404 of the Sarbanes- Oxley Act in a timely manner, or if we are unable to maintain proper and effective internal controls, we may not be able to produce timely and accurate financial statements. If we cannot provide reliable financial reports or prevent fraud, our business and results of operations could be harmed, investors could lose confidence in our reported financial information and we could be subject to sanctions or investigations by Nasdaq, the SEC or other regulatory authorities. Future changes in financial accounting standards or practices may cause adverse and unexpected revenue fluctuations and adversely affect our reported results of operations. Future changes in financial accounting standards may cause adverse, unexpected revenue fluctuations and affect our reported financial position or results of operations. Financial accounting standards in the United States are constantly under review and new pronouncements and varying interpretations of pronouncements have occurred with frequency in the past and are expected to occur again in the future. As a result, we may be required to make changes in our accounting policies. Those changes could affect our financial condition and results of operations or the way in which such financial condition and results of operations are reported. We intend to invest resources to comply with evolving standards, and this investment may result in increased general and administrative expenses

and a diversion of management time and attention from business activities to compliance activities. See the section titled " Management' s Discussion and Analysis of Financial Condition and Results of Operations- Recent Accounting Pronouncements. " Changes in tax laws or regulations that are applied adversely to us or our customers may have a material adverse effect on our business, cash flow, financial condition or results of operations. New income, sales, use or other tax laws, statutes, rules, regulations or ordinances could be enacted at any time, which could adversely affect our business operations and financial performance. Further, existing tax laws, statutes, rules, regulations or ordinances could be interpreted, changed, modified or applied adversely to us. For example, the Tax Act, the Coronavirus Aid, Relief, and Economic Security Act, and the IRA enacted many significant changes to the U. S. tax laws. Future guidance from the Internal Revenue Service and other tax authorities with respect to such legislation may affect us, and certain aspects thereof could be repealed or modified in future legislation. In addition, it is uncertain if and to what extent various states will conform to federal tax legislation. Changes in corporate tax rates, the realization of net deferred tax assets relating to our operations, the taxation of foreign earnings, and the deductibility of expenses under the Tax Act or future reform legislation could have a material impact on the value of our deferred tax assets, could result in significant one- time charges, and could increase our future U. S. tax expense. If securities analysts do not publish research or reports about our business or if they publish negative evaluations of our stock, the price of our stock could decline. The trading market for our common stock will rely, in part, on the research and reports that industry or financial analysts publish about us or our business. We may never obtain research coverage by industry or financial analysts. If no or few analysts commence coverage of us, the trading price of our stock would likely decrease. Even if we do obtain analyst coverage, 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. Our failure to meet Nasdaq' s continued listing requirements could result in a delisting of our common stock. If we fail to satisfy the continued listing requirements of Nasdaq, such as the corporate governance requirements or the minimum closing bid price requirement, Nasdaq may take steps to delist our common stock. Such a delisting would likely have a negative effect on the price of our common stock and would impair your ability to sell or purchase our common stock when you wish to do so. In the event of a delisting, we can provide no assurance that any action taken by us to restore compliance with listing requirements would allow our common stock to become listed again, stabilize the market price or improve the liquidity of our common stock, prevent our common stock from dropping below the Nasdaq minimum bid price requirement or prevent future non- compliance with the listing requirements of Nasdaq. We could be subject to securities class action litigation. In the past, securities class action litigation has often been brought against public companies following declines in the market prices of their securities. This risk is especially relevant for biopharmaceutical companies, which have experienced significant stock price volatility in recent years. If we face such litigation, it could result in substantial costs and a diversion of management' s attention and our resources, which could harm our business. Item 1B. Unresolved Staff Comments. None **.** Item 1C. Cybersecurity Risk management and strategy We have implemented and maintain various information security processes designed to identify, assess and manage material risks from cybersecurity threats to our critical computer networks, third **-** party hosted services, communications systems, hardware and software, and our critical data, including intellectual property, confidential information that is proprietary, strategic or competitive in nature, and clinical trial data (~~"~~ Information Systems and Data ~~"~~). The Company engages two external cybersecurity and information technology consultants to work with the Company, including the general counsel, to help identify, assess and manage the Company' s cybersecurity threats and risks **, including through the use of the Company' s information security risk register** . This group works to identify and assess risks from cybersecurity threats by monitoring and evaluating our threat environment using various methods, including, for example: manual and automated tools, subscribing to reports and services that identify cybersecurity threats, analyzing reports of threats and actors, conducting scans of the threat environment, and conducting third- party threat assessments. Depending on the environment, we implement and maintain various technical, physical, and organizational measures, processes, standards and policies designed to manage and mitigate material risks from cybersecurity threats to our Information Systems and Data, including, for example: a vulnerability management policy, disaster recovery and business continuity plans, network security controls and data segregation (for certain systems), employee training, and cybersecurity insurance. Our assessment and management of material risks from cybersecurity threats are integrated into the Company' s overall risk management processes. Cybersecurity risk is addressed as a component of the Company' s enterprise risk management program and identified in the Company' s risk register and senior management prioritizes our risk management processes and reports to the ~~audit~~ **Audit** ~~committee~~ **Committee** of the ~~board~~ **Board** of ~~directors~~ **Directors** , which evaluates our overall enterprise risk. We use third- party service providers to assist us from time to time to identify, assess, and manage material risks from cybersecurity threats, including, for example cybersecurity consultants and professional services firms (including legal counsel). We **also** use third- party service providers to perform a variety of **other** functions throughout our business, such as application providers, hosting companies, contract research organizations, contract manufacturing organizations, and distributors. We have a vendor management program to manage cybersecurity risks associated with our use of these providers. The program includes a review of certain ~~vendor~~ **vendors** ' ~~s~~ written security program, a risk assessment for certain vendors, and imposition of information security contractual obligations on ~~such~~ **certain** vendors. For a description of the risks from cybersecurity threats that may materially affect the Company and how they may do so, see our risk factors under Part 1. Item 1A. Risk Factors in this Annual Report on Form 10- K, including " If our information technology systems or ~~data, or~~ those ~~of~~ third parties ~~upon which~~ **with whom** we ~~rely,~~ **work or our data** are or were compromised, we could experience adverse consequences resulting from such compromise, including but not limited to regulatory investigations or actions; litigation ~~and mass arbitration demands~~ ; fines and penalties; disruptions of our business operations; reputational harm; loss of revenue or profits; loss of customers or sales; and other adverse consequences. " ~~GovernanceOur~~ --- **Governance Our** ~~board~~ **Board** of ~~directors~~ **Directors** addresses the Company' s cybersecurity risk management as part of its general oversight function.

The Audit Committee is responsible for overseeing the Company' s cybersecurity risk management processes, including oversight of mitigation of risks from cybersecurity threats. Our cybersecurity risk assessment and management processes are implemented and maintained by our Cybersecurity Risk Management Team, ~~including Sean Ryder (~~ **which includes our** General Counsel) ~~and~~ an external cybersecurity consultant with over 15 years of experience providing cybersecurity services and training (who is also a member of the Company' s Cybersecurity Risk Management Team) and an external information technology consultant. Our **Chief Executive Officer (** CEO **)** is responsible for hiring appropriate personnel, helping to integrate cybersecurity risk considerations into the Company' s overall risk management strategy, and communicating key priorities to relevant personnel. The Company' s Cybersecurity Risk Management Team is responsible for developing budgets, helping prepare for cybersecurity incidents, approving cybersecurity processes, and reviewing security assessments and other security-related reports. Our cybersecurity incident response and vulnerability management processes are designed to escalate certain cybersecurity incidents to members of management depending on the circumstances, including our **Chief Financial Officer (** CFO **)** and CEO. Our CFO and CEO work with the Company' s Incident Response Team to help the Company **triage, contain,** mitigate and remediate cybersecurity incidents of which they are notified. In addition, the Company' s incident response and vulnerability management processes include reporting to the Audit Committee for certain cybersecurity incidents. The ~~board~~ **Board** of ~~directors~~ **Directors** and Audit Committee receive regular reports from the Company' s Cybersecurity Risk Management Team concerning the Company' s significant cybersecurity threats and risk and the processes the Company has implemented to address them. The ~~board~~ **Board** of ~~directors~~ **Directors** and Audit Committee also ~~receives~~ **receive** various reports, summaries ~~or~~ **and** presentations related to cybersecurity threats, risk and mitigation. Item 2. Properties. Our current corporate headquarters are located in Westlake Village, California, consisting of 4, 050 square feet of office space. The lease for this facility expires in July 2027 ~~. Additionally, we lease 6, 880 square feet in San Diego, California for research and development and pharmaceutical development laboratory and office space; the lease expires in December 2024~~ . We also lease two facilities in San Diego, California, a 7, 569 square- foot facility, which contains our manufacturing operations and our translational science laboratory and a 6, 755 square foot facility which will provide laboratory capabilities and administrative offices when upgrades are completed. The leases expire in October 2030, and we have the option to extend each lease for an additional five years. We have a business office located in Redlands, California, consisting of 1, 884 square feet; the lease for this facility is on a month- to- month basis. We believe that our existing and planned facilities will be adequate to meet our current needs and that our leases can be renewed, or suitable alternative spaces will be available in the future, on commercially reasonable terms. Item 3. Legal Proceedings. ~~As of December 31, 2023, we were involved in one pending litigation. On November 6, 2023, the Los Angeles County Superior Court granted the Company' s motion for summary judgment and issued an order and final judgment dismissing all claims against the Company with prejudice. Although the plaintiff filed a notice of appeal of the dismissal order with the California Court of Appeal, the plaintiff subsequently filed a request for dismissal of his appeal, which was dismissed by the appellate court on February 23, 2024. Accordingly, the order and final judgment dismissing all claims against the Company with prejudice is now final.~~ In the future, we may be involved in additional actual and / or threatened legal proceedings, claims, investigations and government inquiries arising in the ordinary course of our business, including legal proceedings, claims, investigations and government inquiries involving intellectual property, data privacy and security, other torts, illegal or objectionable content, consumer protection, securities, employment, contractual rights, civil rights infringement, false or misleading advertising, or other legal claims relating to our business. Item 4. Mine Safety Disclosures Not applicable. PART II Item 5. Market for Registrant' s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities Market Information Our common stock, par value $ 0. 001 per share, is traded on The Nasdaq Capital Market under the symbol " GNLX. " Trading of our common stock commenced on January 26, 2023, following the completion of our **initial public offering (** IPO **)** . Prior to that time, there was no established public trading market for our common stock. Holders of Record As of March ~~26~~ **13** , ~~2024~~ **2025** , there were approximately ~~1101~~ **1, 026** stockholders of record of our common stock. Certain shares are held in street name and accordingly, the number of beneficial owners of such shares is not known or included in the foregoing number. Dividend Policy We have never declared or paid ~~a~~ cash ~~dividend~~ **dividends** on our common stock. We currently intend to retain all available funds and any future earnings, if any, to fund the development and expansion of our business and we do not anticipate paying any cash dividends in the foreseeable future. Any future determination to pay dividends will be made at the discretion of our board of directors, subject to applicable laws and will depend upon, among other factors, our results of operations, financial condition, contractual restrictions and capital requirements. Securities Authorized for Issuance under Equity Compensation Plans See Item 12 of Part III of this Annual Report **on Form 10- K (the Annual Report)** for information about our equity compensation plans, which is incorporated by reference herein. Recent Sales of Unregistered Securities ~~None. Use of Proceeds On January 25, 2023, our Registration Statement on Form S- 1, as amended (File No. 333- 265828) was declared effective in connection with the IPO of our common stock, pursuant to which we registered an aggregate of 2, 500, 000 shares of our common stock, of which we sold 2, 653, 000 shares, including the partial exercise of the underwriters' option to purchase additional shares, at a price to the public of $ 6. 00 per share, for aggregate gross proceeds of $ 15. 9 million. The offering closed on January 30, 2023. The underwriting discounts and commissions for the IPO totaled approximately $ 1. 4 million. We incurred additional costs of approximately $ 2. 1 million in offering expenses, which when added to the underwriting discounts and commissions paid by us, amounts to total fees and costs of approximately $ 3. 5 million. Thus, estimated net offering proceeds to us, after deducting underwriting discounts, commissions and offering expenses, were approximately $ 12. 4 million, including the partial exercise of the underwriters' overallotment option. No offering expenses were paid directly or indirectly to any of our directors or officers (or their associates) or persons owning 10 percent or more of any class of our equity securities or to any other affiliates. The Benchmark Company, LLC and Brookline Capital Markets, a division of Arcadia Securities, LLC, acted as joint book- running managers for the IPO. The net proceeds from our initial public offering are being held in cash, cash equivalents and investments securities, primarily in money market funds invested in U. S.~~

~~government agency securities and U. S. treasury securities. These investments are made pursuant to our investment policy and we may further invest these funds in high- quality marketable debt instruments of corporations and government sponsored enterprises with contractual maturity dates of generally less than two years until needed to fund our operations. There has been no material change in the use of proceeds from our initial public offering as described in our final prospectus filed with the SEC pursuant to Rule 424 (b) (4) on January 26, 2023. As of December 31, 2023, we had used all of the net proceeds received from our initial public offering to support our operations.~~ Purchases of Equity Securities by the Issuer and Affiliated Purchasers ~~Not applicable.~~ Item 6. [Reserved] Item 7. Management' s ~~discussion~~ **Discussion** and ~~analysis~~ **Analysis** of ~~financial~~ **Financial** ~~condition~~ **Condition** and ~~results~~ **Results** of ~~operations~~ **Operations** The following discussion and analysis should be read in conjunction with our financial statements and related notes included elsewhere in this Annual Report. This discussion and analysis and other parts of this Annual Report contain forward- looking statements based upon current beliefs that involve risks, uncertainties and assumptions, such as statements regarding our plans, objectives, expectations and intentions. Our actual results and the timing of selected events could differ materially from those described in or implied by these forward- looking statements as a result of several factors, including those set forth under " Risk Factors " and elsewhere in this Annual Report. You should carefully read the " Risk Factors " section of this Annual Report to gain an understanding of the important factors that could cause actual results to differ materially from our forward- looking statements. Please also see the section ~~entitled~~ -- **titled** " Special Note Regarding Forward- Looking Statements. " Overview Genelux is a late clinical- stage biopharmaceutical company focused on developing a pipeline of next- generation oncolytic viral immunotherapies for patients suffering from aggressive and / or difficult- to- treat solid tumor types. Our clinical and preclinical product candidates are intended to selectively kill tumor cells and induce a robust immune response against a patient' s tumor neoantigens. Importantly, our oncolytic immunotherapy product candidates are " off- the- shelf " personalized immunotherapies. In other words, while we administer the same virus product to different patients, the cellular immune response generated is expected to be specific to the unique neoantigens in that patient. Our product candidate, Olvi- Vec (olvimulogene nanivacirepvec), is a proprietary, modified strain of the vaccinia virus (VACV), a stable DNA virus with a large engineering capacity. Employing our proprietary selection technology and discovery and development platform (CHOICE), we have developed an extensive library of isolated and engineered oncolytic VACV immunotherapeutic product candidates. These provide potential utility in multiple tumor types in both the monotherapy and combination therapy settings, via physician- preferred administration techniques, including regional (e. g., intraperitoneal), local and systemic (e. g., intravenous) delivery routes. Informed by our CHOICE platform and supported by extensive clinical and preclinical data, we believe we have the capacity to develop a pipeline of treatment options to address high unmet medical needs for those patients with insignificant or unsatisfactory responses to standard- of- care therapies, including chemotherapies. Since inception, our operations have focused on organizing and staffing our company, business planning, raising capital, acquiring and developing our technology, establishing our intellectual property portfolio, identifying potential product candidates and undertaking preclinical and clinical studies and manufacturing. We do not have any products approved for sale and have not generated any revenue from product sales. Since inception, we have incurred significant operating losses. Our net losses were $ **29. 9 million and $** 28. 3 million **, respectively,** ~~and $ 5. 2 million~~ for the years ended December 31, **2024 and** 2023 ~~and 2022, respectively~~. As of December 31, ~~2023~~ **2024** , we had an accumulated deficit of $ ~~221~~ **251** . ~~5~~ **4** million. We expect to continue to incur significant and increasing expenses and operating losses for the foreseeable future, as we advance our current and future product candidates through preclinical and clinical development, manufacture drug product and drug supply, seek regulatory approval for our current and future product candidates, maintain and expand our intellectual property portfolio, hire additional research and development and business personnel and operate as a public company. We will not generate revenue from commercially approved product sales unless and until we successfully complete clinical development and obtain regulatory approval for our product candidates. In addition, if we obtain regulatory approval for our product candidates and do not enter into a third- party commercialization partnership, we expect to incur significant expenses related to developing our commercialization capability to support product sales, marketing, manufacturing, and distribution activities. As a result, we will need substantial additional funding to support our continuing operations and pursue our growth strategy. Until we can generate significant revenue from product sales, if ever, we expect to finance our operations through a combination of public or private equity offerings and debt financings or other sources, such as potential collaboration agreements, strategic alliances and licensing arrangements. We may be unable to raise additional funds or enter into such other agreements or arrangements when needed on acceptable terms, or at all. Our failure to raise capital or enter into such agreements as ~~,~~ and when needed, could have a material adverse effect on our business, results of operations and financial condition. ~~At December 31, 2023, we had cash and cash equivalents, and short- term investments, on hand in the amount of $ 23. 2 million.~~ During the year ended December 31, 2023, we closed our ~~initial public offering (~~ IPO ~~)~~ and two private placements (**the** Private Placements) and received $ 37. 8 million of ~~aggregate~~ net proceeds from these offerings. ~~We also~~ **During the year ended December 31, 2024, we closed a second public offering and** received ~~commitments through the Private Placements for the funding of an additional~~ $ ~~24~~ **27** . ~~0~~ **7** million **of net proceeds from** that **offering** ~~were due by November 15, 2023. In November 2023, we agreed to extend the funding deadline for $ 2. 0 million of the remaining committed investment amounts to March 31, 2024. The investor who was obligated to fund $ 22. 0 million of the remaining committed investment amounts has not made such payments and has indicated that he does not intend to comply with his investment commitments through the Private Placements. We are currently evaluating our potential remedies with respect to this investor' s non- compliance with his contractual obligations to us. We expect our existing cash and cash equivalents, and short- term investments, will last for at least the next 12 months~~ . Due to the funds received through these offerings, and the conversion of preferred stock and convertible notes payable upon the closing of the IPO, we ~~had~~ **have** shareholders' equity of $ ~~19~~ **27** . ~~5~~ **9** million at December 31, ~~2023~~ **2024 . We expect our cash, cash equivalents and short- term investments, totaling $ 30. 9 million at December 31, 2024, to last until the first quarter of 2026** . Recent Developments **Underwritten Public Offering On March 26, 2025, we completed an underwritten offering of**

3, 000, 000 shares of our common stock at an offering price of $ 3. 50 per share. The **gross proceeds received from the offering were $ 10. 5 million before deducting underwriting discounts and commissions and estimated offering expenses payable by the** Company **. US** ~~currently is engaged in regulatory study start - up activities of~~ **Based Phase 2 Trial in NSCLC In October 2024, we announced that the first patient had been dosed in** a Phase 2, open- label, randomized, and controlled clinical trial designed to evaluate the efficacy and safety of intravenously delivered Olvi- Vec oncolytic VACV for patients with recurrent **non- small cell lung cancer (** NSCLC **)** in the United States. In accordance with our ~~licensing~~ **license** agreement **with our partner in China** , **Newsoara BioPharma Co. Ltd. (Newsoara), Newsoara is generally obligated to fund** the Phase 2 clinical trial ~~will be funded~~ in its entirety ~~by our partner in China, Newsoara~~ . In November 2023, we agreed with Newsoara that Genelux would directly engage a contract research organization on mutually agreeable terms to conduct certain startup activities for the NSCLC trial in the U. S. only, with Newsoara reimbursing ~~Genelux~~ **us** for the costs and expenses of such agreed- upon startup activities. Newsoara is permitted to defer such reimbursement payments until the completion of its next round of financing, which Newsoara expects to occur in **2025. During the quarter ended September 30,** 2024 **, the Company entered into a Clinical Trial Services Agreement with Hong Kong Tigermed Consulting Co., Ltd., to provide regulatory and development support services for the NSCLC trial in the United States** . Components of Results of Operations Net ~~sales~~ **Sales During the year ended December 30, 2023, under our license agreement with Newsoara, we invoiced and collected $ 0. 2 million relating to supplying product for Newsoara to use in its clinical trials.** During the year ended December 31, ~~2022~~ **2024** , ~~under~~ **we recognized revenue of $ 0. 01 million relating to** the **Company' s** ~~License~~ **license** ~~Agreement~~ **agreement** ~~with Newsoara BioPharma Co. Ltd., dated September 27, 2021 (the Newsoara License Agreement) and the License Agreement~~ with ELIAS Animal Health **,** LLC ~~, dated November 15, 2021, as amended, we recognized revenue of $ 11. 1 million, with a 10 % foreign income tax of $ 1. 1 million being recorded as a provision for foreign income taxes relating to the Newsoara License Agreement. During the year ended December 31, 2022, under the Newsoara License Agreement, we invoiced and collected $ 0. 2 million relating to supplying product for Newsoara to use in its clinical trials. As the product did not ship during the year ended December 31, 2022, we recorded the cash received as deferred revenue until the product was shipped. During the year ended December 31, 2023, we shipped the product to Newsoara and thus recognized the revenue~~ . Operating Expenses Our operating expenses consist of (i) research and development expenses and (ii) general and administrative expenses. Research and Development Expenses Research and development expenses consist primarily of costs incurred for our research and development activities, including our product candidate discovery efforts and preclinical and clinical studies under our research programs, which include: ● employee- related expenses, including salaries, benefits and stock- based compensation expense for our research and development personnel; ● costs of funding research performed by third parties that conduct research and development and preclinical and clinical activities on our behalf; ● costs of manufacturing drug product and drug supply related to our current or future product candidates; ● costs of conducting preclinical studies and clinical trials of our product candidates; ● consulting and professional fees related to research and development activities, including equity- based compensation to non- employees; ● costs of maintaining our laboratory, including purchasing laboratory supplies and non-capital equipment used in our preclinical studies; ● costs related to compliance with clinical regulatory requirements; and ● facility costs and other allocated expenses, which include expenses for rent and maintenance of facilities, insurance, depreciation and other supplies. Research and development costs are expensed as incurred. Costs for certain activities are recognized based on an evaluation of the progress to completion of specific tasks using data such as information provided to us by our vendors and analyzing the progress of our preclinical and clinical studies or other services performed. Significant ~~judgment~~ **judgement** and estimates are made in determining the accrued expense balances at the end of any reporting period. The successful development of our product candidates is highly uncertain. We cannot reasonably estimate or know the nature, timing, and estimated costs of the efforts that will be necessary to complete development of our current or future product candidates. We are also unable to predict when, if ever, material net cash inflows will commence from the sale of our product candidates, if they are approved. This is due to the numerous risks and uncertainties associated with developing product candidates, including the uncertainty of: ● the scope, rate of progress, and expenses of our ongoing research activities as well as any preclinical studies and clinical trials and other research and development activities; ● establishing an appropriate safety profile; ● successful enrollment in and completion of clinical trials; ● whether our product candidates show safety and efficacy in our clinical trials; ● receipt of marketing approvals from applicable regulatory authorities; ● establishing commercial manufacturing capabilities or making arrangements with third- party manufacturers; ● obtaining and maintaining patent and trade secret protection and regulatory exclusivity for our product candidates; ● commercializing product candidates, if and when approved, whether alone or in collaboration with others; and ● continued acceptable safety profile of the products following any regulatory approval. A change in the outcome of any of these variables with respect to the development of our current and future product candidates would significantly change the costs and timing associated with the development of those product candidates. Research and development activities are central to our business model. Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later- stage clinical trials. We expect research and development costs to increase significantly for the foreseeable future as we commence clinical trials and continue the development of our current and future product candidates. However, we do not believe that it is possible at this time to accurately project expenses through commercialization. There are numerous factors associated with the successful commercialization of any of our product candidates, including future trial design and various regulatory requirements, many of which cannot be determined with accuracy at this time based on our stage of development. Additionally, future commercial and regulatory factors beyond our control will impact our clinical development programs and plans. General and Administrative Expenses General and administrative expenses include salaries and other compensation- related costs, including stock- based compensation, for personnel in executive, finance and accounting, business development, operations and administrative roles. Other significant costs include professional service and consulting fees,

including legal fees relating to intellectual property and corporate matters, accounting fees, recruiting costs and costs for consultants who we utilize to supplement our personnel, insurance costs, travel costs, facility and office- related costs not included in research and development expenses. We anticipate that our general and administrative expenses will increase in the future as our business expands to support expected growth in research and development activities, including our future clinical programs. These increases will likely include increased costs related to the hiring of additional personnel and fees to outside service providers, among other expenses. We also anticipate increased expenses associated with being a public company, including costs for audit, legal, regulatory and tax- related services related to compliance with the rules and regulations of the **U. S. Securities and Exchange Commission (the "** SEC **")** , and listing standards applicable to companies listed on a national securities exchange, director and officer insurance premiums, and investor relations costs. In addition, if we obtain regulatory approval for any of our product candidates and do not enter into a third- party commercialization collaboration, we expect to incur significant expenses related to building a sales and marketing team to support product sales, marketing and distribution activities. Results of Operations Comparison of the Years Ended December 31, **2024 and** 2023 ~~and 2022~~ The following table summarizes our results of operations for the years ended December 31, **2024 and** 2023 ~~and 2022~~ (in thousands): December 31, December 31, ~~2023~~ **2024** ~~2022~~ Revenues $ **8 $** 170 ~~$ 11, 068~~ Operating Expenses: Research and development **18, 998** 12, 767 ~~9, 078~~ General and administrative **12, 706** 11, 568 ~~5, 003~~ Total operating expenses **31, 704** 24, 335 ~~14, 081~~ Loss from operations (~~24~~ **31** , ~~165~~ **696**) (~~3~~ **24** , ~~013~~ **165**) Other income (expenses): Interest income **1, 457** 244 **Gain on extinguishment of accounts payable 370** — Interest expense ~~—~~ (173 ~~) (1, 150~~) Debt discount amortization ~~—~~ (649) **Financing costs** — (~~258~~ **3, 152**) Debt extinguishment costs ~~—~~ (402) ~~— Financing costs (3, 152) — Gain on the forgiveness of PPP loan payable — 314~~ Total other **income (** expenses **)** , net **1, 827** (4, 132 ~~) (1, 094) Loss before provision for foreign income taxes (28, 297) (4, 107) Provision for foreign income taxes — (1, 100~~) Net loss $ (~~28, 297~~ - **29, 869**) $ (~~5~~ **28** , ~~207~~ **297**) The table below summarizes our research and development expenses for the years ended December 31, **2024 and** 2023 ~~and 2022~~ (in thousands): **December 31, December 31,** Research and Development Expenses: ~~December 31, 2023~~ **2024** ~~December 31, 2022~~ Employee compensation and related expenses $ **3, 766 $** 2, 538 ~~$ 1, 531~~ Stock compensation **, including the cost of stock options and restricted stock grants 3, 090** 1, 876 ~~368~~ Manufacturing and laboratory materials and other expenses **556** 1, 502 ~~937~~ Outsourced manufacturing services 1, **602 1,** 145 ~~908~~ Clinical and regulatory expenses **8, 204** 3, 698 ~~3, 252~~ Facility- related expenses, including depreciation 1, **320 1,** 356 ~~1, 278~~ Consulting expenses **and contract labor 414** 595 ~~746~~ Other expenses **46** 57 ~~58~~ Total research and development expenses $ **18, 998 $** 12, 767 ~~$ 9, 078~~ Research and development expenses were $ **19. 0 million and $** 12. 8 ~~million and $ 9. 1~~ million for the years ended December 31, **2024 and** 2023 ~~and 2022~~ , respectively, an increase of **approximately** $ ~~3~~ **6** . ~~7~~ **2** million. Significant variations between periods are **primarily** a result of a $ 1. ~~0~~ **2** million increase in employee compensation ~~and related expenses~~ in ~~2023~~ **2024** , primarily related to new employee hires in ~~2023~~ **2024 ;** ~~, and~~ a $ 1. **2 million increase in stock- related compensation in 2024, relating to the increased cost of stock options and restricted stock units in 2024, and a $ 4.** 5 million increase in **clinical and regulatory expenses relating** ~~stock compensation in 2023, primarily related~~ to increased **clinical trial** ~~stock grants in 2023 and the cost~~ **costs** ~~of stock option repricing~~ **associated with our Phase 3 On Prime Registration trial** in ~~2023~~ **2024 and Phase 2 clinical trial for non- small cell lung cancer, which Newsoara is obligated to fully reimburse per the terms of our agreement; and partially offset by a $ 0. 9 million decrease in manufacturing and laboratory materials in 2024** . The table below summarizes our general and administrative expenses for the years ended December 31, **2024 and** 2023 ~~and 2022~~ (in thousands): **December 31, December 31,** General and Administrative Expenses: ~~December 31, 2023 December 31, 2022~~ Employee compensation and related expenses $ 2, **705 $ 2,** 502 ~~$ 1, 520~~ Stock compensation, including the cost of stock ~~option~~ **options** ~~modifications~~ **and restricted stock grants 5, 024** 4, 270 ~~2, 047~~ Professional services 2, **278 2,** 781 ~~290~~ Facility- related expenses ~~371 319~~ Insurance expenses 1, 078 ~~334~~ Consulting and contract labor expenses ~~418 305~~ Other expenses ~~148 188~~ Total general and administrative expenses $ **12, 706 $** 11, 568 ~~$ 5, 003~~ General and administrative expenses were $ **12. 7 million and $** 11. 6 ~~million and $ 5. 0~~ million for the years ended December 31, **2024 and** 2023 ~~and 2022~~ , respectively, an increase of **approximately** $ ~~6~~ **1** . ~~6~~ **1** million. Significant variations between periods are **primarily** a result of a $ ~~1.~~ 0 ~~million increase in employee related costs in 2023, primarily due to new employee hires in 2023; a $ 2~~ . 2 million increase in **employee compensation in 2024, a $ 0. 8 million increase in** stock compensation expense in ~~2023~~ **2024** , ~~primarily~~ due to **the** ~~increased~~ **increase in the cost of** stock **options** ~~grants in 2023~~ and **restricted** ~~the cost of~~ stock **units** ~~option repricing~~ in ~~2023~~ **2024** ~~;~~ **,** a $ ~~2~~ **0** . ~~5~~ **4** million increase in ~~professional service~~ **consulting and contract labor** expenses in ~~2023~~ **2024** , primarily resulting from increased ~~corporate legal~~ **accounting and finance** costs **in 2024, partially offset by** ~~and other professional services related to costs of being a newly publicly- traded company; and~~ a $ 0. ~~7~~ **5** million ~~increase~~ **decrease** in ~~insurance~~ **professional services, primarily resulting from the decrease in legal** expenses **in 2024** ~~, primarily due to increased D & O insurance costs~~ . Other Income (Expenses) **, net** Other income (expenses), net, were $ **1. 8 million and $ (** 4. 1 **)** ~~million and $ 1. 1~~ million for the years ended December 31, **2024 and** 2023 ~~and 2022~~ , respectively. During the year ended December 31, **2024, other income consisted of interest income of $ 1. 4 million from the investment into money market funds and short and long- term investments, while during the same period in** 2023, other ~~expenses~~ **income** consisted of interest ~~expense~~ **income** of $ 0. 2 million **. In 2024** , ~~debt discount amortization~~ **other income also includes a gain on the extinguishment of accounts payable** of $ 0. ~~6 million, debt extinguishment costs of $ 0.~~ 4 million ~~and financing costs of $ 3~~ . **Other expenses** ~~2 million, while~~ during ~~the same period in 2022, other expenses consisted of interest expense of $ 1. 1 million and debt discount amortization of $ 0. 3 million. During~~ the year ended December 31, 2023, ~~other income~~ consisted ~~of interest income on investments in money market funds and other short- term investments~~ of $ 0. 2 million ~~, and during the same period in 2022, other income consisted~~ of **interest expense,** ~~a gain on the forgiveness of a PPP loan payable of~~ $ 0. **6 of debt discount amortization, $ 0. 4 of debt extinguishment costs, and $** 3 **. 2** million **of financing costs. There were no other expenses during the year ended December 31, 2024** . Liquidity and Capital Resources **We** ~~Going Concern The accompanying financial statements~~ have ~~been prepared on a going concern basis,~~

~~which contemplates the realization of assets and the settlement of liabilities and commitments in the normal course of business. As reflected in the accompanying financial statements, we~~ experienced recurring losses from operations since inception and incurred a net loss of $ ~~28~~ **29** . ~~3~~ **9** million and used cash in operations of $ ~~20~~ **21** . ~~3~~ **2** million during the year ended December 31, ~~2023~~ **2024** . These factors raise substantial doubt about our ability to continue as a going concern. Our ability to continue as a going concern is dependent upon our ability to raise additional funds and implement our strategies. The financial statements do not include any adjustments that might be necessary if we are unable to continue as a going concern. ~~At~~ **As of** December 31, ~~2023~~ **2024** , we had cash and ~~cash equivalents, and~~ short- term investments ~~, in the amount~~ of $ ~~23~~ **30** . ~~2~~ **9** million **, however we do not have any committed external source of funds or other support for our development efforts** . ~~The ability~~ **Until we can generate sufficient product revenue** to ~~continue~~ **finance our cash requirements, which we may never do, we expect to finance our future cash needs through a combination of public or private equity offerings and debt financings, or other capital sources such** as ~~a going concern~~ **potential collaborations, strategic alliances, licensing arrangements and other arrangements. Based on our research and development plans, we expect that our existing cash balance may not enable us to fund our planned operating expenses and capital expenditure requirements for at least the next 12 months from the date of filing of this Annual Report. We have based this estimate on assumptions that may prove to be wrong, and we could exhaust our available capital resources sooner than we expect. In addition, because the design and outcome of our anticipated and any future clinical trials** is **highly uncertain, we cannot reasonably estimate** ~~dependent on us attaining and maintaining profitable operations in~~ the **actual amounts necessary to successfully complete the development and commercialization of Olvi- Vec or any** future ~~and raising additional capital~~ **product candidates. Our existing cash balance may not be sufficient** to **complete** ~~meet our obligations and repay our liabilities arising from normal business operations when they~~ -- **the** ~~come due~~ **development of Olvi- Vec or any other product candidate** . **Additionally** ~~Since inception~~ , **although** we have **commitments from investors to** ~~funded~~ -- **fund the remaining aggregate investment amounts in connection with** our **Private Placements** ~~operations primarily through equity and debt financings and licensing income~~ , ~~and~~ we ~~expect to continue to rely on~~ **may not receive some or all of** ~~these~~ -- **the** ~~sources~~ **committed proceeds, due to ongoing liquidity constraints or other factors. The failure to receive all or some** of **the committed proceeds would exhaust our available** capital ~~in the future~~ **resources sooner than expected and will require us to obtain further funding to achieve our business objectives** . No assurance can be given that any future financing will be available or, if available, that it will be on terms that are satisfactory to ~~us~~ **the Company** . Even if we are able to obtain additional financing, it may contain undue restrictions on our operations, in the case of debt financing, **or** cause substantial dilution ~~to~~ **for** our stockholders, in ~~the~~ case of equity financing, or grant unfavorable terms in future licensing agreements. Cash Flows The table below summarizes our cash flow activities for the years ended December 31, **2024 and** 2023 ~~and 2022~~ (in thousands): December 31, December ~~30~~ **31** , Net cash provided by (used in): ~~2023~~ **2024** ~~2022~~ Operating activities $ (~~20~~ **21** , ~~275~~ **228**) $ (~~3~~ **20** , ~~571~~ **275**) Investing activities (~~14~~ **8** , ~~724~~ **131**) (~~49~~ **14, 724**) Financing activities **28, 506** 44, 020 ~~(478)~~ Net increase (decrease) in cash $ **(853) $** 9, 021 ~~$ (4, 098)~~ Operating Activities During the year ended December 31, ~~2023~~ **2024** , we used **cash from operating activities of $ 21. 2 million, compared to** $ 20. 3 ~~million cash in operating activities, compared to $ 3. 6~~ million used during the year ended December 31, ~~2022~~ **2023** . During the year ended December 31, ~~2023~~ **2024** , we incurred a net loss of $ ~~28~~ **29** . ~~3~~ **9** million and had non- cash expenses of $ ~~11~~ **7** . ~~3~~ **9** million, compared to a net loss of $ ~~5~~ **28** . ~~2~~ **3** million and non- cash expenses of $ ~~3~~ **11** . 3 million during the year ended December 31, ~~2022~~ **2023** . The primary non- cash expense during both periods was ~~equity~~ **stock** - related **compensation** ~~expenses,~~ totaling $ ~~9~~ **8** . ~~3~~ **1** million and $ ~~2~~ **6** . ~~4~~ **1** million during the years ended December 31, **2024 and** 2023 ~~and 2022~~ , respectively **,** ~~. We had~~ a **gain on the extinguishment of accounts payable of $ 0. 4 million in 2024; and the fair value of warrants issued in connection with the conversion of convertible notes of** $ 3. ~~3~~ **2** million ~~decrease~~ **in 2023. The net change** in operating assets and liabilities during the year ended December 31, ~~2023~~ **2024 , used cash of $ 0. 8 million** , compared to $ ~~1~~ **3** . ~~7~~ **3** million ~~decrease~~ **used** during the year ended December 31, ~~2022~~ **2023** . The primary ~~use~~ **source** of cash **relating to operating assets and liabilities** during the year ended December 31, ~~2023~~ **2024** was the ~~decrease~~ **increase** in accounts payable and accrued expenses of $ 2. ~~4~~ **2 million; and the primary uses of cash were the decrease in accrued payroll and payroll taxes of $ 1. 1 million, and the increase in prepaid expenses and other assets of $ 0. 5** million. The primary use of cash during the year ended December 31, ~~2022~~ **2023** was the decrease in ~~deferred revenue~~ **accounts payable and accrued expenses** of $ **2.** 4 ~~. 3~~ million. Investing Activities Net cash used in investing activities for the **years ended December 31, 2024 was $ 8. 1 million, consisting of the net purchases of short and long- term investments of $ 7. 7 million, and the purchase of property and equipment of $ 0. 4 million. Net cash used in investing activities for the** year ended December 31, 2023 was $ 14. ~~8~~ **7** million, consisting of ~~the purchase~~ **purchases** of short- term investments of $ 13. 7 million, and **the** ~~purchases~~ - **purchase** of property and equipment ~~for construction- in- progress~~ of $ 1. 0 million. **Financing** ~~Net cash used in investing activities~~ **Activities** ~~for~~ **During** the year ended December 31, ~~2022~~ **2024** ~~was~~ **, we provided cash from financing activities of** $ **28. 5 million, compared to $ 44.** 0 ~~. 05~~ million **provided** ~~, consisting of the purchase of property and equipment. Financing Activities During~~ **during** the year ended December 31, 2023 ~~, cash provided from financing activities was $ 44~~ . **For** ~~0 million, compared to $ 0. 5 million used during~~ the year ended December 31, ~~2022~~ **2024** ~~. For the year ended December 31, 2023~~ , cash provided by financing activities consisted of proceeds from the **sale of common stock of $ 27. 7 million, proceeds from the exercise of stock warrants of $ 0. 7 million, and proceeds from our company' s equity awards programs of $ 0. 1 million. For the year ended December 31, 2023, cash provided by financing activities consisted of proceeds from the** issuance of notes payable totaling $ 0. 9 million, proceeds from the ~~exercise of stock options of $ 1. 5 million, proceeds from the exercise of stock warrants of $ 3. 0 million, and gross proceeds from the~~ sale of common stock related to our IPO and ~~the Private~~ **private** ~~Placements~~ **placements** totaling $ 39. 6 million, ~~excluding offering costs paid by us~~ **the exercise of stock options of $ 1. 5 million and the exercise of stock warrants of $ 3. 0 million** . Net cash used in financing activities during the year ended December 31, 2023 related to the repayment of notes payable totaling $ 0. 7 million and the payment of deferred offering costs

of $ 0. 3 million ~~. Net cash provided by financing activities during the year ended December 31, 2022 consisted of proceeds from the issuance of notes payable totaling $ 1. 1 million and the exercise of stock warrants of $ 0. 1 million, while cash used in financing activities for the year ended December 31, 2022 was $ 0. 1 million related to the repayment of convertible notes payable and $ 1. 6 million for the payment of deferred offering costs~~. Equity Financings Common Stock Issued for Cash Upon Closing of the Company' s ~~IPO~~ **Third Public Offering** On ~~January 30~~ **March 26** , ~~2023~~ **2025** , ~~we~~ **the Company** completed ~~our IPO, in which we issued and~~ **an** ~~sold 2~~ **underwritten offering of 3** , ~~500~~ **000** , 000 shares of ~~our~~ **its** common stock at **an** ~~a public~~ offering price of $ ~~6~~ **3** . ~~00~~ **50** per share. ~~In February 2023, we sold an additional 153, 000 shares of common stock at $ 6. 00 per share pursuant to the underwriters' partial exercise of their option to purchase additional shares of common stock.~~ The ~~total~~ gross proceeds ~~of~~ **received from** the ~~IPO~~ **offering** were $ ~~15~~ **10** . ~~9~~ **5** million, **before** ~~and we raised $ 12. 6 million in net proceeds after~~ deducting underwriting discounts and commissions and **estimated** offering expenses payable by ~~us~~ **the Company** . Common Stock Issued for Cash Upon Closing of the Company' s **Second Public Offering In May 2024, we completed an underwritten offering of our common stock, in which we issued and sold 7, 500, 000 shares of our common stock at a price of $ 4. 00 per share, which included 625, 000 shares of common stock at $ 4. 00 per share pursuant to the underwriters' partial exercise of their option to purchase additional shares of common stock. The total gross proceeds received from the offering were $ 30. 0 million and we raised $ 27. 7 million in net proceeds after deducting underwriting discounts and commissions and offering expenses payable by us. Included in the offering were accompanying warrants to purchase 7, 500, 000 shares of common stock with an exercise price of $ 5. 25 per share. The warrants expire five years from the date of grant. Common Stock Issued for Cash Upon Closing of the Company' s** Private Placements ~~On~~ **In** May ~~12,~~ **and June** 2023 **, we entered into securities purchase agreements (the " Purchase Agreements ") with certain investors pursuant to which we agreed to sell and issue shares of our common stock in two private placement transactions. Under the Purchase Agreements, we agreed to extend commitments totaling $ 24. 0 million past their initial due dates. Certain investors who were obligated under the Purchase Agreements to fund the remaining committed investment amounts totaling $ 24. 0 million have not made such payments. We are currently evaluating our potential remedies with respect to these investors' non- compliance with their contractual obligations to the Company. At- the- Market Offering In February 2024** , we entered into a **Sales Agreement with Guggenheim** ~~securities~~ **Securities** ~~purchase agreement~~ **, LLC** (**Guggenheim** ~~the PIPE 1 SPA~~) ~~with certain investors~~ **implementing an " at- the- market " offering program** (the **ATM** ~~PIPE 1 Purchasers~~) **. In the ATM** , ~~pursuant to which~~ we ~~agreed to~~ **may offer and** sell **, from time to time and at our option, up to** ~~and~~ **an** ~~issue 1, 665, 213~~ **aggregate of $ 100. 0 million of** shares of our common stock ~~in~~ **through Guggenheim, acting as sales agent. Guggenheim is entitled to** a **fixed** ~~private placement transaction (the First Private Placement). The purchase price per share of common~~ **commission rate** ~~stock was $ 20. 00 per share. The initial closing~~ of **up** ~~the First Private Placement occurred in May 2023 (the PIPE 1 Initial Closing) subject~~ to **3** ~~customary closing conditions~~ . ~~The total~~ **0 % of the** gross **sales** proceeds ~~to us at the PIPE 1 Initial Closing from the First Private Placement are expected to be approximately $ 33. 3 million, including $ 1. 5 million from the cancellation~~ of **shares sold under** ~~certain of our bridge loans and accrued interest. Two of~~ the **ATM** ~~PIPE 1 Purchasers were contractually obligated to fund up to $ 17. 5 million of such PIPE 1 Purchasers' investment amounts following the PIPE 1 Initial Closing but no later than November 15, 2023~~ . During the year ended December 31, ~~2023~~ **2024** , we **sold an aggregate** ~~received $ 6. 0 million~~ of ~~the committed amount of $ 17.~~ 5 ~~million. As of December 31~~ , **460** ~~2023, we had sold 1, 017, 079~~ shares of ~~our~~ common stock under the **ATM for** ~~PIPE 1 SPA resulting in gross and~~ net proceeds ~~to us~~ of ~~$ 20. 3 million and $ 19. 8 million, respectively. On June 9, 2023, we entered into another securities purchase agreement (the PIPE 2 SPA, and, together with the PIPE 1 SPA, the Purchase Agreements) with certain investors (the PIPE 2 Purchasers), pursuant to which we agreed to sell and issue 900, 000 shares of our common stock in a private placement transaction (the Second Private Placement, and, together with the First Private Placement, the Private Placements). The purchase price per share of common stock was $ 20. 00 per share. The initial closing of this Second Private Placement occurred in June 2023 (the PIPE 2 Initial Closing), subject to customary closing conditions. The total gross proceeds to us from the Second Private Placement are expected to be~~ approximately $ ~~18~~ **15** . ~~0 million. One of the PIPE~~ 2 **thousand after deducting compensation of approximately** ~~Purchasers was contractually obligated to fund up to~~ $ **470 payable** ~~12. 5 million of such PIPE 2 Purchaser' s investment amounts following the PIPE 2 Initial Closing, but no later than November 15, 2023. We did not receive any part of such PIPE 2 Purchaser' s committed investment amount during the year ended December 31, 2023. As of December 31, 2023, we had sold 275, 000 shares of our common stock under the PIPE 2 SPA resulting in gross and net proceeds~~ to **Guggenheim** ~~us of $ 5. 5 million and $ 5. 3 million, respectively. As of December 31, 2023, we sold 1, 292, 079 shares of our common stock under the Purchase Agreements resulting in the total gross and net proceeds to us from the First Private Placement and the Second Private Placement of $ 25. 8 million and $ 25. 1 million, respectively. As of that same date, we had received $ 6. 0 million of the $ 30. 0 million in aggregate committed investment amounts to be funded following the PIPE 1 Initial Closing and PIPE 2 Initial Closing. In November 2023, we agreed to extend the funding deadline for $ 2. 0 million of the remaining aggregate investment amounts to March 31, 2024. The investor who was obligated to fund $ 22. 0 million of the remaining committed investment amounts has not made such payments and has indicated that he does not intend to comply with his investment commitments under the Purchase Agreements. We are currently evaluating our potential remedies with respect to this investor' s non- compliance with his contractual obligations to us. We expect our existing cash and cash equivalents will last for at least the next 12 months~~ . Funding Requirements We expect our expenses to increase in connection with our ongoing activities, particularly as we continue our research and development, initiate and conduct preclinical studies and clinical trials, and seek marketing approval for our current and any of our future product candidates. In addition, if we obtain marketing approval for any of our current or our future product candidates, we expect to incur significant commercialization expenses related to product sales, marketing, manufacturing and distribution, which costs we may seek to offset through entry into collaboration agreements with third parties. Furthermore, we expect to incur additional costs associated with operating as a

public company. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. If we are unable to raise capital when needed or on acceptable terms, we would be forced to delay, reduce or eliminate our research and development programs or future commercialization efforts. We believe that our existing cash ~~will~~ **, cash equivalents and short- term investments may not** enable us to fund our operating expenses and capital expenditure requirements ~~until~~ **for** at least **the next** 12 months from the date of filing of this Annual Report. We have based this estimate on assumptions that may prove to be wrong, and we may use our available capital resources sooner than we currently expect. Our future capital requirements will depend on a number of factors, including: ● the costs of conducting preclinical studies and clinical trials; ● the costs of manufacturing; ● the scope, progress, results and costs of discovery, preclinical development, laboratory testing, and clinical trials for product candidates we may develop, if any; ● the costs, timing, and outcome of regulatory review of our product candidates; ● our ability to establish and maintain collaborations on favorable terms, if at all; ● the achievement of milestones or occurrence of other developments that trigger payments under any license or collaboration agreements we might have at such time; ● the costs and timing of future commercialization activities, including product sales, marketing, manufacturing and distribution, for any of our product candidates for which we receive marketing approval; ● the amount of revenue, if any, received from commercial sales of our product candidates, should any of our product candidates receive marketing approval; ● the costs of preparing, filing and prosecuting patent applications, obtaining, maintaining and enforcing our intellectual property rights, and defending intellectual property- related claims; ● our headcount growth and associated costs as we expand our business operations and research and development activities; ~~and~~ ● the costs of operating as a public company **;** ~~. We expect our existing cash~~ and ~~cash equivalents will last for~~ **● the impact of geopolitical and macroeconomic events, including future bank failures, tariffs, increased geopolitical tensions between the U. S. and China, the Russia / Ukraine conflict, the Israel- Hamas war and global pandemics on U. S. and global economic conditions that may affect our ability to access capital on acceptable terms, if** at **all** ~~least the next 12 months~~. We anticipate needing to obtain further funding to achieve our business objectives beyond such date. Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through public or private equity offerings and debt financings or other sources, such as potential collaboration agreements, strategic alliances and licensing arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, our common stockholders' ownership interests may be diluted, and the terms of these securities may include liquidation or other preferences that could adversely affect the rights of our common stockholders. Additional debt financing, if available, may involve agreements that include restrictive covenants that limit our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends, that could adversely impact our ability to conduct our business. If we raise funds through potential collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates, or to grant licenses on terms that may not be favorable to us. Our ability to raise additional funds also may be adversely impacted by potential worsening global economic conditions and disruptions to and volatility in the credit and financial markets in the United States and worldwide resulting from geopolitical and macroeconomic events such as actual or anticipated changes in interest rates and economic inflation, current and future bank failures, **tariffs,** global pandemics, geopolitical tensions between the **United States** ~~U. S.~~ and China and the impact of the Russia / Ukraine conflict and the ~~war~~ **conflicts** in the Middle East. If we are unable to raise additional funds when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves. Critical Accounting Policies and Significant Judgments and Estimates This Management' s Discussion and Analysis of Financial Condition and Results of Operations is based on our financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States (GAAP). The preparation of these financial statements requires us to make estimates, judgments and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities as of the date of the balance sheets and the reported amounts of expenses during the reporting periods. In accordance with GAAP, we base our estimates on historical experience and on various other assumptions that we believe are reasonable under the circumstances at the time such estimates are made. Actual results may differ materially from our estimates and judgments under different assumptions or conditions. We periodically review our estimates in light of changes in circumstances, facts and experience. The effects of material revisions in estimates are reflected in our financial statements prospectively from the date of the change in estimate. We define our critical accounting policies as those accounting principles that require us to make subjective estimates and judgments about matters that are uncertain and are likely to have a material impact on our financial condition and results of operations, as well as the specific manner in which we apply those principles. While our significant accounting policies are more fully described in Note 2 to our financial statements appearing elsewhere in this Annual Report, we believe the following are the critical accounting policies used in the preparation of our financial statements that require significant estimates and judgments. Prepaid Research and Development Expenses As part of the process of preparing our financial statements, we are required to estimate our accrued expenses as of each balance sheet date. This process involves reviewing open contracts and purchase orders, communicating with our personnel to identify services that have been performed on our behalf, and estimating the level of service performed and the associated cost incurred for the service when we have not yet been invoiced or otherwise notified of the actual cost. The majority of our service providers invoice us monthly in arrears for services performed or when contractual milestones are met. We make estimates of our research and development expenses as of each balance sheet date based on facts and circumstances known to us at that time. We periodically confirm the accuracy of our estimates with the service providers and make adjustments if necessary. The significant estimates in our prepaid research and development expenses include the costs incurred for services performed by our vendors in connection with research and development activities for which we have not yet been invoiced. We base our expenses related to research and development activities on our estimates of the services received and efforts expended pursuant to quotes and

contracts with vendors that conduct research and development on our behalf. The financial terms of these agreements are subject to negotiation, vary from contract to contract and may result in uneven payment flows. There may be instances in which payments made to our vendors will exceed the level of services provided and result in a prepayment of the research and development expense. In accruing service fees, we estimate the time period over which services will be performed and the level of effort to be expended in each period. If the actual timing of the performance of services or the level of effort varies from our estimate, we adjust the accrual or prepaid balance accordingly. Non- refundable advance payments for goods and services that will be used in future research and development activities are expensed when the activity has been performed or when the goods have been received rather than when the payment is made. Although we do not expect our estimates to be materially different from amounts incurred, if our estimates of the status and timing of services performed differ from the actual status and timing of services performed, it could result in us reporting amounts that are too high or too low in any particular period. Stock- Based Compensation We measure stock options and other stock- based awards granted to employees and directors based on the fair value of the award on the date of the grant and recognize compensation expense for those awards over the requisite service period, which is generally the vesting period of the respective award. We recognize forfeitures as they occur. The reversal of compensation cost previously recognized for an award that is forfeited because of a failure to satisfy a service or performance condition is recognized in the period of the forfeiture. Generally, we issue stock options with only service- based vesting conditions and record the expense for these awards using the straight- line method over the requisite service period. We classify equity- based compensation expense in our statements of operations in the same manner in which the award recipient' s salary and related costs are classified or in which the award recipient' s service payments are classified. In future periods, we expect equity- based compensation expense to increase, due in part to our existing unrecognized stock- based compensation expense and as we grant additional stock- based awards to continue to attract and retain employees. Determination of the Fair Value of Equity- Based Awards We estimate the fair value of stock option awards granted using the Black- Scholes option- pricing model, which uses as inputs the fair value of our common stock and subjective assumptions we make, including expected stock price volatility, the expected term of the award, the risk- free interest rate, and expected dividends. Due to the lack of sufficient company- specific historical and implied volatility data, we base the estimate of expected stock price volatility on the historical volatility of a representative group of publicly traded companies for which historical information is available. The historical volatility is generally calculated based on a period of time commensurate with the expected term assumption. We use the simplified method to calculate the expected term for options granted to employees and directors. We utilize this method as we do not have sufficient historical exercise data to provide a reasonable basis upon which to estimate the expected term. For options granted to non- employees, we utilize the contractual term. The risk- free interest rate is based on a U. S. treasury instrument whose term is consistent with the expected term of the stock options. The expected dividend yield is assumed to be zero, as we have never paid dividends and do not have current plans to pay any dividends on our common stock. We determine the fair value of restricted common stock awards based on the fair value of our common stock on the date of grant. Commitments and Contingencies From time to time, we may have certain contingent liabilities that arise in the ordinary course of business. We evaluate the likelihood of an unfavorable outcome in legal or regulatory proceedings to which we are a party and record a loss contingency on an undiscounted basis when it is probable that a liability has been incurred and the amount of the loss can be reasonably estimated. These judgments are subjective and based on the status of such legal proceedings, the merits of our defenses, and consultation with legal counsel. Actual outcomes of these legal proceedings may differ materially from our estimates. We estimate accruals for legal expenses when incurred as of each balance sheet date based on the facts and circumstances known to us at that time. Off- Balance Sheet Arrangements During the years ended December 31, **2024 and** 2023 ~~and 2022~~ , we did not have, and we do not currently have, any off- balance sheet arrangements (as defined under SEC rules). Recent Accounting Pronouncements For a description of recently issued accounting standards that may have a material impact on our financial statements or will otherwise apply to our operations, please see Note 2 to our audited financial statements appearing elsewhere in this Annual Report. Emerging Growth Company Status As an " emerging growth company, " the Jumpstart Our Business Startups Act of 2012 permits us to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies until those standards would otherwise apply to private companies. We have irrevocably elected to " opt out " of this provision and, as a result, we will comply with new or revised accounting standards when they are required to be adopted by public companies that are not emerging growth companies. Item 7A. Quantitative and Qualitative Disclosures about Market Risks We are not currently exposed to significant market risk related to changes in foreign currency exchange rates. However, we have contracted with and may continue to contract with foreign vendors that are located in Europe. Our operations may be subject to fluctuations in foreign currency exchange rates in the future. Inflation generally affects us by increasing our cost of labor. We do not believe that inflation had a material effect on our business, financial condition or results of operations during the years ended December 31, **2024 and** 2023 ~~and 2022~~ . Item 8. Financial Statements and Supplementary Data See the financial statements filed as part of this Annual Report as listed under Part IV, Item 15 below. Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosures Item 9A. Controls and Procedures **None.** Evaluation of Disclosure Controls and Procedures The term " disclosure controls and procedures, " as defined in Rules 13a- 15 (e) and 15d- 15 (e) under the Exchange Act, refers to controls and procedures that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC' s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that such information is accumulated and communicated to a company' s management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our disclosure controls and procedures as of December 31, ~~2023~~ **2024** . Based on this evaluation, our Chief

Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective at a reasonable assurance level as of December 31, ~~2023~~ **2024** . In designing and evaluating our disclosure controls and procedures, management recognizes that disclosure controls and procedures, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the disclosure controls and procedures are met. Additionally, in designing disclosure controls and procedures, our management necessarily was required to apply its judgment in evaluating the cost- benefit relationship of possible disclosure controls and procedures. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, controls may become inadequate because of changes in conditions, or the degree of compliance with policies or procedures may deteriorate. Because of the inherent limitations in a control system, misstatements due to error or fraud may occur and not be detected **. Changes in Internal Control over Financial Reporting There have been no changes in our internal control over financial reporting (as defined in Rules 13a- 15 (f) or 15d- 15 (f) of the Exchange Act) that occurred during the fourth quarter of 2024 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting** . Management' s Report on Internal Control Over Financial Reporting Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rules 13a- 15 (f) and 15d- 15 (f) under the Exchange Act. Internal control over financial reporting is a process designed by, or under the supervision of, our Principal Executive Officer and Principal Financial Officer, and effected by our board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America. Under the supervision and with the participation of our Principal Executive Officer and Principal Financial Officer, our management conducted an evaluation of the effectiveness of our internal control over financial reporting based on the criteria set forth in " Internal Control- Integrated Framework " issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework). Based on this assessment, our management concluded that our internal control over financial reporting was effective at a reasonable assurance level as of December 31, ~~2023~~ **2024** ~~. Changes in Internal Control over Financial Reporting There have been no changes in our internal control over financial reporting (as defined in Rules 13a- 15 (f) or 15d- 15 (f) of the Exchange Act) that occurred during the fourth quarter of 2023 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting~~ . Item 9B. Other Information Trading Arrangements ~~As disclosed in the table below, during~~ **During** the three months ended December 31, ~~2023~~ **2024** , **no** ~~certain of our directors~~ **director** ~~and~~ **or** ~~officers~~ **officer adopted, terminated, or modified any Rule 10b5- 1 trading arrangement or any non- Rule 10b5- 1 trading arrangement** (as **such terms are** defined **pursuant to Item 408** ~~in Rule 16a- 1 (f~~ **a** ~~) under~~ **of Regulation S- K of** the Exchange Act) ~~adopted plans for trading arrangements intended to satisfy the affirmative defense conditions of Rule 10b5- 1 (c) of the Exchange Act. Name Position Date of Adoption 10b5- 1 Trading Arrangement * Scheduled End Date of Trading Arrangement1 Total Number of Securities to Be Sold Pursuant to the Arrangement2 John Thomas Director 11 / 21 / 2023 X 06 / 30 / 2024 Up to 66, 333 shares James Tyree Director 12 / 13 / 2023 X 09 / 15 / 2024 Up to 26, 730 shares Sean Ryder General Counsel & Corporate Secretary 11 / 21 / 2023 X 05 / 21 / 2024 Up to 15, 000 shares Paul Scigalla Chief Medical Officer 12 / 12 / 2023 X 08 / 27 / 2024 Up to 108, 555 shares Thomas Zindrick3 President & CEO 12 / 14 / 2023 X 08 / 15 / 2024 Up to 142, 390 shares * Contract, instruction or written plan intended to satisfy the affirmative defense conditions of Rule 10b5- 1 (c) under the Exchange Act. Except as indicated by footnote, each trading arrangement permitted or permits transactions through and including the earlier to occur of (a) the completion of all sales or (b) the date listed in the table. The number of shares to be sold under each trading arrangement represents the maximum actual number of shares issuable. The actual number of shares to be sold under each trading arrangement will depend on the price and the number of shares withheld to satisfy tax obligations of expiring options. The shares subject to this trading arrangement are related to options expiring on August 15, 2024~~ . Item 9C. Disclosure Regarding Jurisdictions That Prevent Inspections Not Applicable. PART III ~~ITEM~~ **We will file a definitive Proxy Statement for our 2025 Annual Meeting of Stockholders (the 2025 Proxy Statement) with the SEC, pursuant to Regulation 14A, not later than 120 days after the end of our fiscal year. Accordingly, certain information required by Part III has been omitted under General Instruction G (3) to Form** 10 **- K** . ~~DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE~~ **Only those sections of the 2025 Proxy Statement that specifically address the items set forth herein are incorporated by reference. Item 10.** Directors ~~and ,~~ Executive Officers ~~The following table sets forth information concerning our current executive officers and directors as of March 26, 2024. There are no family relationships among any of our directors or executive officers. Name Age Position Executive Officers: Thomas Zindrick, J. D. President, Chief Executive Officer and Chairman Paul Scigalla, M. D., Ph. D. Chief Medical Officer Lourie Zak Chief Financial Officer Caroline Jewett Head of Quality Ralph Smalling Head of Regulatory Joseph Cappello, Ph. D. Chief Technical Officer Sean Ryder, J. D. General Counsel~~ and Corporate ~~Secretary Tony Yu, Ph. D. Senior Vice President, Clinical DevelopmentNon- Employee Directors: Mary Mirabelli Director John Thomas, Ph. D. Director James L. Tyree Lead Independent Director John Smither DirectorThomas Zindrick, J. D has served as our President, Chief Executive Officer and a member of our Board since May 2014 and as our Chair since July 2021. Currently, he serves as Executive Chair of Aeromics, Inc., a clinical- stage pharmaceutical company developing products for the treatment of edema in ischemic stroke, since August 2018. Mr. Zindrick served as Chief Executive Officer of Amitech Therapeutic Solutions, Inc., from 2012 to 2014. From 1993 to 2009, Mr. Zindrick was at Amgen Inc. (" Amgen "), where he held positions of increasing responsibility, including Vice President Associate General Counsel from 2001 to 2004 and again from 2008 to 2009. At Amgen, from 2004 to 2008, Mr. Zindrick served as Chief Compliance Officer. Prior to joining Amgen, Mr. Zindrick was an attorney at The Dow Chemical Company. Mr. Zindrick served on the board of directors of Amitech Therapeutic Solutions, Inc. from 2011 to February 2021 and DNX Biopharmaceuticals, Inc. from November 2014 to March 2020. Mr. Zindrick received his J. D. from the University of Illinois College of Law and a B. A. in biology from North Central~~

College in Naperville, Illinois. We believe Mr. Zindrick's extensive experience managing and leading companies within the pharmaceutical and biotechnology industries qualify him to serve on the Board. Paul Seigalla, M. D., Ph. D. has served as our Chief Medical Officer since September 2011. Since September 2003, he has served as President and Chief Executive Officer of International Pharmaceutical Research Consulting. From 2001 to 2003, he served as Vice President Research Oncology, at Pharmacia / Pfizer Bedminster, New Jersey and from 1998 to 2001, he served as Executive Vice President at SUGEN, Inc. Dr. Seigalla served as Senior Vice President, Development Worldwide at Boehringer Mannheim from 1984 to 1998. Dr. Seigalla received an M. D. and a Ph. D. in pediatrics from Humboldt University in Berlin. Lourie Zak has served as our Chief Financial Officer since August 2023. Ms. Zak most recently served as an Executive Consultant for CFO Assignments from March 2015 to August 2023. Ms. Zak previously served as the Chief Financial Officer of Guitar Center Brands of Guitar Center, Inc. from October 2014 to January 2015 and the Chief Financial Officer of SONIFI Solutions, Inc. from February 2013 to October 2014. Ms. Zak received a B. B. A. in Accounting from Texas State University. Caroline Jewett has served as our Head of Quality since July 2023. From October 2016 to present, Ms. Jewett has served as President of Avant Quality LLC. From 1987 to 2014, Ms. Jewett held positions of increasing responsibility at Amgen, Inc., including Site Head for Clinical Quality, Executive Director for Corporate Quality and Plant Manager for both commercial and clinical manufacturing facilities. She also served as the Inflammation Therapeutic Area Head for Operations. Ms. Jewett received her B. A. in Microbiology from the University of California, in Santa Barbara, California. Ralph Smalling has served as our Head of Regulatory since July 2023. From 2005 to present, Mr. Smalling has served as Principal Consultant at Linus Consulting, LLC. Mr. Smalling has over 35 years of experience in the biopharmaceutical industry, with expertise in all aspects of regulatory development and international safety. From February 1982 to May 2005, he served at Amgen in positions of increasing responsibility, including Vice President of Regulatory Affairs and International Safety. Under his leadership, Amgen obtained marketing authorizations, supplemental approvals and orphan drug designations in the United States, Europe, Canada and Australia for numerous products. Mr. Smalling was a member of the industry team that negotiated PDUFA II and drafted several of the provisions included in the FDAMA legislation passed by Congress in 1997. Mr. Smalling earned a M. S. in Microbiology from California State University, Long Beach, and a B. A. in Biology from Occidental College. Joseph Cappello, Ph. D. has served as our Chief Technical Officer since July 2023. He previously served as our General Manager of Manufacturing since September 2018 and our Vice President of Pharmaceutical Development since November 2012. From 1988 to 2010, Dr. Cappello served as the Vice President and Chief Technology Officer of Protein Polymer Technologies Inc. From January to September 2012, Dr. Cappello served as the Director and General Manager in the Biological Test Center of B. Braun Medical Inc. Dr. Cappello earned his Ph. D. in Biological Chemistry from the University of Cincinnati, College of Medicine, and his B. S. in Molecular and General Genetics from the University of California, Davis. Sean Ryder, J. D. has served as our General Counsel and Corporate Secretary since October 2021. Previously, from August 2019 to October 2021, Mr. Ryder was the Associate General Counsel of Mesoblast Limited. Previously, Mr. Ryder was the Vice President of Legal from November 2011 to August 2019 and Acting Chief Compliance Officer from November 2011 to March 2016 at Helsinn Therapeutics (U. S.), Inc. From February 2007 to October 2011, Mr. Ryder was the Senior Director of Legal at Glenmark Generics Inc., USA. Mr. Ryder received his B. S. in biochemistry from University of Maryland College Park and his J. D. from University of San Francisco School of Law. Tony Yu, Ph. D. has served as our Senior Vice President of Clinical Development since July 2023. He previously served as our Vice President of Clinical Trial Operations since January 2010. From 2008 to 2010, he served as our Associate Vice President of Preclinical Research and Business Development. From 2002 to 2008, Dr. Yu was Director of the Imaging Group and Director of Tumor Diagnosis / Therapy. Dr. Yu received a B. A. in biology from the University of Utah and a Ph. D. in anatomy and biochemistry from Loma Linda University. Mary Mirabelli has served as a member of the Board since June 2021. Ms. Mirabelli has served as the senior vice president at the Healthcare Finance Management Association since April 2018. Previously, Ms. Mirabelli has served as the Vice President of Global Healthcare Services at Hewlett Packard Enterprise Company from June 2014 to April 2018. Ms. Mirabelli served as a senior executive at Hospital Corporation of America from 2000 to 2014. Ms. Mirabelli holds a B. S. in occupational therapy from University of Illinois at Urbana- Champaign and an MBA in management from Northwestern University's Kellogg Graduate School of Management. We believe Ms. Mirabelli's extensive experience managing and leading companies within the healthcare industry qualify her to serve on the Board. John Thomas, Ph. D. has served as a member of the Board since September 2002. Dr. Thomas served as our first Chief Financial Officer from 2002 to 2004. Dr. Thomas has been the Dean of the School of Business and Management at La Sierra University since 1999. Dr. Thomas has served on the boards of directors of KSGN Good News Radio since January 2004, Loma Linda Broadcasting Network International since January 2009 and ADRA International as a member of the finance committee since September 2015. He previously served as a member of the board of directors of the Family Service Association from 1992 to 2018. Dr. Thomas holds an M. B. A. in finance from Loma Linda University and an M. B. A. in marketing from Symbiosis Institute of Management Studies, an M. A. in international political economy from Claremont Graduate University and a Ph. D. in political economy from Claremont Graduate University. We believe that Dr. Thomas' s extensive training, expertise and experience in finance, qualifies him to serve on the Board. James L. Tyree has served as a member of the Board since May 2012 and as our Lead Independent Director since July 2021. Mr. Tyree previously served as Chairman of the Board from 2014 to 2021. Mr. Tyree is the retired co- founder and managing partner of Tyree & D' Angelo Partners, a private equity investment firm founded in 2014. Prior to founding Tyree & D' Angelo Partners, Mr. Tyree served as Executive Vice President and President of Abbott Biotech Ventures, a subsidiary of Abbott Laboratories in 2012. Prior to that position, Mr. Tyree held numerous executive positions at Abbott, including Executive Vice President Global Pharmaceuticals, Senior Vice President Global Nutrition, Corporate Vice President Pharmaceutical and Nutritional Products Group Business Development and Divisional Vice President and General Manager, Japan. Mr. Tyree also served as a member of the board of directors of ChemoCentryx, Inc. since June 2012, until the company was sold to Amgen in 2022 and at that time was lead independent director. Mr. Tyree previously served

as a member of the board of directors of SonarMed, Inc. (now a subsidiary of Medtronic plc). Mr. Tyree currently serves as a member of the board of directors and chair of the compensation committee of Assertio Holdings, Inc. since October 2016. Mr. Tyree previously served as chairman of the board of directors of the Illinois Biotechnology Industry Organization, as a member of the Advisory Board of the University of Chicago Booth Graduate School of Business, and as a member of the Chicago Council on Global Affairs chairing the Global Health Policy Roundtable. Mr. Tyree earned his B. A. in psychology and forensic studies and an M. B. A. from Indiana University. We believe that Mr. Tyree' s extensive experience in biotechnology and pharmaceuticals qualifies him to serve on the Board. John Smither has served as a member of the Board since September 2023. From August 2023 to present, Mr. Smither has served as the Interim Chief Financial Officer of Arcutis Biotherapeutics, Inc. (" Arcutis ") from August 2023 and from May 2019 and May 2021, served as the Chief Financial Officer of Arcutis, where he was responsible for all financial aspects of Arcutis including leading Arcutis' s successful initial public offering and two follow- on financings. Previously, Mr. Smither was the Chief Financial Officer at Sienna Biopharmaceuticals from January 2016 to April 2017, and again from April 2018 to March 2019. Mr. Smither also served as the Interim Chief Financial Officer at Kite Pharma, a Gilead Company, from November 2017 through April 2018, and was the chief financial officer of Unity Biotechnology from January 2016 to July 2017. He also served as chief financial officer at Kythera Biopharmaceuticals (" Kythera "), where he was responsible for all financial activities during early clinical stage development through approval and launch, led private fundraising rounds, prepared Kythera for its successful initial public offering in October 2012, and oversaw its acquisition by Allergan plc for approximately $ 2. 1 billion. At Amgen, Mr. Smither held several financial positions of increasing responsibility, including vice president of finance and administration for Amgen' s European operations in 28 countries, and served as Executive Director of Corporate Accounting. In January 2023, Mr. Smither was appointed to the board of NewAmsterdam Pharma and has served as the chair of its audit committee since January 2022. Since January 2022, Mr. Smither has served as a member of the board of directors of Applied Molecular Transport Inc., as chair of its audit committee, and as a member of its compensation committee. Since March 2018, Mr. Smither has served as a member of the board of directors of eFFECTOR Therapeutics Inc. and its predecessor entity, as chair of its audit committee, and as a member of its nominating and corporate governance **Governance** committee . Additionally, from December 2013 to May 2020, Mr. Smither served as a member of the board of directors of Achaogen, Inc., as chair of its audit committee, and as a member of its compensation committee. Mr. Smither began his career at Ernst & Young, where he was audit partner and held a certification as a Certified Public Accountant (inactive). He holds a B. S. in accounting, with honors, from California State University at Los Angeles. We believe Mr. Smither' s extensive experience as a chief financial officer and service on the boards of directors of other biotechnology and pharmaceutical companies qualifies him to serve on our Board. Code of Conduct We have adopted a Code of Conduct **that , which** applies to **our** all officers, directors and employees **, (** including our principal executive officer, principal financial officer, **and** principal accounting officer or controller, **or and** person **persons** performing similar functions **), .** A current copy of the Code of Conduct is available on **posted in** the **" ** Corporate Governance **"** section of our website **at ,** www. genelux. com. **If we make A copy of the Code of Conduct, can be obtained free of charge on our website. We intend to disclose on our website** any substantive amendments to **the , or waivers from, our** Code of Conduct **, or grant any waiver from** a provision of the Code of Conduct to any executive officer or director that are required to be disclosed pursuant to **the rules of the** SEC **and Nasdaq** rules, we will promptly disclose the nature of the amendment or waiver on our website . The information contained on our website is not considered part of, or incorporated by reference into, this Annual Report on Form 10- K or any other filing that we make with the SEC. Audit Committee Members and Financial Expert The Audit Committee **remaining information required under this Item will be set forth in sections headed " Election** of **Directors** the Board , **" and " Executive Officers " contained in** or **our in** the Audit Committee, was established by the Board to oversee our **2025 Proxy** corporate accounting and financial reporting processes, systems of internal control and financial- statement **Statement** audits , and **all of which** to oversee our independent registered accounting firm. The Audit Committee is currently composed of three directors: Ms. Mirabelli, Mr. Woodward, and Dr. Thomas, with Dr. Thomas serving as Chair. The Board has adopted a written Audit Committee charter that is available to stockholders on our website at https: / / investors. genelux. com / corporate- governance / documents- charters. Information contained on, or that can be accessed through, our website is not incorporated **herein** by reference into and does not form a part of **. Item 11. Executive Compensation. The information required under** this **Item will be** Form 10- K. The Board reviews the Nasdaq listing standards definition of independence for Audit Committee members on an annual basis and has determined that all members of our Audit Committee are independent (as independence is currently defined in Rule 5605 (c) (2) (A) (i) and (ii) of the Nasdaq listing standards). The Board has determined that each of the members of the Audit Committee satisfies the independence requirements under Rule 10A- 3 (b) (1) of the Exchange Act. The Board has also determined that Dr. Thomas qualifies as an " audit committee financial expert, " as defined in applicable SEC rules. ITEM 11. EXECUTIVE COMPENSATION Our named executive officers for the year ended December 31, 2023, consisting of our principal executive officer and the next two most highly compensated executive officers who were serving in such capacity as of December 31, 2023, were: ● Thomas Zindrick, J. D., our President and Chief Executive Officer; ● Lourie Zak, our Chief Financial Officer; and ● Caroline Jewett, our Vice President, Head of Quality. Summary Compensation Table The following table presents all of the compensation awarded to or earned by or paid to our named executive officers during the fiscal years ended December 31, 2023 and 2022. Fiscal Salary Bonus Option Awards (1) Stock Awards (1) All Other Compensation Total Name and Principal Position Year ($) ($) ($) ($) ($) Thomas Zindrick, J. D. 2023 570, 519 — — 5, 479, 863 (4) 151, 110 471 6, 201, 963 President and Chief Executive Officer 2022 500, 000 — — 516, 893 Lourie Zak (2) 2023 119, 077 — — 2, 711, 285 157 2, 830, 362 Chief Financial Officer 2022 — — — — — Caroline Jewett (3) 2023 134, 538 — — 2, 029, 994 188 2, 620, 416 Vice President, Head of Quality 2022 — — — — — — (1) The amounts disclosed represent the aggregate grant date fair value of stock options and restricted stock unit awards (RSU) granted to our named executive officers under our 2019 and 2022 Plans, computed in accordance with Financial Accounting Standards Board Accounting Standards Codification

Topic 718 Compensation — Stock Compensation (" ASC Topic 718 "). As required by SEC rules, the amounts shown exclude the impact of estimated forfeitures related to service- based vesting conditions. The assumptions used in calculating the grant date fair value of the stock options are set forth in Note 13 to our annual financial statements included in our Annual Report. This amount does not reflect the actual economic value that may be realized by the named executive officer upon vesting or exercise of the stock options and RSU' s, or the sale of the common stock underlying such awards. (2) Ms. Zak joined the Company in August 2023 and as such, her 2023 salary reflects the pro rata amount earned in 2023. (3) Ms. Jewett joined the Company in October 2023 and as such, her 2023 salary reflects the pro rata amount earned in 2023. (4) Amount reported for Mr. Zindrick represents (a) fair market value of options granted in 2023 in the amount of 250, 000 shares ($ 4, 518, 800); and (b) the incremental fair value of his stock options repriced during the fiscal year ended December 31, 2023, measured pursuant to ASC Topic 718, the basis for computing the stock- based compensation in our financial statements ($ 961, 063). (5) Consists of the Company' s contributions to employee benefit plans in 2023. Annual Base Salary The 2023 annual base salaries for our named executive officers are set forth in the table below. Prior to April 1, 2023, Mr. Zindrick' s annual base salary was $ 500, 000, which was subsequently increased pursuant to his May 30, 2023, employment agreement, as discussed further below in the section titled **headed** " — Agreements with Named Executive Officers. **and Director Compensation** " **contained in** Name Base Salary Thomas Zindrick, J. D. $ 595, 000 Lourie Zak $ 360, 000 Caroline Jewett $ 300, 000 Equity- Based Incentive Awards Our equity- based incentive awards are designed to align our interests and those of our stockholders with those of our employees and consultants, including our executive officers. The Board or **our 2025 Proxy Statement** an **and** authorized committee thereof is responsible for approving equity grants. We have generally used stock options as an incentive for long- term compensation to our executive officers because stock options allow our executive officers to realize value from this form of equity compensation only if our stock price increases. We may grant equity awards, including restricted stock units, at such times as the Board determines appropriate. Our executives generally are awarded an initial grant in the form of a stock option in connection with their commencement of employment with us. Additional grants may occur periodically in order to specifically incentivize executives with respect to achieving certain corporate **incorporated herein** goals or to reward executives for exceptional performance. Prior to our initial public offering, we granted stock options to each of our named executive officers pursuant to our 2009 Equity Incentive Plan (the " 2009 Plan "). The 2009 Plan was replaced by our 2019 Equity Incentive Plan (the " 2019 Plan ") in January 2019. Upon the effective date of the 2019 Plan, no further grants were made under our 2009 Plan. Any outstanding awards granted under our 2009 Plan will remain subject to the terms of our 2009 Plan and applicable award agreements. Upon the completion of our initial public offering, we adopted our 2022 Equity Incentive Plan (the " 2022 Plan "), which replaced our 2019 Plan. Upon the adoption of the 2022 Plan, no further grants were made under our 2022 Plan. Any outstanding awards granted under our 2019 Plan will remain subject to the terms of our 2019 Plan and applicable award agreements. In September 2023, the Company also adopted the 2023 Inducement Plan, pursuant to which the Company may exclusively grant awards to individuals that were not previously Company employees or directors, as an inducement material to the individual' s entry into employment with the Company within the meaning of Rule 5635 (c) (4) of the Nasdaq Listing Rules. All stock options are granted with an exercise price per share that is no less than the fair market value of our common stock on the date of grant of such award. Our stock option and restricted stock unit awards are subject to a variety of vesting periods, including vesting over a four- year period, a two- year period, or being fully vested on the date of grant, and may be subject to acceleration of vesting and exercisability under certain termination and change in control events as described below in the section titled " — Potential Payments Upon Termination or Change in Control. ". Agreements with Named Executive Officers Below are descriptions of our employment agreements with Mr. Zindrick, Ms. Zak and Mr. Ryder. The employment of each of our named executive officers is at will. Each of our named executive officers is eligible for certain severance and change in control benefits, as described below in the section titled " — Potential Payments Upon Termination or Change in Control. " Mr. Zindrick. We entered into an employment agreement with Mr. Zindrick on May 30, 2023, with retroactive effect to April 1, 2023. Pursuant to the agreement, Mr. Zindrick is entitled to an initial base salary of $ 595, 000 and an annual discretionary bonus of up to 55 % of his annual base salary. The agreement also provides that Mr. Zindrick will be eligible to receive an annual discretionary option and / or other equity award grant covering shares of our common stock, as determined by the Board in its discretion based upon the achievement of corporate and / or individual objectives and milestones that are determined in the sole discretion of the Board, pursuant to our 2022 Plan. Ms. Zak. We entered into an employment agreement with Ms. Zak on August 28, 2023. Pursuant the agreement, effective as of August 28, 2023 (the " Zak Effective Date "), Ms. Zak is entitled to an initial base salary of $ 360, 000 per year and an annual discretionary bonus of up to 40 % of her then- current base salary based on the achievement of certain performance goals determined by the Board of Directors of the Company (and prorated for the number of calendar days she is employed in a calendar year). Ms. Zak' s employment agreement provides for an option to purchase 150, 000 shares of common stock of the Company with a per share exercise price equal to the fair market value on the date of grant (the " Zak Option "). The shares subject to the Zak Option will vest over four years of continuous service to the Company, with 25 % of the shares subject to the Zak Option vesting on the first- year anniversary of the Zak Effective Date, and the remaining shares vesting in equal monthly installments over the subsequent 36 months of continuous service thereafter. Ms. Zak' s employment may be terminated at- will by either party, with or without notice, subject to the terms of the agreement. Ms. Jewett. We entered into an employment agreement with Ms. Jewett on June 15, 2023. Pursuant to the agreement, effective as of June 30, 2023 (the " Jewett Effective Date "), Ms. Jewett is entitled to an initial base salary of $ 240, 000 per year and an annual discretionary bonus of up to 30 % of her then- current base salary based on the achievement of certain performance goals (and prorated for the number of calendar days she is employed in a calendar year). Ms. Jewett' s employment agreement provides for an option to purchase 88, 000 shares of common stock of the Company, as determined by the Board in its discretion based upon the achievement of corporate and / or individual objectives and milestones in the sole discretion of the Board, pursuant to our 2022 Plan (the " Jewett Option "). The shares subject to the Jewett Option will vest over four years of continuous service of the

Company, with 25 % of the shares subject to the Jewett Option vesting on the first- year anniversary of the Jewett Effective Date, and the remaining shares vesting in equal monthly installments over the subsequent 36 months of continuous service thereafter. Ms. Jewett' s employment may be terminated at- will by either party, with or without notice, subject to the terms of the agreement. Perquisites Health, Welfare and Retirement Benefits Our named executive officers, during their employment with us, are eligible to participate in our employee benefit plans, including our medical, dental, group term life, disability and accidental death and dismemberment insurance plans, in each case on the same basis as all of our other employees. In addition, we provide a 401 (k) plan to our employees, including our named executive officers, as discussed in the section below entitled " 401 (k) Plan. " We generally do not provide perquisites or personal benefits to our named executive officers, except in limited circumstances. We do, however, pay the premiums for medical, dental, group term life, disability and accidental death and dismemberment insurance for all of our employees, including our named executive officers. The Board may elect to adopt qualified or nonqualified benefit plans in the future if it determines that doing so is in our best interests. Employee Benefit and Stock Plans We believe that our ability to grant equity- based awards is a valuable and necessary compensation tool that aligns the long- term financial interests of our employees, consultants and directors with the financial interests of our stockholders. In addition, we believe that our ability to grant options and other equity- based awards helps us to attract, retain and motivate employees, consultants, and directors, and encourages them to devote their best efforts to our business and financial success. The principal features of our equity incentive plans and our 401 (k) plan are summarized below. These summaries are qualified in their entirety by reference to the actual text of the plans, which, other than the 401 (k) plan, are filed as exhibits to the registration statement of which this prospectus is a part. 401 (k) Plan We maintain a 401 (k) plan that provides eligible U. S. employees with an opportunity to save for retirement on a tax- advantaged basis. Eligible employees are able to defer eligible compensation up to certain Code limits, which are updated annually. We have the ability to make employer profit sharing contributions to the 401 (k) plan. The 401 (k) plan is intended to be qualified under Section 401 (a) of Internal Revenue Code of 1986, as amended (the " Code "), with the related trust intended to be tax- exempt under Section 501 (a) of the Code. As a tax- qualified retirement plan, contributions to the 401 (k) plan are deductible by us when made, and contributions and earnings on those amounts are not generally taxable to the employees until withdrawn or distributed from the 401 (k) plan. Nonqualified Deferred Compensation We do not maintain nonqualified defined contribution plans or other nonqualified deferred compensation plans. The Board may elect to provide our officers and other employees with nonqualified defined contribution or other nonqualified deferred compensation benefits in the future if it determines that doing so is in our best interests. Regardless of the manner in which a named executive officer' s service terminates, each named executive officer is entitled to receive amounts earned during his or her term - **Item** of service, including unpaid salary and unused paid time off, as applicable. Pursuant to the terms of Mr. Zindrick' s employment agreement, in the event he is subject to a termination without " cause " or he resigns for " good reason " (each, as defined in Mr. Zindrick' s employment agreement), Mr. Zindrick shall be entitled to receive (i) continued payment of his base salary for twelve (12) months and Company- paid COBRA premiums for up to twelve (12) months, and (ii) in the event of a termination by the Company without cause, 100 % of his target annual bonus for the calendar year in which the separation occurs. In the event Mr. Zindrick is subject to a termination without cause or he resigns for good reason within three (3) months prior to or eighteen (18) months following a " change in control " (as defined in the 2022 Plan), Mr. Zindrick shall be entitled to receive (i) a lump sum cash payment equal to eighteen (18) months of his then- current base salary and 100 % of his target annual bonus for the calendar year in which the separation occurs; and (ii) Company- paid COBRA premiums for up to eighteen (18) months. Such benefits are contingent on Mr. Zindrick' s execution and nonrevocation of a general release of claims against the Company. Pursuant to the terms of Ms. Zak' s employment agreement, in the event she is subject to a termination without " cause " or she resigns for " good reason " (each, as defined in Ms. Zak' s employment agreement), Ms. Zak shall be entitled to Company- paid COBRA premiums for up to twelve (12) months. In the event Ms. Zak is subject to a termination without cause or she resigns for good reason within three (3) months prior to or eighteen (18) months following a " change in control " (as defined in the 2022 Plan), Ms. Zak shall be entitled to receive (i) a lump sum cash payment equal to eighteen (12) months of her then- current base salary and 100 % of her target annual bonus for the calendar year in which the separation occurs; and (ii) Company- paid COBRA premiums for up to twelve (12) months. Such benefits are contingent on Ms. Zak' s execution and nonrevocation of a general release of claims against the Company. Pursuant to the terms of Ms. Jewett' s employment agreement, in the event she is subject to a termination for any reason, Ms. Jewett is entitled to all accrued and unpaid wages earned through Ms. Jewett' s last day of employment. In the event Ms. Jewett is subject to an " involuntary termination " that does not occur within the " change in control period " (each, as defined in Ms. Jewett' s employment agreement), Ms. Jewett shall be entitled to Company- paid COBRA premiums for up to nine (9) months. In the event Ms. Jewett is subject to an " involuntary termination " during a " change in control period, " Ms. Jewett is entitled to receive (i) a lump sum cash payment equal to nine (9) months of her then- current base salary and (ii) Company- paid COBRA premiums for up to nine (9) months. Such benefits are contingent on Ms. Jewett' s execution and nonrevocation of a general release of claims against the Company. Outstanding Equity Awards at Fiscal Year End The following table presents the outstanding equity incentive plan awards held by each named executive officer as of December 31, 2023. Option Awards (1) Stock Awards (1) Name Grant Date Number of Securities Underlying Unexercised Options Exercisable (#) Number of Securities Underlying Unexercised Options Unexercisable (#) Option Exercise Price Per Share ($) (2) Option Expiration Date Number of shares or units of stock that have not vested (#) Market value of shares of units of stock that have not vested ($) Thomas Zindrick, J. D. 8 / 15 / 2014 (3) 333, 333 — 6. 00 8 / 15 / 2024 — — — 9 / 19 / 2017 (3) 200, 000 — 6. 00 9 / 19 / 2027 — — — 9 / 19 / 2017 (3) 725, 000 — 6. 00 9 / 19 / 2027 — — — 3 / 23 / 2020 (3) 157, 372 — 6. 00 3 / 23 / 2030 — — — 9 / 24 / 2020 (3) 23, 568 — 6. 00 9 / 24 / 2030 — — — 9 / 11 / 2023 (5) (6) 250, 000 22. 40 9 / 24 / 2030 — — — Lourie Zak 9 / 11 / 2023 (5) (6) 150, 000 22. 40 9 / 11 / 2033 — — — Caroline Jewett 9 / 11 / 2023 (5) (6) 88, 000 22. 40 9 / 11 / 2033 9 / 11 / 2023 (4) 20, 000 448, 000 10 / 2 / 2023 (5) (6) 22, 000 24. 75 10 / 2 / 2033 (1) All of the option and RSU awards were granted under the 2009 Plan, the

2019 Plan, the 2022 Plan or the 2023 Inducement Plan, the terms of which are described below under " Equity Compensation Arrangements — 2009 Equity Incentive Plan, 2019 Equity Incentive Plan, 2022 Equity Incentive Plan and 2023 Inducement Plan. " (2) In September 2022, the Board approved a stock option repricing whereby the exercise prices of previously granted and unexercised options held by certain employees, directors and key advisers with exercise prices between $ 9. 00 and $ 10. 50 per share, were adjusted to equal the initial offering price of $ 6. 00, contingent and effective upon the completion of the Company' s initial public offering. (3) All shares subject to this option award were fully vested as of the date of grant. (4) The shares subject to this RSU award vest on the following schedule: 25 % of the total shares vest on March 1, 2024, and; the balance of the shares will vest as to 8. 33 % on each of the subsequent twelve (12) " quarterly vesting dates " thereafter, subject to continuous service through each such date. " Quarterly vesting dates " means each of March 1, June 1, September 1, and December 1; provided, however, that to the extent any such date occurs on a weekend day or U. S. federal holiday, the quarterly vesting date will be deemed to occur on the immediately following day that is not a weekend day or U. S. federal holiday. (5) The shares subject to this option award vest as to 25 % of the total shares on the one- year anniversary of the vesting commencement date September 11, 2023 with respect to Mr. Zindrick, August 28, 2023 with respect to Ms. Zak, and June 30, 2023 with respect to Ms. Jewett' s September 11, 2023 option grant, and September 11, 2023 with respect to Ms. Jewett' s October 2, 2023 option grant), and vest in 1 / 36th monthly thereafter, subject to continuous service through each such date. (6) In the event optionholder is terminated without cause within three (3) months prior to, or within eighteen (18) months following, a change in control, or resigns for good reason within such period, then the unvested portion of this option shall vest and become exercisable in full. Equity Compensation Arrangements Since our initial public offering, we have granted stock options and other equity awards to employees, including Named Executive Officers, under our 2022 Plan and 2023 Inducement Plan. Prior to the initial public offering, we granted stock options and other equity awards under our 2019 Plan and 2009 Plan. Also, since our initial public offering, we have maintained the ESPP to provide additional long- term equity incentives to our employees and Named Executive Officers. The following is a brief summary of the material terms of each of our equity compensation plans. Equity Incentive Plan Types of Awards. Our 2022 Plan provides for the grant of incentive stock options (ISOs) to employees, including employees of any parent or subsidiary, and for the grant of nonstatutory stock options (NSOs), stock appreciation rights, restricted stock awards, restricted stock unit awards, performance awards and other forms of stock awards to employees, directors, and consultants, including employees and consultants of our affiliates. Corporate Transactions. The following applies to stock awards under the 2022 Plan in the event of a corporate transaction, unless otherwise provided in a participant' s stock award agreement or other written agreement with us or one of our affiliates or unless otherwise expressly provided by the plan administrator at the time of grant. In the event of a corporate transaction, any stock awards outstanding under the 2022 Plan may be assumed, continued or substituted for by any surviving or acquiring corporation (or its parent company), and any reacquisition or repurchase rights held by us with respect to the stock award may be assigned to the successor (or its parent company). If the surviving or acquiring corporation (or its parent company) does not assume, continue or substitute for such stock awards, then with respect to any such stock awards that are held by participants whose continuous service has not terminated prior to the effective time of the transaction, or current participants, the vesting (and exercisability, if applicable) of such stock awards will be accelerated in full to a date prior to the effective time of the transaction (contingent upon the effectiveness of the transaction), and such stock awards will terminate if not exercised (if applicable) at or prior to the effective time of the transaction, and any reacquisition or repurchase rights held by us with respect to such stock awards will lapse (contingent upon the effectiveness of the transaction). With respect to performance awards with multiple vesting levels depending on performance level, unless otherwise provided by an award agreement or by the administrator, the award will accelerate at 100 % of target. If the surviving or acquiring corporation (or its parent company) does not assume, continue or substitute for such stock awards, then with respect to any such stock awards that are held by persons other than current participants, such awards will terminate if not exercised (if applicable) prior to the effective time of the transaction, except that any reacquisition or repurchase rights held by us with respect to such stock awards will not terminate and may continue to be exercised notwithstanding the transaction. The plan administrator is not obligated to treat all stock awards or portions of stock awards in the same manner and is not obligated to take the same actions with respect to all participants. In the event a stock award will terminate if not exercised prior to the effective time of a corporate transaction, the plan administrator may provide, in its sole discretion, that the holder of such stock award may not exercise such stock award but instead will receive a payment equal in value to the excess (if any) of (1) the value of the property the participant would have received upon the exercise of the stock award over (2) any exercise price payable by such holder in connection with such exercise. Under our 2022 Plan, a corporate transaction is defined to include the consummation of: (1) a sale of all or substantially all of our assets, (2) the sale or disposition of at least 50 % of our outstanding securities, (3) a merger or consolidation where we do not survive the transaction, and (4) a merger or consolidation where we do survive the transaction but the shares of our common stock outstanding before such transaction are converted or exchanged into other property by virtue of the transaction, unless otherwise provided in an award agreement or other written agreement between us and the award holder. Change in Control. In the event of a change in control, as defined under our 2022 Plan, awards granted under our 2022 Plan will not receive automatic acceleration of vesting and exercisability, although this treatment may be provided for in an award agreement. Under the 2022 Plan, a change in control is defined to include (1) the acquisition by any person or company of more than 50 % of the combined voting power of our then outstanding stock; (2) a consummated merger, consolidation or similar transaction in which our stockholders immediately before the transaction do not own, directly or indirectly, more than 50 % of the combined voting power of the surviving entity (or the parent of the surviving entity); (3) the approval by the stockholders or the board of directors of a plan of complete dissolution or liquidation of the company, or the occurrence of a complete dissolution or liquidation of the company, except for a liquidation into a parent corporation; (4) a consummated sale, lease, exclusive license or other disposition of all or substantially all of our assets other than to an entity more than 50 % of the combined voting power of which is owned by our stockholders; and (5) an

unapproved change in the majority of the board of directors. Equity Incentive Plan Types of Awards. Our 2019 Plan provides for the grant of ISOs, NSOs, stock appreciation rights, restricted stock awards, restricted stock units and other stock- based awards to employees, directors, and consultants. Transactions. Our 2019 Plan provides that, in the event of a " change in control " or a " corporate transaction, " unless otherwise provided in an award agreement or other written agreement between us and the award holder or unless otherwise expressly provided by our board of directors at the time of grant of a stock award, our board of directors, the plan administrator, may take one or more of the following actions with respect to such stock awards contingent upon the closing or completion of the transaction: ● arrange for the assumption of, continuation of or substitution of the stock award by the surviving or acquiring corporation; ● arrange for the assignment of any reacquisition or repurchase rights held by us to the surviving or acquiring corporation; ● provide for acceleration of vesting of any stock award; ● arrange for the lapse of any reacquisition or repurchase rights held by us with respect to the stock award; ● provide for the cancellation of any stock award, to the extent not vested or not exercised prior to the effective time of such transaction, for such cash consideration, if any, as the board of directors in its sole discretion may consider appropriate; or ● make a payment (in such form as may be determined by the board of directors) equal to the excess, if any, of (A) the value of the property that would have been received upon the exercise of the stock award immediately prior to the effective time of the transaction, over (B) any exercise price payable by such holder in connection with such exercise, with such payments delayed to the same extent that payment of consideration to the holders of our common stock is delayed as a result of escrows, earn outs, holdbacks or any other contingencies related to such transaction. The plan administrator is not obligated to treat all stock awards or portions of stock awards in the same manner and is not obligated to treat all participants in the same manner. Change in Control. A stock award may be subject to additional acceleration of vesting and exercisability upon or after a change in control as may be provided in an applicable award agreement or other written agreement, but in the absence of such provision, no such acceleration will occur. Equity Incentive Plan Types of Awards. Our 2009 Plan provides for the grant of ISOs to our employees, NSOs, restricted stock awards, stock appreciation rights, dividend equivalent awards, stock payment awards and restricted stock unit awards to restricted stock units to employees, non- employee directors and consultants. Corporate Transactions. Our 2009 Plan provides that in the event of certain changes to the capital structure describe above or a change in control, the plan administrator may take one or more of the following actions with respect to such stock awards: ● to provide for either (A) termination of any award in exchange for an amount of cash or other property equal to the amount that would have been received upon the exercise of such award or realization of participants rights, or (B) the replacement of such award with other rights or property; ● arrange for the assumption, continuation, or substitution of a stock award by a surviving or acquiring corporation; ● to make adjustments in the number and type of securities subject to outstanding awards, and to the terms and conditions of awards; ● to provide that an award will be exercisable, payable, or fully vested with respect to all shares; or ● to provide that an award cannot vest, be exercised or become payable after such event. If a change in control occurs and awards are not continued, converted, assumed, or replaced by the successor entity, then immediately prior to such change in control, the awards will become fully exercisable or payable. Employee Stock Purchase Plan The 2022 Employee Stock Purchase Plan (ESPP) is intended to qualify as an " employee stock purchase plan " within the meaning of Section 423 of the Code for U. S. employees. Under the ESPP, all of our regular employees, including our Named Executive Officers, and employees of any of our parent or subsidiary companies designated by the board of directors as eligible to participate may participate and may contribute, normally through payroll deductions, up to 15 % of their earnings up to a total of $ 25, 000 per purchase period for the purchase of our common stock under the ESPP. The ESPP is implemented through a series of offerings of purchase rights to eligible employees. Under the ESPP, we may specify offerings with a duration of not more than 27 months, and may specify shorter purchase periods within each offering. Each offering will have one or more purchase dates on which our common stock will be purchased for employees participating in the offering. Unless otherwise determined by the Board of Directors, shares of our common stock are purchased for accounts of employees participating in the ESPP at a price per share equal to the lower of (a) 85 % of the fair market value of a share of our common stock on the first date of an offering or (b) 85 % of the fair market value of a share of our common stock on the date of purchase. Corporate Transactions. In the event of certain significant corporate transactions, including the consummation of (1) a sale of all or substantially all of our assets, (2) the sale or disposition of more than 50 % of our outstanding securities, (3) a merger or consolidation where we do not survive the transaction, or (4) a merger or consolidation where we do survive the transaction but the shares of our common stock outstanding immediately before such transaction are converted or exchanged into other property by virtue of the transaction, any then- outstanding rights to purchase our stock under the ESPP may be assumed, continued or substituted for by any surviving or acquiring entity (or its parent company). If the surviving or acquiring entity (or its parent company) elects not to assume, continue, or substitute for such purchase rights, then the participants' accumulated payroll contributions will be used to purchase shares of our common stock within ten business days before such corporate transaction, and such purchase rights will terminate immediately. Inducement Plan Types of Awards. Our 2023 Inducement Plan provides for the grant of ISOs, NSOs, restricted stock awards, restricted stock unit awards, performance awards and other forms of stock awards to eligible employees who satisfy the standards for inducement grants under Nasdaq Marketplace Rule 5635 (c) (4) or 5635 (c) (3), if applicable, and the related guidance under Nasdaq IM 5635- 1. Corporate Transactions. The following applies to stock awards under the 2023 Inducement Plan in the event of a corporate transaction, unless otherwise provided in a participant' s stock award agreement or other written agreement with us or one of our affiliates or unless otherwise expressly provided by the plan administrator at the time of grant. In the event of a corporate transaction, any stock awards outstanding under the 2023 Inducement Plan may be assumed, continued or substituted for by any surviving or acquiring corporation (or its parent company), and any reacquisition or repurchase rights held by us with respect to the stock award may be assigned to the successor (or its parent company). If the surviving or acquiring corporation (or its parent company) does not assume, continue or substitute for such stock awards, then with respect to any such stock awards that are held by participants whose continuous service has not terminated prior to the effective time of the transaction, or current participants,

the vesting (and exercisability, if applicable) of such stock awards will be accelerated in full to a date prior to the effective time of the transaction (contingent upon the effectiveness of the transaction), and such stock awards will terminate if not exercised (if applicable) at or prior to the effective time of the transaction, and any reacquisition or repurchase rights held by us with respect to such stock awards will lapse (contingent upon the effectiveness of the transaction). With respect to performance awards with multiple vesting levels depending on performance level, unless otherwise provided by an award agreement or by the administrator, the award will accelerate at 100 % of target. If the surviving or acquiring corporation (or its parent company) does not assume, continue or substitute for such stock awards, then with respect to any such stock awards that are held by persons other than current participants, such awards will terminate if not exercised (if applicable) prior to the effective time of the transaction, except that any reacquisition or repurchase rights held by us with respect to such stock awards will not terminate and may continue to be exercised notwithstanding the transaction. The plan administrator is not obligated to treat all stock awards or portions of stock awards in the same manner and is not obligated to take the same actions with respect to all participants. Under our 2023 Inducement Plan, a corporate transaction is defined to include the consummation of: (1) a sale of all or substantially all of our assets, (2) the sale or disposition of at least 50 % of our outstanding securities, (3) a merger or consolidation where we do not survive the transaction, and (4) a merger or consolidation where we do survive the transaction but the shares of our common stock outstanding before such transaction are converted or exchanged into other property by virtue of the transaction, unless otherwise provided in an award agreement or other written agreement between us and the award holder. Change in Control. In the event of a change in control, as defined under our 2023 Inducement Plan, awards granted under our 2023 Inducement Plan will not receive automatic acceleration of vesting and exercisability, although this treatment may be provided for in an award agreement. Under the 2023 Inducement Plan, a change in control is defined to include (1) the acquisition by any person or company of more than 50 % of the combined voting power of our then outstanding stock; (2) a consummated merger, consolidation or similar transaction in which our stockholders immediately before the transaction do not own, directly or indirectly, more than 50 % of the combined voting power of the surviving entity (or the parent of the surviving entity); (3) the approval by the stockholders or the board of directors of a plan of complete dissolution or liquidation of the company, or the occurrence of a complete dissolution or liquidation of the company, except for a liquidation into a parent corporation; (4) a consummated sale, lease, exclusive license or other disposition of all or substantially all of our assets other than to an entity more than 50 % of the combined voting power of which is owned by our stockholders; and (5) an unapproved change in the majority of the board of directors. Non- Employee Director Compensation The following table sets forth information regarding the compensation earned for service on the Board during the year ended December 31, 2023. Thomas Zindrick, J. D., our current President and Chief Executive Officer, was also a member of the Board during 2023, but did not receive any additional compensation for his service as a director on the Board. Mr. Zindrick' s compensation as an executive officer is set forth in the section titled " Executive Compensation — Summary Compensation Table. " All of our non- employee directors are entitled to reimbursement of direct expenses incurred in connection with attending meetings of the Board or committees thereof. Name Cash Compensation ($) Option Awards ($) (1) Stock Awards ($) (1) Total ($) James L. Tyree 70, 000 77, 500 136, 630 284, 130 John Thomas, Ph. D. 64, 000 77, 500 136, 630 278, 130 Mary Mirabelli 60, 500 77, 500 84, 070 222, 070 John Smither 18, 621 155, 000 155, 000 328, 621 Gabe Woodward (2) 32, 800 0 6, 570 39, 370 (1) The amounts reported in this column do not reflect dollar amounts actually received by the director. Instead, the amounts reflect the aggregate grant date fair value of the stock options and RSU' s granted to the director during 2023 under the 2022 Plan, computed in accordance with ASC Topic 718, as further described below. As required by SEC rules, the amount shown excludes the impact of estimated forfeitures related to service- based vesting conditions. The amount reported in this column reflects the accounting cost for these stock options and does not correspond to the actual economic value that may be received by the director upon the exercise of the stock options or any sale of the underlying shares of common stock. (2) Effective July 12, 2023, Mr. Woodward resigned from the Board. The table below sets forth the aggregate number of shares subject to outstanding stock options beneficially owned by each of our directors as of December 31, 2023: Name Number of Shares Underlying Outstanding Options as of December 31, 2023 Number of Shares Underlying Outstanding RSU Awards as of December 31, 2023 Total Shares James L. Tyree 123, 464 3, 460 126, 924 John Thomas, Ph. D. 85, 137 3, 460 88, 597 Mary Mirabelli 29, 397 3, 460 32, 857 John Smither 8, 447 6, 343 14, 790 Gabe Woodward--- The exercise price of each option is equal to the fair market value of our common stock as of the date of grant. Non- Employee Director Compensation Policy We maintain a non- employee director compensation policy that is applicable to all of our non- employee directors, which was effective from the date of our initial public offering, and was most recently amended in September, 2023. This compensation policy provides that each such non- employee director will automatically receive the following compensation for service on the Board: ● an annual cash retainer of $ 40, 000; ● an additional annual cash retainer of $ 30, 000 to the lead independent director of the Board; ● an additional annual cash retainer of $ 15, 000, $ 10, 000, and $ 8, 000 for service as chair of our Audit Committee, Compensation Committee and Nominating Committee, respectively; ● an additional annual cash retainer (not applicable to committee chairs) of $ 7, 500, $ 5, 000, and $ 4, 000 for service as a member of our Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee, respectively; ● for each eligible director who is first elected or appointed to the Board, an initial option to purchase a number of shares of our common stock with a grant- date value of $ 155, 000 and a restricted stock unit award with a grant- date value of $ 155, 000 (the " Initial Grants "). These Initial Grants will vest in equal installments every three months over a three year period such that the Initial Grants are fully vested on the third anniversary of the date of grant, subject to the directors continuous service through each such vesting date, and will vest in full upon a Change in Control (as defined in the 2022 Plan).. The number of shares underlying stock options hall be calculated based on the grant date fair value of a share of our common stock using a Black- Scholes model. The number of shares underlying restricted stock unit awards shall be calculated in accordance with the Company' s equity award policy in effect from time to time; ● an annual option grant to purchase a number of shares of our common stock with a grant- date value of $ 77, 500 and a restricted stock unit award with a grant- date value of $ 77, 500

(the " Annual Grants "); provided, however, that if a director has not served as member of the Board for 12 months prior to the applicable annual stockholder meeting, the number of shares subject to such individual' s Annual Grants will be pro- rated based on the number of full months served on the Board, rounded to the nearest whole share. The Annual Grants will vest on the first anniversary of the date of grant, provided that the Annual Grants will in any case be fully vested on the date of Company' s next annual stockholder meeting, subject to the director' s continuous service through such vesting date and will vest in full upon a Change in Control (as defined in the Plan). The number of shares underlying stock options hall be calculated based on the grant date fair value of a share of our common stock using a Black- Scholes model. The number of shares underlying restricted stock unit awards shall be calculated in accordance with the Company' s equity award policy in effect from time to time. Each of the option grants and restricted stock unit awards described above will be granted under our 2022 Plan. The term of each option will be 10 years, subject to earlier termination as provided in the 2022 Plan. In addition, the Board or the Compensation Committee may from time to time determine to make discretionary grants of stock options or other equity awards under the 2022 Plan to our non- employee directors in connection with their service on the Board. ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS Security Ownership of Certain Beneficial Owners and Management **and Related Stockholder Matters.** The following table **information required by this Item will be** sets **set** forth **in the sections headed " Security Ownership of Certain Beneficial Owners and Management " and " Executive and Director Compensation " contained in our 2025 Proxy Statement and is incorporated herein by reference. Item 13. Certain Relationships and Related Transactions, and Director Independence. The** information **required** regarding beneficial ownership of our capital stock as of March 26, 2024 by **this Item will** : ● each person, or group of affiliated persons, known by us to beneficially own more than 5 % of our common stock; ● each of our directors; ● each our of named executive officers; and ● all of our current executive officers and directors as a group. We have determined beneficial ownership in accordance with the rules and regulations of the SEC, and the information is not necessarily indicative of beneficial ownership for any other purpose. Except as indicated by the footnotes below, we believe, based on information furnished to us, that the persons and entities named in the table below have sole voting and sole investment power with respect to all shares that they beneficially own, subject to applicable community property laws. Applicable percentage ownership is based on 26, 865, 473 shares of common stock outstanding as of March 26, 2024. Unless otherwise indicated, the address for each beneficial owner listed in the table below is c / o Genelux Corporation, 2625 Townsgate Road, Suite 230, Westlake Village, California 91361. Name and Address of Beneficial Owner: Number of Shares Beneficially Owned Percentage of Shares Beneficially Owned Greater than 5 % Holders Aladar Szalay, Ph. D. (1) 4, 185, 305 15. 6 % Directors and Named Executive Officers: Mary Mirabelli (2) 26, 000 * John Smither (3)- * John Thomas, Ph. D. (4) 557, 237 2. 1 % James L. Tyree (5) 119, 067 * Thomas Zindrick, J. D. (6) 1, 453, 924 5. 6 % Lourie Zak- * Caroline Jewett (7) 6, 135 * All directors and executive officers as a group (11 persons) (8) 2, 787, 587 10. 4 % * Represents beneficial ownership of less than 1 %. (1) Based on a Schedule 13G filed by Dr. Szalay on February 2, 2024, consists of (i) 1, 371, 545 shares of common stock held by The Szalay 2010 Retained Annuity Trust, (ii) 2, 258, 760 shares of common stock held by The Szalay 2009 Irrevocable Trust and (iii) 550, 000 shares of common stock held by The Szalay 2010 Children' s Trust, for which the reporting person has sole voting and dispositive power and 5, 000 shares of common stock held by the reporting person' s spouse, for which the reporting person has shared voting and dispositive power. (2) Consists of (i) 1, 000 shares of common stock; and (ii) 25, 000 shares of common stock issuable to Ms. Mirabelli pursuant to options exercisable within 60 days of March 26, 2024. (3) Consists of 900 shares of common stock underlying an award of restricted stock units that are vesting within 60 days of March 26, 2024. (4) Consists of (i) 475, 793 shares of common stock; and (ii) 81, 444 shares of common stock issuable to Dr. Thomas pursuant to options exercisable within 60 days of the March 26, 2024. (5) Consists of 119, 067 shares of common stock issuable to Mr. Tyree pursuant to options exercisable within 60 days of the March 26, 2024. (6) Consists of (i) 1, 439, 273 shares of common stock issuable to Mr. Zindrick pursuant to options exercisable within 60 days of March 26, 2024; and (ii) 14, 651 shares of common stock. (7) Consists of (i) 1, 135 shares of common stock held directly by Ms. Jewett and (ii) 5, 000 shares of common stock pursuant to restricted stock units that vested as of March 26, 2024. (8) Consists of (i) the shares of common stock described in notes (2) and (4) through (8) above; (ii) 163, 883 shares of common stock issuable to Dr. Seigalla pursuant to options exercisable within 60 days of March 26, 2024; (iii) (a) 159, 999 shares of common stock issuable to Dr. Cappello pursuant to options exercisable within 60 days of March 26, 2024, and (b) 5, 735 shares of common stock; (iv) (a) 207, 652 shares of common stock issuable to Dr. Yu pursuant to options exercisable within 60 days of March 26, 2024, and (c) 5, 735 shares of common stock; and (v) (a) 8, 333 shares of common stock issuable to Mr. Smalling pursuant to options exercisable within 60 days of March 26, 2024, and (b) 2, 065 shares of common stock; and (vi) (a) 71, 250 shares of common stock issuable to Mr. Ryder pursuant to options exercisable within 60 days of March 26, 2024, and (b) 572 shares of common stock. Equity Compensation Plan Information The following table provides certain information with respect to all of our equity compensation plans in effect as of December 31, 2023. Plan Category Number of securities to be **set** issued upon exercise of outstanding options, warrants and rights (a) (#) Weighted- average exercise price of outstanding options, warrants and rights (b) ($) Number of securities remaining available for **forth** issuance under equity compensation plans (excluding securities reflected in **the** column (a)) (c) (#) Equity compensation plans approved by security holders: Equity Incentive Plan 2, 207, 618 6. 08 — Equity Incentive Plan 1, 709, 033 6. 08 — Equity Incentive Plan 763, 711 22. 47 2, 036, 289 Employee Stock Purchase Plan — — 700, 000 Equity compensation plans not approved by security holders 444, 300 22. 40 555. 700 Total 5, 124, 662 3, 291, 989 ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE Policies and Procedures for Related Party Transactions We adopted a written policy that our executive officers, directors, nominees for election **sections headed "** as a director, beneficial owners of more than 5 % of any class of our common stock and any members of the immediate family of any of the foregoing persons are not permitted to enter into a related person transaction with us without the approval or ratification of the Board or our Audit Committee. Under the policy, any request for us to enter

into a transaction with an executive officer, director, nominee for election as a director, beneficial owner of more than 5 % of any class of our common stock, or any member of the immediate family of any of the foregoing persons, in which the amount involved exceeds $ 120, 000 (or, if less, 1 % of the average of our total assets in a fiscal year) and such person would have a direct or indirect interest, must be presented to the Board or our Audit Committee for review, consideration and approval. In approving or rejecting any such proposal, the Board or our Audit Committee is to consider the material facts of the transaction, including whether the transaction is on terms comparable to the terms generally available to an unaffiliated third party under the same or similar circumstances and the extent of the related person' s interest in the transaction. Transactions with Related Persons **and Indemnification " and " Information Regarding the Board of Directors and Corporate Governance " contained in our 2025 Proxy Statement and is incorporated herein by reference. Item 14. Principal Accountant Fees and Services.** The **information required by this Item** following includes a summary of transactions since January 1, 2021 to which we have been a party in which the amount involved exceeded or will **be** exceed the lesser of $ 120, 000 or 1 % of the average of our total assets as of December 31, 2022 and 2023, and in which any of our directors, executive officers or, to our knowledge, beneficial owners of more than 5 % of our capital stock or any member of the immediate family of any of the foregoing persons had or will have a direct or indirect material interest, other than equity and other compensation, termination, change in control and other arrangements, which are described under " Executive Compensation. " We also describe below certain other transactions with our directors, executive officers and stockholders. Note and Warrant Purchase Agreement In September 2020, we entered into a note and warrant purchase agreement, or purchase agreement, with WDC Fund 1, or WDC, under which we issued WDC a convertible promissory note in the amount of $ 3, 500, 000 bearing simple interest on the outstanding principal amount at the rate of 6 % per annum with a conversion price of $ 10. 50 per share of our common stock. At a subsequent closing in October 2020, we issued WDC a second convertible promissory note under the purchase agreement in the amount of $ 3, 500, 000 bearing simple interest on the outstanding principal amount at the rate of 6 % per annum with a conversion price of $ 10. 50 per share of our common stock. At a subsequent closing in December 2020, we issued WDC a third convertible promissory note under the purchase agreement in the amount of $ 1, 000, 000 bearing simple interest on the outstanding principal amount at the rate of 6 % per annum with a conversion price of $ 10. 50 per share of our common stock. At a second subsequent closing in December 2020, as amended in February 2021, we issued WDC a fourth convertible promissory note under the purchase agreement in the amount of $ 919, 000 bearing simple interest on the outstanding principal amount at the rate of 6 % per annum with a conversion price of $ 10. 50 per share of our common stock. Of the $ 1, 065, 000 of proceeds that were received, a total of $ 146, 000 was received during the year ended December 31, 2020 and $ 919, 000 was received subsequent to December 31, 2020. In connection with the note and warrant purchase agreement described above, in September 2020, we issued a warrant for 57, 500 shares of our common stock to WDC at an exercise price of $ 10. 50 per share. In October 2020, we issued an additional warrant for 57, 500 shares of our common stock to WDC at an exercise price of $ 10. 50 per share. In December 2020, we issued an additional warrant for 16, 428 shares of our common stock to WDC at an exercise price of $ 10. 50 per share. In a subsequent December 2020 closing, as amended in February 2021, we issued an additional warrant for 15, 213 shares of our common stock to WDC at an exercise price of $ 10. 50 per share. Each of the warrants has a five- year exercise period from the date of issuance. Of the 15, 213 warrant shares that were granted, a total of 2, 085 were granted on December 31, 2020 and 13, 128 were granted on February 19, 2021. Offer Letter, Consulting Agreements and Stock Option Grants We have entered into offer letter and consulting agreements with certain of our named executive officers, and granted stock options to our named executive officers and certain of our directors, as more fully described in the sections titled " Executive Compensation " and " Non- Employee Director Compensation. " Indemnification Agreements Our amended and restated certificate of incorporation contains provisions limiting the liability of directors, and our amended and restated bylaws provide that we will indemnify each of our directors and officers to the fullest extent permitted under Delaware law. Our amended and restated certificate of incorporation and amended and restated bylaws also provide the Board with discretion to indemnify our employees and other agents when determined appropriate by the Board. In addition, we have entered into an indemnification agreement with each of our directors and executive officers, which will require us to indemnify them. Independence of the Board of Directors As required under the listing standards of The Nasdaq Stock Market, LLC, or Nasdaq, a majority of the members of a listed company' s board of directors must qualify as " independent, " as affirmatively determined by the board of directors. The board of directors consults with our outside counsel to ensure that its determinations are consistent with relevant securities and other laws and regulations regarding the definition of " independent, " including those set forth in pertinent listing standards of Nasdaq, as in effect from time to time. The Board undertook a review of the **section headed " Ratification of Selection of** independence **Independent** of each director. Based on information provided **Registered Public Accounting Firm " contained in our 2025 Proxy Statement and is incorporated herein** by **reference** each director concerning his or her background, employment, and affiliations, the Board has determined that Ms. Mirabelli, Dr. Thomas, Mr. Tyree, and Mr. Smither do not have relationships that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each of these directors is " independent " as that term is defined under the listing standards. In making these determinations, the Board considered the current and prior relationships that each non- employee director has with the Company and all other facts and circumstances the Board deemed relevant in determining their independence, including the beneficial ownership of our shares by each non- employee director and the transactions described in " Certain Relationships and Related Person Transactions. " ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES Weinberg & Company, P. A. (Los Angeles, California, PCAOB Auditor ID: 572), who performed our audit services for fiscal year 2023 and 2022 including an audit of the financial statements and services related to filings with the SEC, has served as our independent registered public accounting firm since 2021. The following table represents aggregate fees billed to the Company for the fiscal years ended December 31, 2023 and 2022 by Weinberg & Company, P. A., our independent registered public accounting firm. Fees for Fiscal 2023 Fees for Fiscal 2022 Audit Fees $ 219, 338 $ 207, 633 Audit- Related Fees -- Tax Fees -- All Other Fees 43, 596 61, 060 Total Fees $ 262, 934 $ 118,

~~972 Audit Fees. This category consists of the annual audit of our financial statements and the interim reviews of the quarterly financial statements and services rendered in connection with registration statements, including comfort letters and consents. Audit- Related Fees. This category consists of fees billed for professional services provided in connection with assurance and related services that are reasonably related to the performance of the audit or review of our financial statements and that are not reported under Audit Fees. Tax Fees. This category includes all fees associated with tax compliance, tax advice and tax planning work. All Other Fees. This category consists of fees for all other services that are not reported above. Pre- Approval Policies and Procedures The Audit Committee has adopted a policy and procedures for the pre- approval of audit and non- audit services rendered by our independent registered public accounting firm, Weinberg & Company, P. A. The policy generally pre- approves specified services in the defined categories of audit services, audit- related services and tax services up to specified amounts. Pre- approval may also be given as part of the Audit Committee' s approval of the scope of the engagement of the independent auditor or on an individual, explicit, case- by- case basis before the independent auditor is engaged to provide each service. The pre- approval of services may be delegated to one or more of the Audit Committee' s members, but the decision shall be reported to the full Audit Committee at its next scheduled meeting. The Audit Committee has determined that the rendering of services other than audit services by Weinberg & Company, P. A. is compatible with maintaining the principal accountant' s independence~~ . PART IV Item 15. Exhibits and Financial Statement Schedules (a) (1) Financial Statements. For a list of the financial statements included herein, see Index on page F- 1 of this report. (a) (2) Financial Statement Schedules. All required information is included in the financial statements or notes thereto. (a) (3) List of Exhibits. Item 16. Exhibits and Financial Statement Schedules. ~~(a) Exhibits.~~ Exhibit Number Description 3. 1 Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3. 1 to the Registrant' s Current Report on Form 8- K (File No. 001- 41599), filed with the SEC on January 30, 2023). 3. 2 Amended and Restated Bylaws of the Registrant (incorporated by reference to Exhibit 3. 2 to the Registrant' s Current Report on Form 8- K (File No. 001- 41599), filed with the SEC on January 30, 2023). 4. 1 Form of Common Stock Certificate (incorporated by reference to Exhibit 4. 1 to the Registrant' s Registration Statement on Form S- 1 (File No. 333- 265828), as amended, originally filed with the SEC on August 29, 2022). 4. 2 Investors' Rights Agreement, by and among the Registrant and AbbVie, Inc. and Aladar Szalay, Ph. D., dated January 2010 (incorporated by reference to Exhibit 4. 2 to the Registrant' s Registration Statement on Form S- 1 (File No. 333- 265828), as amended, originally filed with the SEC on June 24, 2022). 4. 3 ¥ Form of Warrant to Purchase Common Stock issued to WDC Fund I, dated September 2020 (incorporated by reference to Exhibit 4. 3 to the Registrant' s Registration Statement on Form S- 1 (File No. 333- 265828), as amended, originally filed with the SEC on June 24, 2022). 4. 4 Form of Umbrella Agreement Regarding Family Investments (incorporated by reference to Exhibit 4. 5 to the Registrant' s Registration Statement on Form S- 1 (File No. 333- 265828), as amended, originally filed with the SEC on June 24, 2022). 4. 5 Form of Convertible Note Purchase Agreement under the Umbrella Agreement (incorporated by reference to Exhibit 4. 6 to the Registrant' s Registration Statement on Form S- 1 (File No. 333- 265828), as amended, originally filed with the SEC on June 24, 2022). 4. 6 Form of Representative' s Warrant (incorporated by reference to Exhibit 4. 7 to the Registrant' s Current Report on Form 8- K (File No. 001- 41599), filed with the SEC on January 30, 2023). 4. 7 Form of Warrant to Purchase Common Stock (incorporated by reference to Exhibit 4. 8 to the Registrant' s Quarterly Report on Form 10- Q (File No. 001- 41599), filed with the SEC on May 15, 2023). 4. 8 Letter Agreement Amending the Umbrella Agreements, by and among the Registrant and Existing Noteholders dated April 4, 2023 (incorporated by reference to Exhibit 4. 10 to the Registrant' s Quarterly Report on Form 10- Q (File No. 001- 41599), filed with the SEC on May 15, 2023). 4. 9 Form of Warrant to Purchase Common Stock issued on July 28, 2023 in connection with Converted Convertible Notes Payable (incorporated by reference to Exhibit 4. 3 to the Registrant' s Quarterly Report on Form 10- Q (File No. 001- 41599), filed with the SEC on August 14, 2023). 4. 10 Form of Warrant to Purchase Common Stock issued on August 1, 2023 in connection with Converted Convertible Notes Payable. (incorporated by reference to Exhibit 4. 4 to the Registrant' s Quarterly Report on Form 10- Q (File No. 001- 41599), filed with the SEC on August 14, 2023) **. 4. 11 Form of Indenture (incorporated by reference to Exhibit 4. 14 to the Registrant' s Registration Statement on Form S- 3 (File No. 333- 276847), filed with the SEC on February 2, 2024. 4. 12 Form of Common Stock Warrant Agreement and Warrant Certificate (incorporated by reference to Exhibit 4. 17 to the Registrant' s Registration Statement on Form S- 3 (File No. 333- 276847), filed with the SEC on February 2, 2024. 4. 13 Form of Preferred Stock Warrant Agreement and Warrant Certificate (incorporated by reference to Exhibit 4. 18 to the Registrant' s Registration Statement on Form S- 3 (File No. 333- 276847), filed with the SEC on February 2, 2024. 4. 14 Form of Debt Securities Warrant Agreement and Warrant Certificate (incorporated by reference to Exhibit 4. 19 to the Registrant' s Registration Statement on Form S- 3 (File No. 333- 276847), filed with the SEC on February 2, 2024. 4. 15 Form of Warrant (incorporated by reference to Exhibit 4. 1 to the Registrant' s Current Report on Form 8- K (File No. 001- 41599), filed with the SEC on May 24, 2024). 4. 16 * Description of Registrant' s Capital Stock** . 10. 1 Genelux Corporation 2009 Equity Incentive Plan (incorporated by reference to Exhibit 10. 1 to the Registrant' s Registration Statement on Form S- 1 (File No. 333- 265828), as amended, originally filed with the SEC on June 24, 2022). 10. 2 Forms of Grant Notice, Stock Option Agreement and Notice of Exercise under the Genelux Corporation 2009 Equity Incentive Plan (incorporated by reference to Exhibit 10. 2 to the Registrant' s Registration Statement on Form S- 1 (File No. 333- 265828), as amended, originally filed with the SEC on June 24, 2022). 10. 3 Genelux Corporation 2019 Equity Incentive Plan (incorporated by reference to Exhibit 10. 3 to the Registrant' s Registration Statement on Form S- 1 (File No. 333- 265828), as amended, originally filed with the SEC on June 24, 2022). 10. 4 Forms of Grant Notice, Stock Option Agreement and Notice of Exercise under the Genelux Corporation 2019 Equity Incentive Plan (incorporated by reference to Exhibit 10. 4 to the Registrant' s Registration Statement on Form S- 1 (File No. 333- 265828), as amended, originally filed with the SEC on June 24, 2022). 10. 5 Genelux Corporation 2022 Equity Incentive Plan (incorporated by reference to Exhibit 10. 5 to the Registrant' s Registration Statement on Form S- 1 (File No. 333- 265828), as amended, filed with the SEC on January 10, 2023). 10. 6 Forms of Grant Notice, Stock Option Agreement and Notice of Exercise under the

Genelux Corporation 2022 Equity Incentive Plan (incorporated by reference to Exhibit 10. 6 to the Registrant' s Registration Statement on Form S- 1 (File No. 333- 265828), as amended, originally filed with the SEC on June 24, 2022). 10. 7 Genelux Corporation 2022 Employee Stock Purchase Plan (incorporated by reference to Exhibit 10. 7 to the Registrant' s Registration Statement on Form S- 1 (File No. 333- 265828), as amended, filed with the SEC on January 10, 2023). 10. 8 Genelux Corporation 2023 Inducement Plan (incorporated by reference to Exhibit 10. 2 to the Registrant' s Quarterly Report on Form 10- Q (File No. 001- 41599), filed with the SEC on November 14, 2023). 10. 9 Forms of Restricted Stock Unit Grant Notice and Restricted Stock Unit Award Agreement for Executive Officers under the Genelux Corporation 2023 Inducement Plan (incorporated by reference to Exhibit 10. 3 to the Registrant' s Quarterly Report on Form 10- Q (File No. 001- 41599), filed with the SEC on November 14, 2023). 10. 10 Forms of Restricted Stock Unit Grant Notice and Restricted Stock Unit Award Agreement for Non- Executives under the Genelux Corporation 2023 Inducement Plan (incorporated by reference to Exhibit 10. 4 to the Registrant' s Quarterly Report on Form 10- Q (File No. 001- 41599), filed with the SEC on November 14, 2023). 10. 11 Forms of Stock Option Grant Notice, Option Agreement and Notice of Exercise for Executive Officers under the Genelux Corporation 2023 Inducement Plan (incorporated by reference to Exhibit 10. 5 to the Registrant' s Quarterly Report on Form 10- Q (File No. 001- 41599), filed with the SEC on November 14, 2023). 10. 12 Forms of Stock Option Grant Notice, Option Agreement and Notice of Exercise for Non- Executives under the Genelux Corporation 2023 Inducement Plan (incorporated by reference to Exhibit 10. 6 to the Registrant' s Quarterly Report on Form 10- Q (File No. 001- 41599), filed with the SEC on November 14, 2023). 10. 13 Genelux Corporation Non- Employee Director Compensation Policy (incorporated by reference to Exhibit 10. 7 to the Registrant' s Quarterly Report on Form 10- Q (File No. 001- 41599), filed with the SEC on November 14, 2023). 10. 14 Form of Indemnification Agreement by and between the Registrant and its directors and executive officers (incorporated by reference to Exhibit 10. 9 to the Registrant' s Registration Statement on Form S- 1 (File No. 333- 265828), as amended, originally filed with the SEC on June 24, 2022). 10. 15 Offer Letter, by and between the Registrant and Sean Ryder, dated September 29, 2021 (incorporated by reference to Exhibit 10. 10 to the Registrant' s Registration Statement on Form S- 1 (File No. 333- 265828), as amended, filed with the SEC on January 10, 2023). 10. 16 Executive Employment Offer Letter, by and between the Registrant and Thomas Zindrick, J. D., dated May 30, 2023 (incorporated by reference to Exhibit 10. 1 to the Registrant' s Current Report on Form 8- K (File No. 001- 41599), filed with the SEC on June 2, 2023). 10. 17 Executive Employment Offer Letter, by and between the Registrant and Ralph Smalling, MS, dated June 1, 2023 (incorporated by reference to Exhibit 10. 4 to the Registrant' s Quarterly Report on Form 10- Q (File No. 001- 41599), filed with the SEC on August 14, 2023). 10. 18 **Lease Agreement** ~~Executive Employment Offer Letter~~ , by and between the Registrant and ~~Caroline Jewett~~ **1175- 1177 Idaho Street, LLC** , dated **January 2012, as amended (incorporated by reference to Exhibit 10. 12 to the Registrant' s Registration Statement on Form S- 1 (File No. 333- 265828), as amended, originally filed with the SEC on** June ~~15~~ 24,2022).10. **19 Lease** ~~26 ¥ # License~~ Agreement,by and between the Registrant and ~~V2ACT Therapeutics~~ **Townsgate Property** ,LLC,dated ~~June 18,2021,~~ as ~~amended~~ **of August 2002** (incorporated by reference to Exhibit 10. ~~17~~ **13** to the Registrant' s Registration Statement on Form S- 1 (File No.333- 265828),as amended,originally filed with the SEC on June 24,2022).10. ~~27 ¥ # License Agreement~~ **20 Industrial / Commercial Multi- Tenant Lease** ,by and between the Registrant and **Marindustry Partners** ~~Newsoara BioPharma Co~~ , **LP** ~~Ltd.~~ ,dated ~~September 27~~ **July 2018** , ~~2021~~ **as amended** (incorporated by reference to Exhibit 10. ~~18~~ **14** to the Registrant' s Registration Statement on Form S- 1 (File No.333- 265828),as amended,originally filed with the SEC on June 24,2022).10. ~~28 ¥ # License~~ **21 Sixteenth Amendment to Lease** Agreement,by and between the Registrant and ~~ELIAS Animal Health,~~ **3030 Bunker Hill Owner (DE)** LLC,dated **January 26** ~~November 15,~~ , 2023 (incorporated by reference to Exhibit 10. ~~5~~ **1** to the Registrant' s Quarterly Report on Form 10- Q (File No. 001- 41599), filed with the SEC on ~~August 14~~ **May 15** , 2023). 10. ~~19 Executive Employment Offer Letter~~ **22 Amended and Restated Limited Liability Company Agreement** , by and between the Registrant **, TVAX Biomedical, Inc.** and ~~Lourie Zak~~ **V2ACT Therapeutics, LLC** , dated ~~August 25~~ **January 3** , ~~2023~~ **2019** (incorporated by reference to Exhibit 10. **15 to the Registrant' s Registration Statement on Form S-** 1 ~~,as amended~~ (~~incorporated~~ **File No.333- 265828),as amended,originally filed with the SEC on June 24,2022).10.23 ¥ # License Agreement,** by **and between TVAX Biomedical,Inc.and V2ACT Therapeutics,LLC,dated June 18,2021,as amended (incorporated by** reference to ~~Exhibit~~ **Exhibit10** ~~10~~ . ~~14~~ **16** to the Registrant' s Registration Statement on Form S- 1 (File No.333- 265828),as amended,originally filed with the SEC on June 24,2022).10. **24 ¥ # License** ~~23 Sixteenth Amendment to Lease~~ Agreement,by and between the Registrant ~~and 3030 Bunker Hill Owner (DE) LLC,dated January 26,2023 (incorporated by reference to Exhibit 10.1 to the Registrant' s Quarterly Report on Form 10- Q (File No.001- 41599),filed with the SEC on May 15,2023).10.24 Amended and Restated Limited Liability Company Agreement,by and between the Registrant,TVAX Biomedical,Inc.~~ and V2ACT Therapeutics,LLC,dated ~~January 3~~ **June 18** , ~~2019~~ **2021 ,as amended** (incorporated by reference to Exhibit 10. ~~15~~ **17** to the Registrant' s Registration Statement on Form S- 1 (File No.333- 265828),as amended,originally filed with the SEC on June 24,2022).10.25 ¥ # License Agreement,by and between **the Registrant** ~~TVAX Biomedical,Inc.~~ and ~~V2ACT Therapeutics~~ **Newsoara BioPharma Co** , ~~LLC~~ **Ltd.** ,dated ~~June~~ **September 27,2021 (incorporated by reference to Exhibit 10.** 18 ~~,2021,as amended (incorporated by reference to Exhibit10.16~~ to the Registrant' s Registration Statement on Form S- 1 (File No.333- 265828),as amended,originally filed with the SEC on June 24,2022).10.26 ¥ # License Agreement,by and between the Registrant and ~~V2ACT Therapeutics~~ **ELIAS Animal Health** ,LLC,dated ~~June 18~~ **November 15** ,2021,as amended (incorporated by reference to Exhibit 10. ~~17~~ **19** to the Registrant' s Registration Statement on Form S- 1 (File No.333- 265828),as amended,originally filed with the SEC on June 24,2022).10. ~~27~~ **29 Securities Purchase Agreement,dated May 12,2023,by and among the Registrant and the Purchasers. (incorporated by reference to Exhibit 10.2** to the Registrant' s Quarterly Report on Form 10- Q (File No. 001- 41599), filed with the SEC on ~~November 14~~ **May 15** , 2023). 10. ~~20 Lease~~ **30 Sales** Agreement, by and between the Registrant and **Guggenheim Securities** ~~1175- 1177 Idaho Street~~ , LLC, dated ~~January~~ **February 2,** ~~2012~~ - **2024** ~~, as amended~~ (incorporated by reference to Exhibit ~~10~~ **1** . ~~12~~ **2** to the Registrant' s Registration Statement on Form S- ~~1~~ **3** (File No. 333- ~~265828~~ **276847**), ~~as~~

~~amended, originally~~ filed with the SEC on ~~June 24~~ **February 2** , ~~2022~~ **2024**). **19 *** ~~10. 21 Lease Agreement, by and between the Registrant and Townsgate Property, LLC, dated as of August 2002 (incorporated by reference to Exhibit 10. 13 to the~~ Registrant' s **Insider Trading Policy** Registration Statement on Form S- 1..... SEC on May 15, 2023) . 23. 1 * Consent of Weinberg & Company, P. A., independent registered public accounting firm. 24. 1 * Power of Attorney (included on the signature page hereto). 31. 1 * Certification of Principal Executive Officer Pursuant to Rules 13a- 14 (a) and 15d- 14 (a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the- Sarbanes- Oxley Act of 2002. 31. 2 * Certification of Principal Financial Officer Pursuant to Rules 13a- 14 (a) and 15d- 14 (a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the- Sarbanes- Oxley Act of 2002. 32. 1 * † Certification of Principal Executive Officer and Principal Financial Officer Pursuant to 18 U. S. C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes- Oxley Act of 2002. ~~97 *~~ Incentive Compensation Recoupment Policy **(incorporated by reference to Exhibit 97 to the Registrant' s Annual Report on Form 10- K (File No. 001- 41599) filed with the SEC on March 29, 2024.** 101. INS Inline XBRL Instance Document ~~—~~ **-** the instance document does not appear in the Interactive Data File because XBRL tags are embedded within the Inline XBRL document. 101. SCH Inline XBRL Taxonomy Extension Schema Document 101. CAL Inline XBRL Taxonomy Extension Calculation Linkbase Document 101. DEF Inline XBRL Taxonomy Extension Definition Linkbase Document 101. LAB Inline XBRL Taxonomy Extension Label Linkbase Document 101. PRE Inline XBRL Taxonomy Extension Presentation Linkbase Document Cover Page Interactive Data File (embedded within the Inline XBRL document) * Filed with this Annual Report on Form 10- K. † This certification shall not be deemed filed for purposes of Section 18 of the Exchange Act or otherwise subject to the liability of that Section, nor shall it be deemed incorporated by reference into any filing under the Securities Act or the Exchange Act. Indicates management contract or compensatory plan. ¥ Schedules have been omitted pursuant to Item 601 (a) (5) of Regulation S- K. The Registrant undertakes to furnish supplemental copies of any of the omitted schedules upon request by the SEC. # Pursuant to Item 601 (b) (10) of Regulation S- K, certain portions of this exhibit have been omitted (indicated by " [* * *] ") because the Registrant has determined that the information is not material and is the type that the Registrant treats as private or confidential. Item 16. Form 10- K ~~Summary~~ ~~SIGNATURES~~ **Summary SIGNATURES** Pursuant to the requirements of Section 13 or 15 (d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized. Date: March ~~29~~ **28** , ~~2024~~ **2025** GENELUX CORPORATION By: / s / Thomas Zindrick Name: Thomas Zindrick, J. D. Title: President and Chief Executive OfficerPOWER OF ATTORNEY KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Thomas Zindrick, J. D. and ~~Lourie Zak~~ **Matthew Pulisic** , and each of them, as his or her true and lawful attorneys- in- fact and agents, each with the full power of substitution, for him or her and in his or her name, place or stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10- K, and to file the same, with all exhibits thereto and other documents in connection therewith, with the **U. S.** Securities and Exchange Commission, granting unto said attorneys- in- fact and agents, and each of them full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys- in- fact and agents, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof. Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this report has been signed below by the following persons on behalf of the Registrant in the capacities and on the dates indicated. Signature Title Date / s / Thomas Zindrick President, Chief Executive Officer and Chairman (Principal Executive and Financial Officer) March ~~29~~ **28** , ~~2024~~ **2025** Thomas Zindrick, J. D. / s / ~~Lourie Zak~~ **Matthew Pulisic** Chief Financial Officer (Principal Accounting Officer) March ~~29~~ **28** , ~~2024~~ **2025** ~~Lourie Zak~~ **Matthew Pulisic** / s / Mary Mirabelli Director March ~~29~~ **28** , ~~2024~~ **2025** Mary Mirabelli / s / James L. Tyree Director March ~~29~~ **28** , ~~2024~~ **2025** James L. Tyree / s / John Thomas Director March ~~29~~ **28** , ~~2024~~ **2025** John Thomas, Ph. D. / s / John Smither Director March ~~29~~ **28** , ~~2024~~ **2025** John Smither ~~Genelux Corporation~~ Index to the Financial Statements For the Years Ended December 31, ~~2023~~ **2024** and ~~2022~~ **Report 2023Report** of Independent Registered Public Accounting Firm (PCAOB **Firm** ID **:** 572) F- 2 Balance Sheets at December 31, **2024 and** 2023 ~~and 2022~~ F- 3 Statements of Operations for the Years Ended December 31, **2024 and** 2023 ~~and 2022~~ F- 4 ~~Statements of Comprehensive Loss for the Years Ended December 31, 2023 and 2022~~ F- 5 Statements of Shareholders' Equity (Deficit) for the Years Ended December 31, **2024 and** 2023 ~~and 2022~~ F- 6 Statements of Cash Flows for the Years Ended December 31, **2024 and** 2023 ~~and 2022~~ F- 7 Notes to the Financial Statements F- 8REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM To the Board of Directors and Shareholders Westlake Village, California Opinion on the Financial Statements We have audited the accompanying balance sheets of Genelux Corporation (the " Company ") as of December 31, **2024 and** 2023 ~~and 2022~~ , the related statements of operations **, comprehensive loss** , shareholders' equity (deficit), and cash flows for the years then ended and the related notes (collectively referred to as the " financial statements "). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, **2024 and** 2023 ~~and 2022~~ , and the results of its operations and its cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America. **Going Concern** The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1, the Company has had recurring losses from operations since inception and **has** incurred a net loss and used cash in operations during the year ended December 31, ~~2023~~ **2024** . These matters raise substantial doubt about the Company' s ability to continue as a going concern. Management' s plans in regard to these matters are also described in Note 1 to the financial statements. These financial statements do not include any adjustments that might result from the outcome of this uncertainty. Basis for Opinion These financial statements are the responsibility of the Company' s management. Our responsibility is to express an opinion on the Company' s financial statements based on our audits. We are a public accounting firm registered with the Public Accounting Oversight Board (United States) (~~"~~ PCAOB ~~"~~) and are required to be independent with respect to the Company in accordance with the U. S. federal securities laws and the applicable rules and regulations of the

Securities and Exchange Commission and the PCAOB. We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our ~~audits~~ **audit** we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company' s internal control over financial reporting. Accordingly, we express no such opinion. Our audits included performing procedures to assess the risks of material misstatement, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion. We have served as the Company' s auditor since 2021. **Weinberg & Company, P. A. Los Angeles, California** Balance Sheets (In thousands, except for share amounts and par value data) **2024** 2023 ~~2022~~ December 31, **2024** 2023 ~~2022~~ ASSETS Current Assets Cash and cash equivalents $ **8, 565 $** 9, 418 ~~$ 397~~ Short- term investments **22, 330** 13, 773 ~~-~~ Prepaid expenses and other current assets **653** 1, 012 ~~1, 495~~ Total Current Assets **31, 548** 24, 203 ~~1, 892~~ Property and equipment, net 1, **316 1,** 170 ~~644~~ Right of use assets **1, 760** 2, 428 ~~1, 335 Deferred offering costs- 1, 568~~ Other assets 92 92 Total Other Assets 3, **168 3,** 690 ~~3, 639~~ TOTAL ASSETS $ **34, 716 $** 27, 893 ~~$ 5, 531~~ LIABILITIES AND SHAREHOLDERS' EQUITY ~~(DEFICIT)~~ Current Liabilities Accounts payable and accrued expenses $ **5, 570 $** 3, 784 ~~$ 6, 775~~ Accrued payroll and payroll taxes **1, 004** 2, 117 **Lease** ~~2, 852 Accrued interest payable- 1, 178 Accrued interest payable- director and shareholders- 3, 817 Deferred revenue- 170 Warrant~~ liabilities ~~- 169 Lease liability~~, current portion **329** 653 ~~266 Notes payable- shareholders, net of debt discount of $ 108 in 2022- 992 Convertible notes payable- shareholders, current portion- 15, 407~~ Total Current Liabilities 6, **903 6,** 554 ~~31, 626 Long- term Liabilities~~ Lease ~~liability~~ **liabilities**, long- term portion 1, **539 1,** 866 ~~1, 164 Convertible notes payable, net of debt discount of $ 541 in 2022- 8, 524 Total Long- term Liabilities 1, 866 9, 688~~ Total Liabilities 8, **442 8,** 420 ~~41, 314~~ **Commitments and Contingencies-** Shareholders' Equity ~~(Deficit)~~ Preferred stock ~~, Series A through K~~, par value $ 0. 001, 10, 000, 000 shares authorized ~~as of 12 / 31 / 2023 and 29, 927, 994 authorized as of 12 / 31 / 2022~~; no shares ~~and 22, 094, 889 shares~~ issued and outstanding, respectively;- ~~22~~ **-** Common stock, par value $ 0. 001, 200, 000, 000 shares authorized; **34, 728, 140 and** 26, 788, 986 ~~and 9, 126, 726~~ shares issued and outstanding **35** ~~, respectively~~ 27 ~~9~~ Treasury stock, 433, 333 shares, at cost (433) (433) Additional paid- in capital **278, 001** 241, 389 ~~154, 401~~ Accumulated other comprehensive income **64** 14 ~~2~~ Accumulated deficit (~~221~~ **251** , ~~524~~ **393**) (~~189~~ **221** , ~~784~~ **524**) Total Shareholders' Equity ~~(Deficit)~~ **26, 274** 19, 473 ~~(35, 783)~~ TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY ~~(DEFICIT)~~ **$ 34, 716** $ 27, 893 ~~$ 5, 531~~ The accompanying notes are an integral part of these financial statements. Statements of Operations (in thousands, except for share amounts and per share data) **2024** 2023 ~~2022~~ Years Ended December 31, **2024** 2023 ~~2022~~ Revenues $ **8 $** 170 ~~$ 11, 068~~ Operating expenses: Research and development **18, 998** 12, 767 ~~9, 078~~ General and administrative **12, 706** 11, 568 ~~5, 003~~ Total operating expenses **31, 704** 24, 335 ~~14, 081~~ Loss from operations (~~24~~ **31** , ~~165~~ **696**) (~~3~~ **24** , ~~013~~ **165**) Other income (expenses): Interest income ~~244~~ **700 182 Bond accretion income 757 62 Gain on extinguishment of accounts payable 370** - Interest expense **-** (173 ~~) (1, 150~~) Debt discount amortization **-** (649) ~~(258)~~ Financing costs **-** (3, 152) ~~-~~ Debt extinguishment costs (402) ~~- Gain on forgiveness of PPP loan payable- 314~~ Total other income (expenses), net **1, 827** (4, 132 ~~) (1, 094) Loss before provision for foreign income taxes (28, 297) (4, 107) Provision for foreign income taxes- (1, 100~~) NET LOSS $ (~~28, 297~~ - **29, 869**) $ (~~5~~ **28** , ~~207~~ **297**) LOSS PER COMMON SHARE- BASIC AND DILUTED $ (~~1~~ **0** . ~~16~~ **95**) $ (~~0~~ **1** . ~~57~~ **16**) WEIGHTED- AVERAGE COMMON SHARES OUTSTANDING- BASIC AND DILUTED **31, 450, 727** 24, 429, 278 ~~9, 116, 489~~ Statements of Comprehensive Loss (in thousands ~~, except for share amounts and per share data~~) **2024** 2023 ~~2022~~ Years Ended December 31, **2024** 2023 ~~2022~~ Net loss $ (~~28, 297~~ - **29, 869**) $ (~~5~~ **28** , ~~207~~ **297**) Other comprehensive loss: Net unrealized gain on short **and long** - term investments **50** 12 ~~-~~ Comprehensive loss $ (~~28~~ **29** , ~~285~~ **819**) $ (**28, 285) F-** 5 ~~, 207)~~ Statements of Shareholders' Equity (Deficit) (in thousands **, except share amounts**) **Accumulated** ~~Shares Amount Shares Amount Shares Amount Paid- in Capital Income Deficit Total~~ Preferred Stock ~~Accumulated Other Series A through K~~ Common Stock Treasury Stock Additional **Paid- in Other** Comprehensive Accumulated Shares Amount Shares Amount Shares Amount ~~Paid- in~~ Capital Income **(Loss)** Deficit Total ~~Balance, December 31, 2021 22, 094, 889 $ 22 9, 110, 060 $ 9 (433, 333) $ (433) $ 151, 866 $ 2 $ (184, 577) $ (33, 111) Stock compensation------ 2, 415-- 2, 415 Shares issued upon exercise of stock warrants-- 16, 666--- 120-- 120 Net loss during the year ended December 31, 2022------- (5, 207) (5, 207)~~ Balance, December 31, 2022 22, 094, 889 $ 22 9, 126, 726 $ 9 (433, 333) $ (433) $ 154, 401 $ 2 $ (189, 784) $ (35, 783) **Stock compensation** ------ 2,515-- 2,515 Unrealized gain on short- term investments------- 12- 12 Issuance of common shares upon the closing of the initial public offering,net of offering costs-- 2,653,000 3-- 12,629-- 12,632 Issuance of common shares upon the closing of private financings,net of offering costs-- 1,292,079 2-- 25,140-- 25,142 Issuance of common shares upon conversion of preferred stock (22,094,889) (22) 8,359,143 8-- 14--- Issuance of common shares upon conversion of convertible notes payable,accrued interest and loan fees-- 4,137,760 4-- 29,970-- 29,974 Issuance of common shares upon conversion of preferred stock dividends payable-- 272,101--- 3,443- (3,443)- Fair value of vested restricted stock units-- 113,500--- 940-- 940 Cost of stock option repricing------ 2,689-- 2,689 Reclassification of warrant liabilities upon the closing of the initial public offering------ 169-- 169 Fair value of warrants issued in connection with the ~~the~~ conversion of convertible notes payable------ 3,152-- 3,152 Conversion of notes payable- shareholders and accrued interest-- 73,134--- 1,865-- 1,865 Issuance of common shares upon exercise of stock options-- 232,787--- 1,474-- 1,474 Issuance of common shares upon exercise of stock warrants-- 528,756 1-- 2,988-- 2,989 Net loss during the year ended December 31,2023-------- (28,297) (28,297) ~~Net~~ Balance **, December 31, 2023-- 26, 788, 986 27 (433, 333) (433) 241, 389 14 (** ~~22~~ **221** , ~~094~~ **524) 19** , ~~889~~ **473 Balance-- 26, 788, 986 27 (433, 333) (433) 241, 389 14 (221, 524) 19, 473 Stock compensation------ 5, 738-- 5, 738 Unrealized gain on short and long- term investments------- 50- 50 Fair value of vested restricted stock units-- 303, 389--- 2, 044-- 2, 044 Cost of stock option**

modifications and repricing------ 332-- 332 Issuance of common shares for cash and warrants, net of costs-- 7, 505, 460 8-- 27, 685-- 27, 693 Issuance of common shares in connection with the Company' s equity award programs-- 53, 818--- 125-- 125 Issuance of common shares upon exercise of stock warrants-- 76, 487--- 688-- 688 Net loss during the year ended December 31, 2024-------- (29, 869) (29, 869) Net loss-------- (29, 869) (29, 869) Balance, December 31, 2024- $ ~~22 9~~ **- 34** , ~~126~~ **728** , ~~726~~ **140** $ ~~9~~ **35** (433, 333) $ (433) $ ~~154~~ **278** , ~~401~~ **001** $ ~~2~~ **64** $ (~~189~~ **251** , ~~784~~ **393**) $ ~~(~~**26, 274 Balance- $- 34, 728, 140 $** 35 , 783) Stock compensation--..... 26, 788, 986 $ 27 (433, 333) $ (433) $ ~~241~~ **278** , ~~389~~ **001** $ ~~14~~ **64** $ (~~221~~ **251** , ~~524~~ **393**) $ ~~19, 473 Balance- $-~~ 26, ~~788, 986 $ 27~~ **274** ~~(433, 333) $ (433) $ 241, 389 $ 14 $ (221, 524) $ 19, 473~~ Statements of Cash Flows (In thousands) **2024** 2023 ~~2022~~ Years Ended December 31, **2024** 2023 ~~2022~~ Cash Flows from Operating Activities Net loss $ (~~28, 297~~ **29, 869**) $ (~~5~~ **28** , ~~207~~ **297**) Adjustments to reconcile net loss to net cash used in operating activities: Depreciation expense **235** 499 ~~553~~ Net amortization of premiums and discounts on short- term investments (**757) (** 62) ~~–~~ Right- of- use ~~assets~~ - **asset 668** 519 ~~415~~ Amortization of debt discount **-** 649 ~~258~~ Stock compensation **5, 738** 2, 515 ~~2, 415~~ Fair value of restricted stock units **2, 044** 940 ~~–~~ Cost of stock option **modifications and** repricing **332** 2, 689 **Gain on extinguishment of accounts payable (370)** - Debt extinguishment costs **-** 402 ~~–~~ Fair value of warrants issued in connection with the conversion of convertible notes payable **-** 3, 152 ~~- Gain on forgiveness of PPP loan payable- (314)~~ Changes in Assets and Liabilities (Increase) Decrease in: Prepaid expenses and other assets **359** 483 ~~(168)~~ (Decrease) Increase in: Accounts payable and accrued expenses **2, 156** (2, 358) ~~2, 313~~ Accrued payroll and payroll taxes (~~735~~ **1, 113**) (~~3~~ **735**) Accrued interest payable **-** 22 ~~886~~ Deferred revenue **-** (170 ~~) (4, 330~~) Lease liability (~~523~~ **651**) (~~389~~ **523**) Net cash used in operating activities (~~20~~ **21** , ~~275~~ **228**) (~~3~~ **20** , ~~571~~ **275**) Cash Flows from Investing Activities Purchases of property and equipment (**381) (** 1, 025) ~~(49) Purchases~~ - **Purchase** of short **and long** - term investments (**29, 000) (** 13, 699) **Proceeds from sales and maturities of short and long- term investments 21, 250** - Net cash used in investing activities (~~14~~ **8** , ~~724~~ **131**) (~~49~~ **14, 724**) Cash Flows from Financing Activities Proceeds from notes payable- shareholders **-** 900 ~~1, 100~~ Repayment of notes payable- shareholders **-** (685) ~~- Repayment of convertible notes payable- shareholders- (130)~~ Payment of deferred offering costs **-** (303) ~~(1, 568)~~ Proceeds from **common stock issued in connection with the Company' s equity award programs 125- Proceeds from** the exercise of stock options **-** 1, 474 **-** Proceeds from the exercise of stock warrants **688** 2, 989 ~~120~~ Proceeds from common stock issued for cash in connection with the closing of the IPO **-** 14, 503 ~~–~~ Proceeds from common stock issued for cash in connection with the closing of private financings **-** 25, 142 **Proceeds from common stock issued for cash in connection with the closing of a second public offering 27, 693** - Net cash provided by ~~(used in)~~ financing activities **28, 506** 44, 020 ~~(478)~~ Net increase (decrease) in cash and cash equivalents **(853)** 9, 021 ~~(4, 098)~~ Cash and cash equivalents at **the** beginning of year **9, 418** 397 ~~4, 495~~ Cash and cash equivalents at **the** end of year $ **8, 565 $** 9, 418 ~~$ 397~~ Supplemental cash flows disclosures: Interest paid $ **- $** 72 ~~$ 264~~ Taxes paid $- $- Supplemental non- cash financing disclosures: Effect of the extension of right- of- use ~~assets~~ - **asset** and operating ~~leases~~ - **lease $-** $ 1, 612 ~~$ 686~~ Reclassification of deferred offering costs to shareholders' equity $ **- $** 1, 871 ~~$-~~ Reclassification of warrant liabilities to shareholders' equity $ **- $** 169 ~~$-~~ Conversion of convertible notes payable, accrued interest and loan fees to shareholders' equity $ **- $** 29, 974 ~~$-~~ Conversion of preferred stock to common stock $ **- $** 22 ~~$-~~ Conversion of dividends payable to shareholders' equity $ **- $** 3, 443 ~~$-~~ Conversion of notes payable- shareholders and accrued interest to shareholders' equity $ **- $** 1, 463 **Unrealized gain on investments** $ ~~–~~**50 $ 12 GENELUX CORPORATION** NOTES TO FINANCIAL STATEMENTS FOR THE YEARS ENDED DECEMBER 31, **2024 AND** 2023 ~~and 2022~~ (In thousands, except for share amounts and per share data) NOTE 1 – BASIS OF PRESENTATION ~~Organization and Operations~~ Genelux Corporation (" Genelux " or the " Company "), a Delaware Corporation, incorporated on September 4, 2001, is a ~~biomedical~~ **late clinical- stage biopharmaceutical** company located in Westlake Village, California. The Company is engaged in the research and development of diagnostic and therapeutic solutions for cancer for which there is no effective treatment today. The Company is focused on ~~the development~~ **developing a pipeline** of ~~therapeutic approaches~~ **next- generation oncolytic viral immunotherapies** for **patients suffering from aggressive and / or difficult** ~~cancer that are designed to generate a personalized multi- prong attack~~ to ~~overwhelm a~~ **- treat solid** tumor **types** ~~' s sophisticated defense mechanisms~~ . **Liquidity and Capital Resources** The accompanying financial statements have been prepared on a going concern basis, which contemplates the realization of assets and the settlement of liabilities and commitments in the normal course of business. As reflected in the accompanying financial statements, the Company has experienced recurring losses from operations since inception and incurred a net loss of $ ~~28, 297~~ **29, 869** and used cash in operations of $ ~~20~~ **21** , ~~275~~ **228** during the year ended December 31, ~~2023~~ **2024** . These factors raise substantial doubt about the Company' s ability to continue as a going concern. The ability of the Company to continue as a going concern is dependent upon the Company' s ability to raise additional funds and implement its strategies. The financial statements do not include any adjustments that might be necessary if the Company is unable to continue as a going concern. ~~At~~ **As of** December 31, ~~2023~~ **2024** , **we** ~~the Company~~ had cash and ~~cash equivalents, and~~ short- term investments ~~, in the amount~~ of $ ~~23~~ **30** , ~~191~~ **895, however we do not have any committed external source of funds or other support for our development efforts** . ~~The ability~~ **Until we can generate sufficient product revenue** to ~~continue as~~ **finance our cash requirements, which we may never do, we expect to finance our future cash needs through** a **combination of public or private** ~~going concern is dependent on the Company attaining and maintaining profitable operations in the future and raising additional capital to meet its obligations and repay its liabilities arising from normal business operations when they come due. Since inception, the Company has funded its operations primarily through~~ equity **offerings** and debt financings, ~~and~~ **or other capital sources such as potential collaborations, strategic alliances,** licensing **arrangements** ~~income,~~ and **other arrangements. Based** ~~it expects to continue to rely~~ on ~~these sources of~~ **our research and development plans, we expect that our existing cash balance may not enable us to fund our planned operating expenses and** capital ~~in~~ **expenditure requirements for at least** the **next 12 months from the date of filing of this Annual Report. We have based this estimate on assumptions that may prove to be wrong, and we could exhaust our available capital resources sooner than we expect. In addition, because the design and outcome of our anticipated and any** future **clinical trials is highly uncertain, we**

cannot reasonably estimate the actual amounts necessary to successfully complete the development and commercialization of Olvi- Vec or any future product candidates. Our existing cash balance may not be sufficient to complete the development of Olvi- Vec or any other product candidate. Additionally, although we have commitments from investors to fund the remaining aggregate investment amounts in connection with our Private Placements, we may not receive some or all of the committed proceeds, due to ongoing liquidity constraints or other factors. The failure to receive all or some of the committed proceeds would exhaust our available capital resources sooner than expected and will require us to obtain further funding to achieve our business objectives . No assurance can be given that any future financing will be available or, if available, that it will be on terms that are satisfactory to the Company. Even if the Company is able to obtain additional financing, it may contain undue restrictions on our operations, in the case of debt financing, or cause substantial dilution for our stockholders, in case of equity financing, or grant unfavorable terms in future licensing agreements ~~. Reverse Stock Split In August 2022, the Company effected a 1- for- 3 reverse stock split of its common stock. The par value and the authorized shares of the common stock were not adjusted as a result of the reverse stock split. The reverse stock split resulted in an adjustment to the conversion prices of the convertible preferred stock to reflect a proportional decrease in the number of shares of common stock to be issued upon conversion. The accompanying financial statements and notes to the financial statements give retroactive effect to the reverse stock split for all periods presented~~ . NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES Use of Estimates The preparation of the financial statements in conformity with accounting principles generally accepted in the U. S. requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the financial statement date and reported amounts of revenue and expenses during the reporting period. Significant estimates are used in the valuation of accruals for potential liabilities, valuations of stock- based compensation, and realization of deferred tax assets, among others. Actual results could differ from these estimates. Income (Loss) Per Share Basic loss per share is computed by dividing net loss applicable to common stockholders by the weighted average number of outstanding common shares during the period. Diluted loss per share is computed by dividing the net loss applicable to common stockholders by the weighted average number of common shares outstanding plus the number of additional common shares that would have been outstanding if all dilutive potential common shares had been issued. For the years ended December 31, **2024 and** 2023 ~~and 2022~~ , the basic and diluted shares outstanding were the same, as potentially dilutive shares were considered anti- dilutive. The potentially dilutive securities consisted of the following: SCHEDULE OF POTENTIALLY DILUTIVE SECURITIES December 31, ~~2023~~ **2024** December 31, ~~2022~~ **2023** ~~Convertible notes payable- 3, 394, 569 Common stock equivalent of Series A through K convertible preferred stock- 7, 567, 630~~ Stock options 5, **375, 323 5,** 067, 339 ~~4, 201, 019~~ Stock warrants **7, 897, 975** 512, 759 ~~725, 174~~ Restricted stock units **621, 364** 57, 900 ~~- Stock warrants, issuable upon conversion of notes payable- 183, 852~~ Total **13, 894, 662** 5, 637, 998 ~~16, 072, 244~~ Revenue Recognition The Company records revenue under the guidance of Accounting Standards Codification (" ASC ") 606, Revenue from Contracts with Customers (Topic 606) which requires a company to recognize revenue to depict the transfer of goods or services to a customer at an amount that reflects the consideration it expects to receive in exchange for those goods or services. The Company determines revenue recognition through the following steps: ● Identification of the contract, or contracts, with a customer ~~;~~ ● Identification of the performance obligations in the contract ~~;~~ ● Determination of the transaction price ~~;~~ ● Allocation of the transaction price to the performance obligations in the contract ~~; and~~ ● Recognition of revenue when, or as, we satisfy a performance obligation. Under certain of the Company' s licensing, supply and collaboration agreements, it is entitled to receive payment upon the achievement of contingent milestone events or the performance of obligations. The Company recognizes revenue based on guidance in ASC 606. In evaluating revenue recognition under a license agreement, the Company uses a two- step process for determining whether a promised good or service (including a license of intellectual property) is distinct and, therefore, is a performance obligation: (1) consideration of the individual good or service (i. e., whether the good or service is capable of being distinct); and (2) consideration of whether the good or service is separately identifiable from other promises in the contract (i. e., whether the promise to transfer the good or service is distinct in the context of the contract). Amounts received prior to satisfying the revenue recognition criteria are recorded as deferred revenue on the Company' s balance sheet. Amounts expected to be recognized as revenue in the next 12 months following the balance sheet date are classified as current liabilities. During the year ended December 31, 2022, the Company, under ~~the~~ **its agreement with** Newsoara ~~License Agreement~~ **BioPharma Co. Ltd** (~~see Note 12~~ **" Newsoara "**), invoiced and collected $ 170 relating to supplying product for Newsoara to use in their clinical trials. As the product did not ship during the year ended December 31, 2022, the Company recorded the cash received as deferred revenue until the product was shipped. During the year ended December 31, 2023, the Company shipped the product to Newsoara and thus recognized the revenue **. During the year ended December 31, 2024, the Company recognized revenue of $ 8 relating to its license agreement with ELIAS Animal Health, LLC** . F- 9 Concentration of Credit Risk Financial instruments, which potentially subject the Company to concentration of credit risk, consist primarily of cash deposits. The Company maintains deposits in federally insured financial institutions in excess of federally insured limits. Management believes that the Company is not exposed to significant credit risk due to the financial position of the depository institutions in which those deposits are held. The Company has not experienced any losses on deposits since inception. Cash Equivalents The Company considers all highly liquid investments with original maturities of three months or less at date of purchase to be cash equivalents. Cash equivalents consisted of money market funds as of December 31, **2024 and** 2023. **As** ~~There were no cash equivalents as~~ of December 31, ~~2022~~ **2024 and** ~~. As of December 31,~~ 2023, the amount of cash equivalents included in cash and cash equivalents totaled $ 7, 924 **578 and $ 7, , respectively** . Short- Term Investments The Company' s short- term debt security investments are classified as available- for- sale and are carried at fair value, with the unrealized gains and non- credit related losses reported as a component of accumulated other comprehensive loss and included in stockholders' equity. Realized gains and losses and declines in value determined to be other than temporary are based on the specific identification method and are included as a component of ~~total~~ other income (expense), net in the Statements of

Operations. There were no realized gains or losses during the ~~year~~ **years** ended December 31, **2024 and** 2023 **. Bonds with maturity dates subsequent to December 31, 2025 are classified as long- term investments, while bonds with maturity dates on or before December 31, 2025 are classified as short- term investments. All of the Company' s bond investments as of December 31, 2024 and 2023 had maturities of less than one year, and as such, are classified as short- term investments** . For available- for- sale securities in an unrealized loss position, we first assess whether we intend to sell, or if it is more likely than not that we will be required to sell, the security before recovery of its amortized cost basis. If either of the criteria regarding intent or requirement to sell is met, the security' s amortized cost basis is written down to fair value through a charge to interest income. For available- for- sale securities that do not meet the aforementioned criteria, we evaluate whether the decline in fair value has resulted from credit losses or other factors. In making this assessment, the Company considers such factors as, among other things, the severity of the impairment, any changes in interest rates, how long the market value of the investment has been less than its original cost, the Company' s ability and intent to retain the short- term debt security investment for a period of time sufficient to allow for any anticipated recovery in fair value and market conditions in general. The credit- related portion of unrealized losses, and any subsequent improvements, are recorded in interest income through an allowance account. Any impairment that has not been recorded through an allowance for credit losses is included in other comprehensive loss on the statements of operations and comprehensive loss. No credit- related losses or impairments have been recognized on the Company' s investments in available- for- sale securities during the ~~year~~ **years** ended December 31, **2024 and** 2023. ~~All of the Company' s short- term investments as of December 31, 2023 had maturities of less than one year. Deferred Offering Costs The Company capitalizes certain legal, professional, accounting and other third- party fees that are directly associated with in- process equity issuances as deferred offering costs until such equity issuances are consummated. After consummation of the equity issuance, these costs are recorded as a reduction in the capitalized amount associated with the equity issuance. Should the equity issuance be delayed or abandoned, the deferred offering costs will be expensed immediately as a charge to operating expenses in the Statement of Operations. As of December 31, 2022, the Company incurred $ 1, 568 of deferred offering costs related to the Company' s IPO, and during the year ended December 31, 2023, the Company incurred an additional $ 303 of costs. During the year ended December 31, 2023, a total of $ 1, 871 of deferred offering costs were recorded against the net proceeds received from the IPO. F- 10~~ Property and Equipment Property and equipment are recorded at cost, less accumulated depreciation and amortization. Property and equipment is depreciated over the estimated useful life of the asset or the term of the lease using the straight- line method, whichever is shorter. Maintenance and repairs are charged to expense as incurred. At the time depreciable property is retired or otherwise disposed of, the related cost and accumulated depreciation or amortization are removed from the accounts and any resulting gain or loss is reflected in operations. The Company has determined the estimated useful lives of its property and equipment, as follows: SCHEDULE OF PROPERTY AND EQUIPMENT ESTIMATED USEFUL LIFEFurniture and office equipment years Laboratory equipment years Computer equipment years Leasehold improvements Life of **leaseF- 10** ~~leaseManagement~~ ----- **Management** assesses the carrying value of property and equipment whenever events or changes in circumstances indicate that the carrying value may not be recoverable. If there is indication of impairment, management prepares an estimate of future cash flows expected to result from the use of the asset and its eventual disposition. If these cash flows are less than the carrying amount of the asset, an impairment loss is recognized to write down the asset to its estimated fair value. Fair Value of Financial Instruments The Company determines the fair value of its assets and liabilities based on the exchange price in U. S. dollars that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value maximize the use of observable inputs and minimize the use of unobservable inputs. The Company uses a fair value hierarchy with three levels of inputs, of which the first two are considered observable and the last unobservable, to measure fair value: ● Level 1 — Quoted prices in active markets for identical assets or liabilities. ● Level 2 — Inputs, other than Level 1, that are observable, either directly or indirectly, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities. ● Level 3 — Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. The Company' s short- term investments and cash equivalents are carried at fair value, determined according to the fair value hierarchy described in Note 3 below. The carrying ~~amount of the Company' s warrant liabilities of $ 169 at December 31, 2022 was based on Level 3 measurements. The carrying~~ amounts of financial instruments such as cash, short- term investments, and accounts payable and accrued liabilities, approximate the related fair values due to the short- term maturities of these instruments ~~. The carrying amounts of the Company' s convertible notes payable approximated their fair values as the interest rates of the notes payable are based on prevailing market rates~~ . Income Taxes Income tax expense is based on pretax financial accounting income. Deferred tax assets and liabilities are recognized for the expected tax consequences of temporary differences between the tax bases of assets and liabilities and their reported amounts. Valuation allowances are recorded to reduce deferred tax assets to the amount that will more likely than not be realized. The Company recorded a valuation allowance against its deferred tax assets as of December 31, **2024 and** 2023 ~~and 2022~~ . The Company accounts for uncertainty in income taxes using a two- step approach to recognizing and measuring uncertain tax positions. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. The second step is to measure the tax benefit as the largest amount that is more than 50 percent likely of being realized upon settlement. The Company classifies the liability for unrecognized tax benefits as current to the extent that the Company anticipates payment (or receipt) of cash within one year. Interest and penalties related to uncertain tax positions are recognized in the provision for income taxes. ~~F- 11~~ Patents and Patent Application Costs Although the Company believes that its patents and underlying technology have continuing value, the amount of future benefits to be derived

from the patents is uncertain. Patent costs are therefore expensed as incurred and are included in General and Administrative expenses on the accompanying Statements of Operations. Patent expenses were $ **110 and $** 107 ~~and $ 88~~ during the years ended December 31, **2024 and** 2023 ~~and 2022~~, respectively. **F- 11** ~~Segment Information The Company manages its operations as a single operating segment for the purposes of assessing performance and making operating decisions. The Company' s current focus is on developing oncolytic immunotherapies for the treatment of cancer.~~ Research and Development Costs Research and development expenses are expensed as incurred. Research and development expenses consist of costs incurred to discover, research and develop drug candidates, including compensation- related expenses for research and development personnel, including stock- based compensation expense, preclinical and clinical activities, costs of manufacturing, overhead expenses including facilities and laboratory expenses, materials and supplies, amounts paid to consultants and outside service providers, and depreciation and amortization. Payments made pursuant to research and development contracts are initially recorded as advances on research and development contract services in the Company' s balance sheet and are then charged to research and development costs in the Company' s statement of operations as those contract services are performed. Expenses incurred under research and development contracts in excess of amounts advanced are recorded as research and development contract liabilities in the Company' s balance sheet, with a corresponding charge to research and development costs in the Company' s statement of operations. The Company reviews the status of its research and development contracts on a quarterly basis **. The Company may at times make advance payments on clinical trials on behalf of partners that are reimbursable to the Company. The Company will record such reimbursement at the time of receipt when collectability is assured** . Research Contract Costs and Accruals The Company has entered into various research and development- related contracts with companies both inside and outside of the United States. These agreements are generally cancellable, and related costs are recorded as research and development expenses as incurred. The Company records prepaid expenses and accruals for estimated ongoing research costs. When evaluating the adequacy of the prepaid expenses and accrued liabilities, the Company analyzes progress of the studies or clinical trials, including the phase or completion of events, invoices received and contracted costs. Significant judgments and estimates are made in determining the accrued balances at the end of any reporting period. Actual results could differ from the Company' s estimates. The Company' s historical accrual estimates have not been materially different from the actual costs. The Company ~~measures all~~ **periodically issues** stock options **to employees** and **non** ~~other stock- based awards~~ **employees in non- capital raising transactions for services and for financing costs. The Company accounts for such** ~~granted~~ **grants issued and vesting** based on **ASC 718, Compensation- Stock Compensation whereby** the **value of the award is measured on the date of grant and recognized for employees as compensation expense on the straight- line basis over the vesting period. The Company classifies stock- based compensation expense in its statements of operations in the same manner in which the award recipient' s payroll costs are classified or in which the award recipients' service payments are classified. The** fair value of **each option is estimated using** the **Black-** Scholes option- pricing model.The Company was a private company **through January 30,2023,** and ~~lacked~~ **lacks** company- specific historical and implied volatility information.Therefore,it ~~estimated~~ **estimates** its expected stock volatility based on the historical volatility of a publicly traded set of peer companies within the ~~biotechnology~~ **consumer products** industry with characteristics similar to the Company.The expected term of the Company' s stock options has been determined utilizing the " simplified " method for awards that qualify as " plain- vanilla " options.The expected term of stock options granted to non- employees is equal to the contractual term of the option ~~award.The risk- free interest rate is~~ award **. The risk- free interest rate is determined by reference to the U. S. Treasury yield curve in effect at the time of grant of the award for time periods approximately equal to the expected term of the award. The expected dividend yield is zero, based** on the **fact that** ~~date of the grant and recognizes compensation expense for those -- the awards over~~ **Company has never paid cash dividends and does not expect to pay any cash dividends in** the **foreseeable future** ~~requisite service period, which is generally the vesting period of the respective award~~. The Company has elected to recognize forfeitures as they occur. The reversal of compensation cost previously recognized for an award that is forfeited because of a failure to satisfy a service or performance condition is recognized in the period of the forfeiture **Prior to** ~~. Generally, the Company issues stock options with only service- based vesting conditions and records the expense for these awards using the straight- line method over the requisite service period. The Company classifies stock- based compensation expense in its statements of operations in the same manner in which the award recipient' s payroll costs are classified or in which the award recipients' service payments are classified. F- 12 The Company was a private company until the completion of its IPO on~~ January 30, 2023 **, the common shares of the Company were not publicly traded** . ~~In 2022 and prior~~ **As such, during the period** , the Company estimated the fair value of common stock using an appropriate valuation methodology, in accordance with the framework of the American Institute of Certified Public Accountants' Technical Practice Aid, Valuation of Privately- Held Company Equity Securities Issued as Compensation. Each valuation methodology includes estimates and assumptions that require the Company' s judgment. These estimates and assumptions include a number of objective and subjective factors, including external market conditions, guideline public company information, the prices at which the Company sold its common stock to third parties in arms' length transactions, the rights and preferences of securities senior to the Company' s common stock at the time, and the likelihood of achieving a liquidity event such as an initial public offering or sale. Significant changes to the assumptions used in the valuations could result in different fair values of stock options at each valuation date, as applicable. **F** ~~The fair value of each stock option grant is estimated using the Black-~~ **12** Scholes option- pricing model. The..... cash dividends in the foreseeable future. Comprehensive Loss Comprehensive loss includes net loss as well as other changes in stockholders' equity that result from transactions and economic events other than those with shareholders. For the ~~year~~ **years** ended December 31, **2024 and** 2023, comprehensive loss included $ **50 and $** 12 **, respectively,** of unrealized gains on short- term investments, net of tax. Leases The Company accounts for its leases in accordance with the guidance of ASC 842, Leases. The Company determines whether a contract is, or contains, a lease at inception. Right- of- use assets represent the Company' s right to use an underlying asset during the lease

term, and lease liabilities represent the Company' s obligation to make lease payments arising from the lease. Right- of- use assets and lease liabilities are recognized at lease commencement based upon the estimated present value of unpaid lease payments over the lease term. The Company uses its incremental borrowing rate based on the information available at lease commencement in determining the present value of unpaid lease payments. **In November 2023, the Financial Accounting Standards Board (" FASB ") issued ASU 2023- 07, Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosure, which is intended to improve reportable segment disclosure requirements, primarily through enhanced disclosures about significant segment expense categories that are regularly provided to the chief operating decision maker and included in each reported measure of a segment' s profit or loss.** The **update also requires all annual disclosures about a reportable segment' s profit or loss and assets to be provided in interim periods and for entities with a single reportable segment to provide all the disclosures required by ASC 280, Segment Reporting, including the significant segment expense disclosures. The Company adopted ASU 2023- 07 beginning January 1, 2024. The adoption of this new guidance did not have a material impact to its financial position, results of operations and cash flows. In November 2024, FASB issued ASU 2024- 03 Income Statement — Reporting Comprehensive Income — Expense Disaggregation Disclosures (Subtopic 220- 40) Disaggregation of Income Statement Expenses. The guidance in ASU 2024- 03 requires public business entities to disclose in the notes to the financial statements, among other things, specific information about certain costs and expenses including purchases of inventory; employee compensation; and depreciation and amortization expense for each caption on the income statement where such expenses are included. The update is effective for annual reporting periods beginning after December 15, 2026, and interim reporting periods beginning after December 15, 2027. Early adoption is permitted, and the amendments may be applied prospectively to reporting periods after the effective date or retrospectively to all periods presented in the financial statements. We are currently evaluating the provisions of this guidance and assessing the potential impact on our financial statement disclosures. Other recent accounting pronouncements issued by the FASB, including its Emerging Issues Task Force, the American Institute of Certified Public Accountants, and the Securities and Exchange Commission did not or are not believed by management to have a material impact on the** Company' s **present** ~~management has evaluated all the recently issued, but not yet effective, accounting standards and guidance that have been issued~~ or **future consolidated** ~~proposed by the FASB or other standards- setting bodies through the filing date of these~~ financial statements ~~and does not believe the future adoption of any such pronouncements will have a material effect on the Company' s financial position and results of operations~~. F- 13 NOTE 3- FAIR VALUE OF FINANCIAL ASSETS AND LIABILITIES The following ~~table~~ **tables** ~~presents~~ **present** information about the Company' s financial assets and liabilities measured at fair value on a recurring basis **as of December 31, 2024 and 2023** : SCHEDULE OF FINANCIAL ASSETS AND LIABILITIES MEASURED AT FAIR VALUE ON A RECURRING BASIS **Level 1 Level 2 Level 3 Total** Fair Value Measurements as of December 31, ~~2023~~ **2024** , Using: Level 1 Level 2 Level 3 Total Cash equivalents: Money market funds $ **7, 578 $** — ~~$ 7, 924~~ $ — $ 7, ~~924~~ **578** Short- term investments: US Government Agency bonds — 8, **927 — 8, 927 US Treasury bonds — 13, 403 — 13, 403 Total Cash equivalents and Short- term investments $ 7, 578 $ 22, 330 $ — $ 29, 908 Level 1 Level 2 Level 3 Total Fair Value Measurements as of December 31, 2023, Using: Level 1 Level 2 Level 3 Total Cash equivalents: Money market funds $ 7, 924 $ — $ — $ 7, 924 Short- term investments: US Government Agency bonds — 8,** 625 — 8, 625 US Treasury bonds — 5, 148 — 5, 148 Total Cash equivalents and Short- term investments $ — **7, 924** $ ~~21~~ **13** , ~~697~~ **773** $ — $ 21, 697 The underlying securities in the money market funds held by the Company are all government backed securities. **Valuation of** ~~During the year ended December 31, 2023, there were no transfers between levels. There were no~~ cash equivalents ~~or~~ **and** short **and long** - term investments ~~as of December 31, 2022. Valuation of cash equivalents and short- term investments Money market funds, U. S. Government Agency bonds and U. S. Treasury bonds were valued by the Company using quoted prices in active markets for similar securities, which represent a Level 2 measurement within the fair value hierarchy.~~ Cash equivalents consisted of money market funds at December 31, **2024 and** 2023. **Money market funds were valued by the Company using quoted prices in active markets for identical securities, which represent a Level 1 measurement within the fair value hierarchy. U. S. Government Agency bonds and U. S. Treasury bonds are government backed securities representing a Level 2 measurement** NOTE 4- SHORT- TERM INVESTMENTS As of December 31, **2024 and** 2023, the Company' s available- for- sale investments by type, consisted of the following: SCHEDULE OF AVAILABLE FOR SALE INVESTMENTS **December 31, 2024** Amortized Cost Gross Unrealized Gains Gross Unrealized Losses Credit Losses Fair Value US Government agency bonds $ 8, **910 $ 17 $ — $ — $ 8, 927 US Treasury bonds 13, 358 45 — — 13, 403 $ 22, 268 $ 62 $ — $ — $ 22, 330 December 31, 2023 Amortized Cost Gross Unrealized Gains Gross Unrealized Losses Credit Losses Fair Value US Government agency bonds $ 8,** 617 $ 8 $ — $ — $ 8, 625 US Treasury bonds 5, 144 4 — — 5, 148 ~~Total~~ $ 13, 761 $ 12 $ — $ — $ 13, 773 As of December 31, **2024 and** 2023, all available- for- sale securities consisted of investments that mature within one year. ~~F- 14~~ NOTE 5- PROPERTY AND EQUIPMENT Property and equipment consisted of the following at December 31, **2024 and** 2023 ~~and 2022~~ : ~~SCHEDULE OF PROPERTY AND EQUIPMENT~~ December 31, ~~2023~~ **2024** December 31, ~~2022~~ **2023** Furniture and office equipment $ 148 $ 148 Laboratory equipment 2, **869 2,** 792 ~~2, 762~~ Computer equipment 127 127 Leasehold improvements ~~557~~ **1, 856** 557 Construction- in- progress **—** 995 —Property and equipment, gross **5, 000** 4, 619 ~~3, 594~~ Less: accumulated depreciation and amortization (3, ~~449~~ **684**) (~~2~~ **3** , ~~950~~ **449**) Property and equipment, net $ 1, **316 $ 1,** 170 ~~$ 644~~ Depreciation expense for each of the years ended December 31, **2024 and** 2023 ~~and 2022~~ was $ **235 and $** 499 ~~and $ 553~~ , respectively. NOTE 6 – ACCRUED PAYROLL AND PAYROLL TAXES As of December 31, 2022, the Company had accrued compensation owed to the Company' s Chief Executive Officer, another employee and two former employees that had accrued over a several year period in the amount of $ 2, 852. During the year ended December 31, 2023, the Company repaid $ 1, 187 of the amounts that were accrued. In addition, during the period, the Company incurred payroll tax liabilities of $ 2, ~~037~~ **168** relating to stock option exercises ~~and~~ **,** restricted stock unit vesting, and **other payroll related taxes, and** repaid $ 1, 716 of

that liability, leaving a balance of $ 321 due as of December 31, 2023. As of December 31, 2023, a total of $ 2, 117 was **owed to the Company' s Chief Executive Officer and another employee for past due balances that had accrued over a several year period, and for current accrued payroll and payroll taxes, and other compensation related benefits, including payroll tax liabilities of $ 321 relating to stock option exercises and restricted stock unit vesting. During the year ended December 31, 2024, the Company repaid all of the past due accrued amounts owed to the employees and the $ 321 of current payroll tax liabilities. As of December 31, 2024, no amounts were** owed to employees for these past due balances, and **$ 1, 004 was owed** for current accrued payroll and payroll taxes, **accrued bonuses** and other compensation related benefits. **F- 14** NOTE 7 – LEASE LIABILITIES Operating Leases **Operating lease right- of- use (" ROU ") assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. ROU assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. Generally, the implicit rate of interest (" discount rate ") in arrangements is not readily determinable and the Company utilizes its incremental borrowing rate in determining the present value of lease payments.** The Company ~~accounts~~ **' s incremental borrowing rate is a hypothetical rate based on its understanding of what its credit rating would be. The operating lease ROU asset includes any lease payments made and excludes lease incentives. In December 2020, the Company entered into a long- term non- cancellable lease agreement** for **a laboratory facility that** ~~leases in accordance with ASC 842, which~~ requires ~~a lessee to record a~~ **aggregate average monthly payments of $ 18 beginning January 2021. The Company classified the lease as an operating lease and determined that the value of the** right ~~-~~ of ~~-~~ use asset and ~~a corresponding~~ lease liability at the ~~inception~~ **adoption date was $ 439, respectively, using a discount rate** of **4. 00 %. Effective February 2023, the Company extended** the lease ~~initially measured at~~ **term through December 2024, with no changes to any of the** ~~the~~ **other terms** ~~present value~~ of the lease ~~payments~~. In July 2018, the Company entered into a long- term non- cancellable lease agreement for its manufacturing facility that requires aggregate average monthly payments of $ 10 beginning October 2018 **through** ~~. The lease terminated in~~ September 2023 ~~, with a Company option to extend for an additional five years. The Company classified the lease as an operating lease and determined that the value of the right of use asset and lease liability at the adoption date was $ 518 and $ 519, respectively, using a discount rate of 4. 00 %~~. Effective April 2022, the Company extended the lease for the additional five- year period, through September 2028, with no changes to any of the other terms of the lease and has the option to extend the lease for an additional five years. ~~Prior to the extension, the remaining lease liability amounted to $ 174. On the date of the extension, the Company determined that the value of the new right of use asset and lease liability was $ 860, respectively, using a discount rate of 4. 00 %. As such, the Company recorded an increase in lease liability of $ 686 as a result of the lease extension.~~ Effective July 2023, the Company extended the lease for an additional two- year period, through October 2030, with no changes to any of the other terms of the lease and has the option to extend the lease for an additional five years. Prior to the extension, the remaining lease liability amounted to $ 701. On the date of the extension, the Company determined that the value of the new right of use asset and lease liability was $ 909, respectively, using a discount rate of 7. 00 %. As such, the Company recorded an increase in the lease liability of $ 208 **in** ~~as a result of the lease extension. In December 2020, the Company entered into a long- term non- cancellable lease agreement for a laboratory facility that requires aggregate average monthly payments of $ 18 beginning January 2021. The Company classified the lease as an operating lease and determined that the value of the right of use asset and lease liability at the adoption date was $ 439, respectively, using a discount rate of 4. 00 %. Effective February~~ 2023 ~~, the Company extended the lease term through December 2024, with no changes to any of the other terms of the lease. F- 15 The average monthly rent payment on the extended lease is approximately $ 30 per month. Prior to the extension, the remaining lease liability amounted to $ 12. On the date of the extension, the Company determined that the value of the new right of use asset and lease liability was $ 649, respectively, using a discount rate of 5. 5 %. As such, the Company recorded an increase in the lease liability of $ 637~~ as a result of the lease extension. In July 2021, the Company entered into a long- term non- cancellable lease agreement for its new corporate headquarters that requires aggregate average monthly payments of $ 10 beginning August 2021. The lease terminates in July 2027. The Company classified the lease as an operating lease and determined that the value of the right of use asset and lease liability at the adoption date was $ 656, respectively, using a discount rate of 4. 00 %. In November 2023, the Company entered into a long- term non- cancellable lease agreement for a second manufacturing facility that requires aggregate average monthly payments of $ 12 beginning November 2023. The lease terminates in October 2030, with a Company option to extend for an additional five years. The Company classified the lease as an operating lease and determined that the value of the right of use asset and lease liability at the adoption date was $ 803, respectively, using a discount rate of 7. 00 %. **As of December 31, 2024, the Company has three operating leases with average monthly payments of approximately $ 66 per month through October 2030.** During the years ended December 31, **2024 and** 2023 ~~and 2022~~, the Company made combined aggregate payments of $ **651 and $** 523 ~~and $ 389~~, respectively, towards the lease liabilities. As of December 31, **2024 and** 2023 ~~and 2022~~, the combined lease liability amounted to $ **1, 868 and $** 2, 519 ~~and $ 1, 430~~, respectively ~~. ASC 842 requires recognition in the statement of operations of a single lease cost, calculated so that the cost of the lease is allocated over the lease term, generally on a straight- line basis~~. During the years ended December 31, **2024 and** 2023 ~~and 2022~~, the Company reflected combined amortization of the right of use assets of $ **668 and $** 519 ~~and $ 415~~, respectively, related to the leases, resulting in a combined net asset balance of $ **1, 760 and $** 2, 428 ~~and $ 1, 335~~ as of December 31, **2024 and** 2023 ~~and 2022~~, respectively. **During the years ended December 31, 2024 and 2023, lease costs totaled $ 808 and $ 666, respectively. F- 15** The maturities of the Company' s lease liabilities are as follows as of December 31, ~~2023~~ **2024** : SCHEDULE OF MATURITIES LEASE LIABILITIESYears ending ~~2024~~ **2025** $ **329** ~~653 2025 330~~ 2026 362 2027 ~~331~~ **333** 2028 ~~275~~ **276 2029 305** Thereafter ~~568~~ **263** Total lease liabilities ~~2~~ **1** , ~~519~~ **868** Less: current portion (~~653~~ **329**) Long- term portion $ 1, ~~866~~ **539** Other Leases In November 2019, the Company entered into a short- term lease agreement for one of its office facilities, which was subsequently extended until December 2022 and is currently on a month- to- month basis.

Rent expense was $ 36 during the years ended December 31, **2024 and** 2023 ~~and 2022~~, respectively. NOTE 8 – NOTES PAYABLE – SHAREHOLDERS During the year ended December 31, 2022, the Company, in anticipation of closing its IPO, entered into note payable agreements with several shareholders totaling $ 1, 100. ~~The notes accrue interest at 12 % per annum, are unsecured and are due at the earlier of June 15, 2023 or the month after the closing of the IPO.~~ As of December 31, 2022, the outstanding principal and accrued and unpaid interest balances on the notes were $ 1, 100 and $ 5, respectively ~~. F- 16 During the year ended December 31, 2023, the Company extended the due date on the notes until April 30, 2023~~. During the year ended December 31, 2023, the Company borrowed an additional $ 900 from its shareholders, repaid $ 600 of principal and $ 11 of accrued interest, and $ 1, 400 of principal and $ 63 of accrued interest was converted into 73, 134 shares of the Company' s common stock with a fair value of $ 1, 865. The notes accrued interest of $ 69 during the year. As of December 31, 2023, there was no outstanding principal and accrued and unpaid interest owed on the notes. Upon conversion of the notes payable, the Company incurred a debt extinguishment cost of $ 402, as the conversion price was lower than the fair value of the shares on the conversion date. This amount was recorded as debt extinguishment costs in the Statements of Operations during the year ended December 31, 2023. In consideration for the notes issued in 2022, the Company issued the ~~note holders~~ **noteholders** stock warrants to purchase up to an aggregate total of 44, 441 shares of its common stock with an exercise price per share equal to 90 % of the IPO price, or $ 5. 40 per share, based on the IPO closing price ~~(see Note 9)~~. The issuance of the warrants was contingent upon the closing of the IPO, and as such, were not formally granted until the closing of the IPO in January 2023. The warrants expire in December 2025. The Company determined the warrants should be accounted for as a liability on the date of issuance. The Company ~~calculated the fair value of the warrants issued to the noteholders to be $ 169 using a Black Scholes option pricing model with the following assumptions: SCHEDULE OF WARRANTSExercise price $ 6. 00 Expected dividends — Expected volatility 96. 0 % Risk free interest rate 3. 50 % Life of the warrants 3. 0 The Company~~ recognized a liability and recorded a debt discount at the date of issuance in 2022 in the amount of $ 169. The Company recorded the fair value of the warrants as warrant liabilities as of December 31, 2022 ~~. The notes' discounts are being amortized over the term of the notes and the unamortized portion is recognized as a reduction to the carrying amount of the notes (a valuation debt discount)~~. During the year ended December 31, 2022, the Company amortized $ 61 of debt discount, leaving an unamortized balance of $ 108 at December 31, 2022. During the year ended December 31, 2023, the Company amortized $ 108 of debt discount, leaving no unamortized balance at December 31, 2023. ~~The following table sets forth a summary of the changes in the estimated fair value of the warrant liabilities during the years ended December 31, 2023 and 2022: SCHEDULE OF CHANGES IN ESTIMATED FAIR VALUE OF WARRANT LIABILITIES Years Ended December 31, 2023 2022 Beginning balance $ 169 $- Recognition of warrant liabilities- 169 Change in fair value-- Extinguishment (169)- Ending balance $- $ 169~~ NOTE 9 – CONVERTIBLE NOTES PAYABLE – SHAREHOLDERS **Prior** ~~Convertible notes payable~~ to ~~shareholders consisted of the following as of~~ December 31, ~~2023 and~~ 2022 ~~: SCHEDULE OF CONVERTIBLE NOTES PAYABLE TO SHAREHOLDERS December 31, 2023 December 31, 2022 Convertible notes payable- shareholders (a) (a) $ — $ 7, 838 Convertible note payable- shareholder (b) (b) — 1, 500 Convertible notes payable – shareholders (c) (c) — 700 Convertible notes payable- shareholders (d) (d) — 5, 369 Convertible notes payable- shareholders — 15, 407 Less: current portion — (15, 407) Convertible notes payable – shareholders – long- term portion $ — $ — F- 17 (a) During the years ended December 31, 2011 through 2016~~, the Company entered into ~~convertible~~ **several** note payable agreements with **its shareholders** ~~individuals aggregating to a total amount of $ 7, 988. The notes initially accrued interest at 8 % per annum, were unsecured and were convertible into the Company' s Series K preferred stock at $ 25. 73 per share~~. As of December 31, 2022, ~~the~~ **total** principal **of** ~~amount due on the notes aggregated to~~ $ ~~7~~ **15**, ~~838~~ **407, total interest of $ 3, 812** and total accrued **loan fees** ~~and unpaid interest~~ of $ **560 were** ~~2, 890 was~~ owed on the notes ~~. During the year ended December 31, 2023, $ 60 of principal and $ 36 of accrued and unpaid interest were paid on the notes, and the notes accrued interest of $ 15~~. On January 30, 2023, the date of the closing of the IPO, total principal **, accrued interest and accrued loan fees** of $ ~~7~~ **19**, **686 were** ~~778 and total accrued and unpaid interest of $ 2, 867 was~~ owed on the notes. Upon the closing of the IPO, all ~~of~~ the principal plus accrued and unpaid **loan fees** ~~interest, except for $ 65 of principal and $ 58 of accrued and unpaid interest,~~ automatically converted into ~~1~~ **3**, ~~554~~ **158**, ~~814~~ **141** shares of the Company' s common stock based on the conversion ~~price~~ **prices** of **$ 5. 40 and** $ 6. 78 per share. **As of** ~~During the year ended~~ December 31, ~~2023~~ **2024**, ~~the Company repaid $ 25 of principal~~ and ~~$ 20 of accrued interest on the notes payable, and total principal of $ 40 and total accrued interest of $ 38 were converted into 2, 094 shares of the Company' s common stock. As of December 31,~~ 2023, no principal ~~or~~ **,** interest **or loan fees** ~~was owed on the notes. (b) In April 2016, the Company entered into a convertible note payable agreement with a shareholder in the amount of $ 2, 661. The note accrued interest at 11. 51 % per annum, was unsecured, had an initial maturity date of May 2018 and was convertible into the Company' s common stock at the price of $ 6. 78 per share. Interest payments~~ were due ~~monthly. In May 2018, the note was amended to include a provision under which the loan would accrue $ 10 per month of loan fees through the date the loan was repaid or was converted into the Company' s common stock. The loan fees could be converted into shares of the Company' s common stock at $ 6. 78 per share. As of December 31, 2022, total principal of $ 1, 500 and total accrued and unpaid loan fees of $ 560 was owed~~ on the ~~note. During the year ended December 31, 2023, the note accrued loan fees of $ 10, and on January 30, 2023, the date of the closing of the IPO, total principal of $ 1, 500 and total accrued and unpaid loan fees of $ 570 were owed on the~~ notes. ~~Upon the closing of the IPO, all of the principal plus accrued and unpaid loan fees automatically converted into 303, 835 shares of the Company' s common stock based on the conversion price of $ 6. 78. As of December 31, 2023, no principal, interest or loan fees was due on the notes. (c) In April 2018, the Company entered into two convertible note payable agreements with a shareholder under which the Company borrowed an aggregate total of $ 700. The notes accrue interest at 5. 0 % per annum, are unsecured, and are convertible into the Company' s common stock at the lesser of $ 12. 00 per share, or 90 % of the Company' s IPO price, if it were to occur. As of December 31, 2022, total principal of $ 700 and total accrued and unpaid interest of $ 164 was owed on the notes. During the year ended December 31, 2023, the notes accrued~~

interest of $ 3, and on January 30, 2023, the date of the closing of the IPO, total principal of $ 700 and total accrued and unpaid interest of $ 167 was owed on the notes. Upon the closing of the IPO, all of the principal plus accrued and unpaid interest automatically converted into 160, 563 shares of the Company' s common stock based on the conversion price of $ 5. 40, which was 90 % of the IPO closing price. As of December 31, 2023, no principal or interest was due on the notes. (d) During the years ended December 31, 2019 through 2021, the Company entered into convertible note payable agreements with several shareholders under which the Company borrowed an aggregate amount of $ 5, 369. The notes accrue interest at 5. 0 % per annum, are unsecured, and are convertible into the Company' s common stock at the price of $ 12. 00 per share, or 90 % of the Company' s IPO price, if it were to occur. As of December 31, 2022, total principal of $ 5, 369 and total accrued and unpaid interest of $ 758 was owed on the notes. During the year ended December 31, 2023, the notes accrued interest of $ 22, and on January 30, 2023, the date of the closing of the IPO, total principal of $ 5, 369 and total accrued and unpaid interest of $ 780 was owed on the notes. F- **16** 18 Upon the closing of the IPO, all of the principal plus accrued and unpaid interest automatically converted into 1, 134, 063 shares of the Company' s common stock based on the conversion price of $ 5. 40, which was 90 % of the IPO closing price. As of December 31, 2023, no principal or interest was due on the notes. During the year ended December 31, 2023, the Company issued the shareholders stock warrants to purchase up to 217, 771 shares of the Company' s common stock at exercise prices of $ 9. 00 and $ 10. 50. All of the warrant shares were exercised during the year ended December 31, 2023. NOTE 10 – CONVERTIBLE NOTES PAYABLE Convertible notes payable consisted of the following as of December 31, 2023 and 2022: SCHEDULE OF CONVERTIBLE NOTES PAYABLE December 31, 2023 December 31, 2022 Convertible note payable $- $ 9, 065 Less: debt discount- (541) Convertible notes payable, net $- $ 8, 524 During the years ended December 31, 2020 and 2021, the Company entered into convertible note payable agreements with an investing group under which the Company borrowed an aggregate amount of $ 9, 065. The notes accrue interest at 6. 0 % per annum, are unsecured, and are convertible into the Company' s common stock at the price of $ 10. 50 per share. In consideration for the notes, the Company issued the noteholder stock warrants to purchase up to 146, 641 shares of its common stock with an exercise price of $ 10. 50 per share. The warrants expire in September 2025. During the year ended December 31, 2023, all of the warrant shares were exercised with a cashless exercise and the Company issued 70, 265 shares of its common stock to the note holder relating to the exercise (see Note 13). As of December 31, 2022, the Company owed $ 9, 065 of principal on the notes and $ 1, 178 of accrued and unpaid interest. During the year ended December 31, 2023, the notes accrued interest of $ 45, and on January 30, 2023, the date of the closing of the IPO, total principal of $ 9, 065 and total accrued and unpaid interest of $ 1, 223 was owed on the notes . The Company calculated the relative fair value of the warrants issued to the noteholder and recognized a debt discount at the date of issuance . The note discount is being amortized over the term of the note and the unamortized portion is recognized as a reduction to the carrying amount of the note (a valuation debt discount) . As of December 31, 2022, the notes had an unamortized debt discount balance of $ 541. During the year ended December 31, 2023, the Company amortized $ 541 of debt discount, leaving no unamortized balance at December 31, 2023. **As of December 31, 2022, the Company owed $ 9, 065 of principal on the notes and $ 1, 178 of accrued and unpaid interest. On January 30, 2023, the date of the closing of the IPO, total principal and total accrued and unpaid interest of $ 10, 288 was owed on the notes.** Upon the closing of the IPO, all of the principal plus accrued and unpaid interest automatically converted into 979, 619 shares of the Company' s common stock based on the conversion price of $ 10. 50 per share. As of December 31, **2024 and** 2023, no principal or interest was due on the notes. NOTE 11 – U. S. SMALL BUSINESS ADMINISTRATION LOAN UNDER THE CARES ACT During the year ended December 31, 2020, the Company entered into a loan agreement with the United States Small Business Administration (" SBA ") under which the Company borrowed $ 314. The loan was unsecured, accrued interest at 1. 0 % and was due on April 23, 2022. The loan term may be extended to April 2025 if mutually agreed to by the Company and lender. The Company applied ASC 470, Debt, to account for the PPP loan. During the year ended December 31, 2021, the Company applied for forgiveness of the loan and the loan was forgiven by the SBA during the year ended December 31, 2022. The forgiveness of the loan was recorded as a gain on forgiveness of debt during the same period. No amounts were due under the loan as of December 31, 2022. F- 19 NOTE 12 – LICENSE AGREEMENTS Agreement with Newsoara BioPharma Co. Ltd In September 2021, the Company entered into a collaboration and exclusive license with Newsoara BioPharma Co. Ltd (" Newsoara ") for the development and commercialization of the Company' s primary product (Olvi- Vec). According to the terms of the agreement, Newsoara shall have exclusive rights in Greater China to Olvi- Vec. The Company and Newsoara are co- sponsors of a Phase 1 / 2 clinical trial in China of Olvi- Vec in patients with recurrent SCLC, of which Newsoara currently is conducting the Phase 1 portion of the trial. Newsoara also shall have exclusive rights in Greater China to the Company' s proprietary oncolytic virus platform (with the exception of V- VET1, described below), and the parties will collaborate on the development of novel oncolytic immune therapeutics. Newsoara, at its cost and expense, will be responsible for development and commercialization and will have the future right to manufacture licensed products in Greater China. Under terms of the agreement, the Company has received up- front and near- term payments totaling $ 9, 900, net of a 10 % Chinese income tax, and will be eligible to receive additional per product payments of up to $ 160. 5 million, contingent on certain development, regulatory, and commercial milestones, plus tiered royalties on net sales ranging from mid- single digit to mid- teens percentages. The Company shall have an exclusive license outside of Greater China to oncolytic virus products derived by Newsoara and will pay Newsoara milestones and royalties on sales of any such products which the Company elects to develop. As of December 31, 2021, the Company had received a $ 4, 500 up front payment (net of a 10 % foreign income tax). During the year ended December 31, 2022, the Company received the remaining $ 5, 400 of the upfront payments (net of the 10 % foreign income tax). The allocation of the transaction price to the Company' s primary performance obligations in the agreement includes payments related to each of the following obligations (or events): 1) Signing of the agreement and transfer of rights to its technology- $ 5. 0 million. 2) Approval from the U. S. Food and Drug Administration to begin the phase 3 trial of the Company' s primary product- $ 6. 0 million, net of a 10 % income tax owed to the Chinese government. 3) Manufacture and distribute product, or the

~~transfer of its manufacturing technology – the manufactured cost of the product as determined by the Company and approved by the customer upon completion of a production batch. At December 31, 2021, the Company performed an analysis of revenue recognition in accordance with guidance of ASC 606 and determined that since the Company did not complete obligation 3) above prior to December 31, 2021, that revenue would be recognized at such time as the Company met that performance obligation. As such, as of December 31, 2021, the Company delayed recognition of any revenue under this contract and the cash received of $ 4, 500 was recorded as deferred revenue. During the year ended December 31, 2022, the Company completed the transfer of its manufacturing technology, at which point the Company completed its performance obligation 3) above, and thus recognized the related revenue of $ 11, 000, with the 10 % foreign income tax of $ 1, 100 being recorded as a provision for foreign income taxes. Under no circumstances would the Company be required to repay the $ 9, 900 received under the license agreement. Agreement with ELIAS Animal Health, LLC In November 2021, the Company entered into an exclusive worldwide licensing agreement for V- VET1, its clinical stage animal health product candidate, with ELIAS Animal Health, LLC (ELIAS), a biotechnology company advancing its novel cell- based immunotherapies for the treatment of cancer in veterinary medicine. V- VET1 is a vaccinia viral strain which selectively replicates in cancer cells causing cell death (apoptosis). ELIAS plans future clinical trials to evaluate and develop V- VET1 as a potential new immunotherapy option for veterinary oncologists. Under the terms of the agreement, Genelux will receive an upfront payment of $ 60 and will receive further payments under development and sales milestones, and royalties on product sales. No payments were received as of December 31, 2021. F- 20 1) Signing of the agreement and transfer of rights to its technology- $ 60. 2) Manufacture and distribute product, or the transfer of its manufacturing technology – the manufactured cost of the product as determined by the Company and approved by the customer upon completion of a production batch. The Company performed an analysis of revenue recognition in accordance with guidance of ASC 606 and determined that since the Company did not complete obligation 2) above prior to December 31, 2021, that revenue recognition would be recognized at such time as the Company met that performance obligation. During the year ended December 31, 2022, the Company received payments of $ 60 and $ 8 and completed the transfer of its manufacturing technology, at which point the Company completed its performance obligation 2) above, and thus recognized the related revenue of $ 68. Under no circumstances would the Company be required to repay the $ 60 received under the license agreement. NOTE 13~~ - SHAREHOLDERS' EQUITY Preferred Stock As of December 31, 2022, ~~authorized~~ **there were 22, 094, 889** shares ~~and shares issued and outstanding~~ of ~~the Company' s~~ preferred stock ~~by series were as follows: SCHEDULE OF PREFERRED STOCK Authorized Shares Issued~~ **issued** and ~~Outstanding~~ **outstanding .** ~~Par Value Series A Preferred Stock 4, 500, 000 4, 500, 000 4, 500 Series B Preferred Stock 608, 000 608, 000 608 Series C Preferred Stock 5, 000, 000 5, 000, 000 5, 000 Series D Preferred Stock 3, 000, 000 3, 000, 000 3, 000 Series E Preferred Stock 1, 591, 994 1, 591, 994 1, 592 Series F Preferred Stock 953, 000 953, 000 953 Series H Preferred Stock 5, 000, 000 536, 000 536 Series I Preferred Stock 2, 775, 000 2, 757, 442 2, 757 Series J Preferred Stock 2, 500, 000 1, 281, 600 1, 282 Series K Preferred Stock 4, 000, 000 1, 866, 853 1, 867 Total 29, 927, 994 22, 094, 889 22, 095~ Upon the closing of the Company' s IPO on January 30, 2023, all of the Company' s ~~22, 094, 889~~ outstanding shares of Series A through Series K preferred stock automatically converted into 8, 359, 143 shares of common stock, of which 994, 705 shares were attributable to conversion price adjustments based on a weighted- average anti- dilution formula. As of January 30, 2023, earned but undeclared and unpaid Series H dividends were $ 3, 443. Upon the closing of the IPO, the unpaid dividends were automatically converted into 272, 101 shares of the Company' s common stock. In January 2023, the Company' s Certificate of Incorporation with the state of Delaware was amended to change the number of authorized preferred shares from 29, 927, 994 to 10, 000, 000. Authorized shares The Company' s Certificate of Incorporation authorizes the Company to issue up to 200, 000, 000 of its common shares. Holders of shares of common stock have full voting rights, one vote for each share held of record. Shareholders are entitled to receive dividends as may be declared by the **Company' s board of directors (the "** Board **")** out of funds legally available therefore and share pro rata in any distributions to shareholders upon liquidation. Shareholders have no conversion, pre- emptive or subscription rights. All outstanding shares of common stock are fully paid and non- assessable. As of December 31, **2024 and** 2023 ~~and 2022~~ , there were **34, 728, 140 and** 26, 788, 986 ~~and 9, 126, 726~~ shares of common stock issued and outstanding, respectively. ~~F- 21~~ In January 2023, the Company' s Certificate of Incorporation with the state of Delaware was amended to change the number of authorized common shares from 75, 000, 000 to 200, 000, 000. **F- 17 Common Stock Issued for Cash Upon Closing of the Company' s IPO** On January 30, 2023, the Company completed its underwritten IPO of its common stock, in which the Company issued and sold 2, 500, 000 shares of its common stock at a public offering price of $ 6. 00 per share. In February 2023, the Company sold an additional 153, 000 shares of common stock at $ 6. 00 per share pursuant to the underwriters' partial exercise of their option to purchase additional shares of common stock. The total gross proceeds of the IPO were $ 15, 918 and the Company raised $ 12, 632 in net proceeds after deducting underwriting discounts and commissions and offering expenses payable by the Company. ~~On~~ **In** May ~~12,~~ **and June** 2023, the Company entered into ~~a~~ securities purchase ~~agreement~~ **agreements** ~~(the " PIPE 1 SPA ")~~ with certain investors ~~(the " PIPE 1 Purchasers "),~~ pursuant to which the Company agreed to sell and issue ~~1, 665, 213~~ shares of its common stock in ~~a~~ **two** private placement ~~transaction~~ **transactions** ~~(the " First Private Placement "). The purchase price per share of common stock was $ 20. 00 per share. The initial closing of the First Private Placement occurred in May 2023 (the " PIPE 1 Initial Closing ") subject to customary closing conditions. The total gross proceeds to the Company at the PIPE 1 Initial Closing from the First Private Placement are expected to be approximately $ 33, 300, including $ 1, 463 from the cancellation of certain of the Company' s bridge loans and accrued interest (see Note 8). Two of the PIPE 1 Purchasers were contractually obligated to fund up to $ 17, 500 of such PIPE 1 Purchasers' investment amounts following the PIPE 1 Initial Closing but no later than November 15, 2023. During the year ended December 31, 2023, the Company received $ 6, 000 of the committed amount of $ 17, 500~~ . As of December 31, 2023, the Company sold 1, ~~017~~ **292** , 079 shares of its common stock under the **agreements** ~~PIPE 1 SPA~~ resulting in ~~gross and~~ net proceeds to the Company of $ ~~20~~ **25** , **142** ~~342 and $ 19, 842, respectively~~ . ~~On June 9, 2023,~~ **Certain investors who were obligated under** the ~~Company entered into another~~ securities purchase

~~agreement~~ **agreements** ~~(~~ **to fund** the ~~" PIPE 2 SPA "~~ **remaining committed investment amounts totaling $ 24** , ~~and, together~~ **000 have not made such payments. The Company is currently evaluating its potential remedies** with **respect to** ~~the~~ **these investors' non- compliance** ~~PIPE 1 SPA, the " Purchase Agreements ")~~ with ~~certain investors (the~~ **their contractual obligations** ~~" PIPE 2 Purchasers "), pursuant~~ to **the Company. In May 2024, the Company completed an underwritten public offering of its common stock and accompanying warrants, in** which the Company ~~agreed to sell and issue~~ **issued** ~~900~~ **and sold 7, 500, 000 shares of its common stock and accompanying warrant to purchase 7, 500** , 000 shares of the Company' s common stock ~~in~~ **, including the partial exercise of the underwriters' option to purchase 625, 000 shares of the Company' s common stock and accompanying warrants to purchase 625, 000 shares of the Company' s common stock, at** a **combined offering** ~~private placement transaction (the " Second Private Placement ", and, together with the First Private Placement, the " Private Placements "). The purchase~~ price ~~per share~~ of ~~Common Stock was~~ $ ~~20~~ **4** . 00 per share **and accompanying warrant** ~~. The initial closing of this Second Private Placement occurred in June 2023 (the " PIPE 2 Initial Closing "), subject to customary closing conditions~~ . The total gross proceeds ~~to~~ **of the offering were $ 30, 000 and** the Company **raised $ 27, 678 in net proceeds after deducting underwriting discounts and commissions and offering expenses payable by the Company. Each warrant has an exercise price of $ 5. 25 per share. The warrants expire five years** from the **date** ~~Second Private Placement are expected to be approximately $ 18, 000. One~~ of **grant. At- the- Market Facility During the** ~~the~~ **three** ~~PIPE 2 Purchasers was contractually obligated to fund up to $ 12, 500 of such PIPE 2 Purchaser' s investment amounts --~~ **months ended** ~~following the PIPE 2 Initial Closing, but no later than November 15, 2023. As of~~ December 31, ~~2023~~ **2024** , the Company sold ~~275~~ **5** , ~~000~~ **460** shares of its common stock under ~~the PIPE 2 SPA resulting in gross and~~ **an At- the- Market (ATM) offering for** net proceeds ~~to the Company~~ of $ **15** ~~5, 500 and $ 5, 300, respectively . As of December 31, 2023, the Company sold 1, 292, 079 shares of its common stock under the Purchase Agreements resulting in the total gross and net proceeds to the Company from the First Private Placement and the Second Private Placement of $ 25, 842 and $ 25, 142, respectively. As of that same date, the Company had received $ 6, 000 of the $ 30, 000 in aggregate committed investment amounts to be funded following the PIPE 1 Initial Closing and PIPE 2 Initial Closing. In November 2023, the Company agreed to extend the funding deadline for $ 2, 000 of the remaining committed investment amounts to March 31, 2024. The investor who was obligated to fund $ 22, 000 of the remaining committed investment amounts has not made such payments and has indicated that he does not intend to comply with his investment commitments under the Purchase Agreements. The Company is currently evaluating the potential remedies with respect to this investor' s non- compliance with his contractual obligations to the Company. F- 22~~ Grant of Restricted Stock Units The following table summarizes restricted ~~common~~ stock **unit (" RSU ")** activity during the ~~year~~ **years** ended December 31, 2023 **and 2024** : SCHEDULE OF RESTRICTED COMMON STOCK ACTIVITY ~~Number of Restricted Shares Fair Value~~ Weighted Average Grant **Number of** Date Fair **RSUs Fair Value** Value Non- vested, December 31, 2022- $- $- Granted 171, 400 2, 043 11. 92 Vested (113, 500) (940) 6. 57 Forfeited--- Non- vested, December 31, 2023 57, 900 **1, 103 22. 40 Granted 879, 930 2, 843 3. 23 Vested (303, 389) (2, 044) 6. 74 Forfeited (13, 077)-- Non- vested, December 31, 2024 621, 364** $ 1, ~~103~~ **902** $ ~~22~~ **3** . ~~40~~ **06 F- 18** In February 2023, the Company' s Board of Directors approved the issuance of a combined total of 113, 500 ~~restricted units (" RSU~~ **RSUs** ~~") of the Company' s common stock~~ to certain of its officers, directors and consultants. The fair value of the ~~shares~~ **RSUs** on the date of grant was $ 746. All of the ~~shares~~ **RSUs** vested and were issued to the RSU holders during the year ended December 31, 2023. The ~~RSU~~ **RSUs** ~~shares~~ were granted under the Company' s 2022 Equity Incentive Plan **(" the 2022 Plan ")** . In September 2023, the Company' s Board of Directors approved the issuance of a combined total of 57, 900 **RSUs** ~~restricted shares of the Company' s common stock (" restricted common stock ")~~ to certain of its employees and directors. The fair value of the ~~shares~~ **RSUs** on the date of grant was $ 1, 297. All of the ~~shares~~ **RSUs** vest in one to four years. The **RSUs were** ~~restricted common stock was~~ granted under the Company' s 2022 Equity Incentive Plan. As none of the ~~shares~~ **RSUs** vested during the year ended December 31, 2023, no shares were issued relating to the grant. During the year ended December 31, 2023, the Company recorded $ 940 of stock compensation for the fair value vesting of **RSUs. During the year ended** ~~restricted common stock, and as of~~ December 31, ~~2023~~ **2024 , the Board approved the issuance of a combined total of 879, 930 RSUs to certain of its employees and its directors. The fair value of the RSUs on the date of grant was $ 2, 843. The RSUs were granted under the Company' s 2022 Equity Incentive Plan. A total of 303, 389 RSUs vested and were issued to the RSU holders during the year ended December 31, 2024. During the year ended December 31, 2024, the Company recorded $ 2, 044 of stock compensation for the fair value vesting of RSUs. As of December 31, 2024** , $ 1, ~~103~~ **902** of unamortized compensation remained. Stock Options In August 2009, the ~~Company' s~~ Board ~~of Directors~~ approved the adoption of the 2009 Equity Incentive Plan (" the 2009 Plan "). The 2009 Plan was initiated to encourage and enable employees, directors and consultants of the Company to acquire and retain a proprietary interest in the Company by ownership of its common stock. A total of 6, 166, 666 of the authorized shares of the Company' s common stock may be subject to, or issued pursuant to, the terms of the **2009** ~~plan~~ **Plan** . As of December 31, ~~2023~~ **2024** ~~and December 31, 2022~~ , no shares were available for grant under the 2009 ~~plan~~ **Plan** . In September 2018, the ~~Company' s~~ Board ~~of Directors~~ approved the adoption of the 2019 Equity Incentive Plan (" the 2019 Plan "). The 2019 Plan was initiated to encourage and enable employees, directors and consultants of the Company to acquire and retain a proprietary interest in the Company by ownership of its common stock. The 2019 Plan allows for the following types of awards: (i) ~~Incentive~~ **incentive** ~~Stock~~ **stock** ~~Options~~ **options (" ISOs ")** ; (ii) ~~Nonstatutory~~ **nonstatutory** ~~Stock~~ **stock** ~~Options~~ **options (" NSOs ")** ; (iii) ~~Stock~~ **stock** ~~Appreciation~~ **appreciation** ~~Rights~~ **rights** ; (iv) ~~Restricted~~ **restricted** ~~Stock~~ **stock** ~~Awards~~ **awards** ; (v) **RSUs** ~~Restricted Stock Unit Awards~~ ; (vi) ~~Other~~ **other** ~~Stock~~ **stock** ~~Awards~~ **awards** . The maximum number of shares of our common stock that may be issued under our 2019 Plan is 2, 059, 073 shares. Outstanding stock awards granted under the 2009 Plan that (i) expire or terminate for any reason prior to exercise or settlement; (ii) are forfeited because of failure to meet a contingency or condition required to vest such shares or otherwise return to us; or (iii) are required or withheld (or not issued) to satisfy a tax withholding obligation in connection with an award or to satisfy the purchase price or exercise price of a stock

award can be added to the authorized shares as ~~Returning~~ **returning** ~~Shares~~ **shares** , not to exceed 3, 774, 260 shares. The maximum number of shares of our common stock under our 2019 Plan that may be issued is 5, 833, 333 shares. As of December 31, ~~2023~~ **2024** , ~~a total of~~ **no options to acquire common shares were granted and** 1, ~~632~~ **637** , ~~314~~ **562** shares were available for grant under the 2019 ~~plan~~ **Plan** . F- ~~23~~ **19** In June 2022, the ~~Company' s~~ Board ~~of Directors~~ approved the adoption of ~~the 2022 Equity Incentive Plan (" the 2022 Plan ")~~ . The 2022 Plan provides for the grant of ~~incentive stock options (" ISOs "),~~ to employees, including employees of any parent or subsidiary, and for the grant of ~~nonstatutory stock options (" NSOs ")~~ , stock appreciation rights, restricted stock awards, ~~RSU~~ **RSUs** ~~awards~~ , performance awards and other forms of stock awards to employees, directors, and consultants, including employees and consultants of our affiliates. The 2022 Plan is a successor to the 2019 Plan. No further grants will be made under the 2019 Plan. The maximum number of shares of the Company' s common stock under the 2022 Plan that may be issued is 2, 800, 000 shares. In addition, the number of shares of the Company' s common stock reserved for issuance under the 2022 Plan will automatically increase on January 1 of each calendar year, starting on January 1, 2024 and continuing through and including January 1, 2032, in an amount equal to 5 % of the total number of shares of our common stock outstanding on the last day of the calendar month before the date of each automatic increase, or a lesser number of shares determined by the ~~Company' s~~ Board ~~of Directors~~ . During the year ended December 31, ~~2023~~ **2024** , **872** ~~a total of 706~~ , ~~388~~ **860** ~~option~~ **options** ~~shares of the Company' s common stock, with a fair value of $ 12, 645,~~ were granted under the 2022 Plan ~~, along with 171, 400 RSU shares~~ . As of December 31, 2023, a total of 1, 922, 212 shares were available for grant under the 2022 ~~plan~~ **Plan** . In January 2024, the number of shares available to be issued under the 2022 Plan automatically increased by 1, 339, 449 shares, as determined by the **2022** Plan, and ~~3~~ **1** , ~~261~~ **545** , ~~661~~ **431** shares were available for grant under the 2022 Plan as of ~~that date~~ **December 31, 2024. In January 2025, the number of shares available to be issued under the 2022 Plan automatically increased by 1, 729, 664 shares, as determined by the 2022 Plan** . In September 2023, the ~~Company' s~~ Board ~~of Directors~~ approved the adoption of the Company' s 2023 Inducement Plan (the " Inducement Plan ") to reserve 1, 000, 000 shares of the Company' s common stock to be used exclusively for grants of awards to individuals that were not previously employees or directors of the Company as an inducement material to the individual' s entry into employment with the Company. The Inducement Plan provides for the grant of NSOs, stock appreciation rights, restricted stock awards, ~~RSU~~ **RSUs** ~~awards~~ , performance- based cash and stock awards, and other stock- based awards. In addition, forms of (i) Stock Option Grant Notice, Stock Option Agreement and Notice of Exercise and (ii) Restricted Stock Unit Grant Notice and Restricted Stock Unit Award Agreement, for both (a) executive officers and (b) employees at or below the vice president level, were adopted and approved for use with the Inducement Plan. The terms and conditions of the Inducement Plan are substantially similar to the Company' s stockholder- approved 2022 ~~Equity Incentive~~ Plan. During the year ended December 31, ~~2023~~ **2024** , **no awards** ~~a total of 444, 300 option shares, with a fair value of $ 8, 031,~~ were granted under the Inducement Plan. As of December 31, ~~2023~~ **2024** , a total of 555, 700 shares were available for grant under the Inducement ~~plan~~ **Plan** . Option exercise prices are set forth in the ~~Grant~~ **grant** ~~Notice~~ **notice** , without commission or other charge, provided however, that the price per share of the shares subject to the option shall not be less than the greater of (i) 100 % of the fair market value of a share of stock on the grant date, or (ii) 110 % of the fair market value of a share of stock on the grant date in the case of a Participant then owning more than 10 % of the total combined voting power of all classes of stock of the Company or any " subsidiary corporation " of the Company or any " parent corporation " of the Company. Options to employees, directors and consultants generally vest and become exercisable over a period not exceeding four years. Options typically expire ten years after **the** date of grant. The Company' s policy is to recognize compensation cost for awards with only service conditions on a straight- line basis over the requisite service period for the entire award. Additionally, the Company' s policy is to issue new shares of common stock to satisfy stock option exercises. The Company applied fair value accounting for all share- based payments awards. The fair value of each option granted is estimated on the date of grant using the Black- Scholes option- pricing model. Stock Option Grants ~~during~~ **During** the Year Ended December 31, ~~2023~~ **2024** During the year ended December 31, ~~2023~~ **2024** , under its 2022 Plan ~~and Inducement Plan~~ , the ~~Company' s~~ Board ~~of Directors~~ approved the granting of options to certain employees ~~and directors~~ to purchase ~~1~~ **872** , **860** ~~150, 688~~ shares of its common stock with exercise prices ~~of~~ **from** $ ~~13~~ **1** . ~~97 and~~ **96 to** $ ~~22~~ **7** . ~~40~~ **44** per share. The options vest over ~~various periods, but none longer than~~ four years, expire ten years from the date of grant and had an aggregate fair value of $ ~~20~~ **1** , ~~676~~ **616** at the date of grant. The Company valued the options using a Black- Scholes option pricing model. **The assumptions used for the options granted** ~~During~~ **during** the year ended December 31, ~~2023~~ **2024** ~~, the Company recorded $ 2, 515 of stock compensation for the value of these options and previously granted options vesting during the period. F- 24 The assumptions used for the options granted during the year ended December 31, 2023~~ are as follows: SCHEDULE OF OPTION GRANTEDExercise prices $ **1.96- 7.44 Expected dividends — Expected volatility 100.0 % Risk free interest rate 3.9 %- 4.5 % Expected life of options 5.0- 6.0 F- 20** Stock Option Grants ~~during~~ **During** the Year Ended December 31, ~~2022~~ **2023** During the year ended December 31, ~~2022~~ **2023** ,under its ~~2019 Incentive~~ **2022 Plan and Inducement** Plan,the ~~Company granted~~ **Board approved the granting of** options to certain employees and directors ~~,and a consultant,~~ to purchase ~~247~~ **1** , ~~785~~ **150,688** shares of its common stock with exercise prices of $ ~~9~~ **13** . ~~00~~ **97** and $ ~~10~~ **22** . ~~50~~ **40** per share.The options vest over various periods,but none longer than four years,expire ten years from the date of grant and had an aggregate fair value of $ ~~1~~ **20** , ~~969~~ **676** at the date of grant.The Company valued the options using a Black- Scholes option pricing model. ~~During the year ended December 31,2022,the Company recorded $ 2,415 of stock compensation for the value of these options and previously granted options vesting during the period.~~ The assumptions used for ~~all of~~ the options granted during the year ended December 31, ~~2022~~ **2023** are as follows:Exercise prices $ ~~9.00- 10.50 Expected dividends~~ 13. 97- 22. 40 Expected dividends — Expected volatility 100. 0 % Risk free interest rate 3. 9 %- 4. 4 % Expected life of options 5. 5- 6. 6 Stock Option Grants during the Year Ended..... 5. 0 – 5. 9 The table below summarizes the Company' s stock option activities for the years ended December 31, 2023 and ~~2022~~ **2024** : SCHEDULE OF STOCK OPTION ACTIVITY Number of Option Shares Exercise Price Range Per Share Weighted Average Exercise Price Balance, December 31, **2022 4,** ~~2021~~ - **201** ~~3~~ ,

019 ~~953, 234~~ $ 9. 00- 10. 50 $ 10. ~~11 Granted 247, 785 9. 00- 10. 50 10. 40 Cancelled — — — — Exercised — — — — Expired — — — — Balance, December 31, 2022 4, 201, 019 9. 00- 10. 50 10.~~ 12 Granted 1, 150, 688 13. 97 ~~— 22 -~ **24. 75 10** . 40 ~~22. 26~~ Cancelled — — — Exercised (232, 787) 6. 00 – 10. 50 6. 34 Expired ~~— — —~~ ~~(51, 581) 6. 00 6. 00~~ Balance, December 31, 2023 5, ~~067~~ **118** , **920** ~~339 $~~ 6. 00 ~~- 22 –~~ **24** . **75** ~~40 $~~ 9. 76 **Granted 872** ~~Vested and exercisable~~ . **860** ~~December 31, 2023 3, 780, 455 $ 6. 00- 10. 50 $ 6. 09 Unvested, December 31, 2023~~ 1 **. 96 – 7. 44 2. 45 Cancelled (80** , **471)** ~~286, 884 $~~ 6. 00 – 22. 40 **14. 15 Exercised — — — Expired (535, 986) 6. 00 – 10. 50 6. 29 Balance, December 31, 2024 5, 375, 323** $ ~~20~~ **1** . **96** ~~66 F- 25~~ **24. 75 $ 8. 82 Vested and exercisable, December 31, 2024 3, 773, 393 $ 1. 96- 24. 75 $ 7. 68 Unvested, December 31, 2024 1, 601, 930 $ 1. 96 – 24. 75 $ 11. 49** The following table summarizes information concerning outstanding and exercisable options as of December 31, ~~2023~~ **2024** : SCHEDULE OF OUTSTANDING AND EXERCISABLE OPTIONS Options Outstanding Options Exercisable Range of Exercise Prices Number Outstanding Average Remaining Contractual Life (in years) Weighted Average Exercise Price Number Exercisable Average Remaining Contractual Life (in years) Weighted Average Exercise Price $ **1. 96-** 6. 00 **4, 201, 391 5. 15 $ 5. 26** 3, ~~826~~ **339** , **754** ~~552 4. 55 $ 6. 00~~ 3 ~~, 689, 352 4~~ . ~~43~~ **97** $ 6. 00 6. 01 – 10. 50 ~~90~~ **63** , ~~099~~ **244** 2. ~~03 9~~ **92 8** . ~~52 90~~ **78 54** , ~~099 2~~ **244 1** . ~~03~~ **89** 9. 52 10. 51 – ~~22~~ **24** . ~~40~~ **75** 1, ~~150~~ **110** , 688 ~~9~~ **8** . 70 22. 26 **379, 395 8.** ~~704 -~~ **70** ~~9. 69~~ 22. ~~40~~ **29** $ ~~6~~ **1** . ~~00~~ **96** - ~~22~~ **24** . ~~40~~ **75** 5, ~~067~~ **375** , ~~339~~ **323** 5. **85 $ 8. 82 3, 773, 393 4. 41 $ 7.** 68 $ 9. 76 3, 780..... of the options. Stock Option Exercises During the year ended December 31, 2023, a total of 232, 787 option shares were exercised for total proceeds of $ 1, 474. ~~As of~~ **There were no options exercised during the year ended** December 31, **2024. F- 21 During the years ended December 31, 2024 and** 2023 **, the Company recorded $ 5, 738 and $ 2, 515, respectively, of stock compensation for the value of all options vested during the period. As of December 31, 2024** , unvested compensation of $ ~~19~~ **15** , ~~825~~ **482** remained that will be amortized over the remaining vesting ~~periods -~~ **period** , through December ~~2027~~ **2028** ~~. The weighted average grant- date fair value per share of options granted during the years ended December 31, 2023 and 2022 was $ 22. 26 and $ 7. 68, respectively~~ . The aggregate intrinsic value for option shares outstanding at December 31, ~~2023~~ **2024** was $ **123** ~~31, 056. At the time of the issuances of stock options, the Company believed the Company' s estimates of the fair value for financial reporting purposes of the Company' s common stock were reasonable and consistent with the Company' s understanding of how similarly situated companies in the industry were valued~~ . The following table summarizes the stock- based compensation expense, for stock options only, by line item in the statements of operations for the years ended December 31, **2024 and** 2023 ~~and 2022~~ , respectively. SUMMARY OF STOCK BASED COMPENSATION EXPENSE December 31, ~~2023~~ **2024** December 31, ~~2022~~ **2023** Research and development $ **2, 147 $** 915 ~~$ 368~~ General and administrative **3, 591** 1, 600 ~~2, 047~~ Total stock- based compensation expense $ ~~2~~ **5** , ~~515~~ **738** $ 2, ~~415 F- 26 515~~ **$ 9.76 3,780,455 4.37 $ 6.09 Stock Option Repricing** In September 2022,the **Company' s** Board **of Directors** approved a stock option repricing whereby the exercise prices of previously granted and unexercised options held by certain employees,directors and key advisers with exercise prices between $ 9.00 and $ 10.50 per share,would be adjusted (the " Stock Option Repricing ") to equal the initial offering price,contingent and effective upon the completion of the Company' s IPO.In connection with the closing of the IPO,the Stock Option Repricing was completed and the options to purchase 4,092,887 shares of the Company' s common stock,with exercise prices previously between $ 9.00 and $ 10.50,were repriced to the initial offering price of $ 6.00 per share,of which a total of 2,796,400 shares of common stock are held by executive officers and directors.The total cost of the repricing was $ 2,733,of which ~~$ 29 and $~~ 2,689 was recorded during the ~~years -~~ **year** ended December 31, ~~2024 and~~ 2023,with the remainder of the cost being recorded over the future vesting periods of the options. **Stock** ~~During the year ended December 31,2024,the Company extended the option~~ **Option Exercises** ~~term for two option holders for an~~ Stock Warrants The table below summarizes the Company' s warrants activities for the years ended December 31, 2023 and ~~2022~~ **2024** : SCHEDULE OF WARRANTS ACTIVITY Number of Warrant Shares Exercise Price Range Per Share Weighted Average Exercise Price Balance, December 31, ~~2021~~ **2022** ~~823~~ **725** , ~~123~~ **174** $ ~~0~~ **3** . ~~03~~ **00** – 10. 50 $ **8. 24 Granted 447, 906 5. 40 – 10. 50** 7. ~~56~~ **87 Cancelled (36) 9. 00 9. 00 Exercised (655, 523) 6. 00 – 10. 50 8. 81 Expired (4, 762) 10. 50 10. 50 Balance, December 31, 2023 512, 759 3. 00- 10. 50 7. 14** Granted ~~— — — —~~ **7, 500, 000 5. 25 5. 25** Cancelled — — — Exercised (~~16~~ **76** , ~~666~~ **487**) ~~0. 03 —~~ 9. 00 ~~7~~ **9** . ~~21~~ **00** Expired (~~81~~ **38** , ~~283~~ **297**) ~~0. 03 —~~ 10. 50 ~~1~~ **10** . ~~56~~ **50** Balance, December 31, ~~2022~~ **2024** ~~725~~ **7** , ~~174~~ **897, 975 $** 3. 00- ~~10~~ **9** . **00 $** ~~50 8. 24 Granted 447, 906~~ 5. **32 Vested and exercisable** ~~40- 10. 50 7. 87 Cancelled (36) 9. 00 9. 00 Exercised (655, 523) 6. 00- 10. 50 8. 81 Expired (4, 762) 10. 50 10. 50 Balance~~ , December 31, ~~2023~~ **2024** ~~512~~ **7** , ~~759~~ **897, 975** $ 3. 00- ~~10~~ **9** . ~~50~~ **00** $ ~~7~~ **5** . **32 F** ~~14 Vested and exercisable, December 31, 2023 512, 759 $ 3. 00 -~~ **22** ~~10. 50 $ 7. 14~~ The following table summarizes information concerning outstanding and exercisable warrants as of December 31, ~~2023~~ **2024** : SCHEDULE OF OUTSTANDING AND EXERCISABLE WARRANTS Warrants Outstanding Warrants Exercisable Range of Exercise Prices Number Outstanding Average Remaining Contractual Life (in years) Weighted Average Exercise Price Number Exercisable Average Remaining Contractual Life (in years) Weighted Average Exercise Price $ 3. 00 133, 333 ~~3~~ **2** . 17 $ 3. 00 133, 333 ~~3~~ **2** . 17 $ 3. 00 3. 01 – ~~10~~ **9** . ~~49 375~~ **00 7** , **764** ~~617 2. 24 8. 57 375~~ , ~~617 2~~ **642 4** . ~~24 8~~ **34 5** . **36 7** ~~57 10. 50 3~~ , **764** ~~809 0. 31 10. 50 3~~ , ~~809 0~~ **642 4** . ~~31 10~~ **34 5** . ~~50~~ **36** $ 3. 00 – ~~10~~ **9** . ~~50 512~~ **00 7** , ~~759 2~~ **897, 975 4** . ~~46~~ **30** $ **5. 32** 7 ~~. 14 512~~ , ~~759 2~~ **897, 975 4** . ~~46~~ **30** $ **5. 32 There was no aggregate intrinsic value for warrant shares outstanding at December 31, 2024. Warrant Transactions During the Year Ended December 31, 2024 During the year ended December 31, 2024, the Company issued warrants to purchase** 7 **, 500, 000 shares of its common stock with an exercise price of $ 5** . ~~14~~ **25 per share to the underwriters of its second public offering. The warrants expire five years from the date of grant. During the year ended December 31, 2024, warrant holders exercised 76, 487 warrants to acquire common stock at an exercise price of $ 9. 00 per share for proceeds of $ 688. Warrant Transactions During the Year Ended December 31, 2023** Upon the closing of the IPO and the overallotment exercises, the Company agreed to issue the underwriters warrants entitling them to purchase up to 185, 694 shares of the Company' s common stock. The warrants have an exercise price of $ 6. 00 per share and expire on the fifth anniversary of the closing date of the IPO, or January 2028. During the year ended December 31, 2023, the underwriters completed cashless exercises of their warrants to purchase 185, 694 shares of common stock at an exercise price of

$ 6. 00 per share. Pursuant to this exercise, the warrant holder received 140, 303 shares of the Company' s common stock. As of December 31, 2023, no shares were still outstanding. During the year ended December 31, 2023, the Company granted warrants to certain of its lenders to purchase up to 44, 441 shares of the Company' s common stock (see Note 8). The warrants have an exercise price of $ 5. 40 per share and expire three years from the date of the grant. None of these warrants have been exercised as of December 31, 2023. During the year ended December 31, 2023, the Company granted warrants to certain of its lenders to purchase up to 217, 771 shares of the Company' s common stock. The warrants have exercise prices of $ 9. 00 and $ 10. 50 per share. The Company calculated the aggregate fair value of the warrants on the date of grant to be $ 3, 152 using a Black- Scholes pricing model. As all of the debt converted during the year ended December 31, 2023, the value of the warrants was recorded as a financing cost during the same period. During the year ended December 31, 2023, 217, 771 warrant shares were exercised for proceeds of $ 2, 175. During the year ended December 31, 2023, a warrant holder completed a cashless exercise of their warrants to purchase 146, 641 shares of common stock at an exercise price of $ 10. 50 per share. Pursuant to this exercise, the warrant holder received 70, 265 shares of the Company' s common stock. ~~F- 27~~ During the year ended December 31, 2023, a warrant holder completed a cashless exercise of a warrant to purchase 16, 666 shares of common stock at an exercise price of $ 9. 00 per share. Pursuant to this exercise, the warrant holder received 11, 666 shares of the Company' s common stock. Warrant holders also exercised 88, 751 warrant shares for proceeds of $ 814. During the year ended December 31, 2023, a total of 126, 767 shares were forfeited by the warrant holders in connection with their cashless exercises. **F- 23 Employee Stock Purchase Plan** The ~~aggregate intrinsic~~ **Company' s 2022 Employee Stock Purchase Plan (" ESPP ") permits eligible employees to purchase Company shares on an after- tax basis in an amount between 1 % and 15 % of their earnings: (i) on May 16th of each year at a 15 % discount of the fair market** value **of the Company' s common stock on November 17 of the previous year or May 16th, whichever is lower, and (ii) on November 15th of each year at a 15 % discount of the fair market value of the Company' s common stock on May 17th or November 15th, whichever is lower. Subsequent offerings will automatically begin on the day that immediately follows the conclusion of the preceding offering. An employee may not purchase more than 7, 500 shares per offering or 15, 000 shares per calendar year or more than $ 25, 000 annually. A maximum of 700, 000 shares of the Company' s shares of common stock may be sold pursuant to purchase rights under the ESPP. The ESPP includes an " evergreen " feature, which provides that an additional number of shares of common stock will automatically be added to the shares authorized** for ~~warrant~~ **issuance under the ESPP on January 1st of each year, beginning on January 1, 2024 and ending on (and including) January 1, 2032. The number of** shares **added each calendar year will equal the lesser of 1 % of the Company' s common stock** outstanding ~~at~~ **on December 31st of the preceding calendar year or 2, 100, 000 or a lesser number as determined by the Board. The evergreen provision added 267, 890 shares of common stock to the ESPP in 2024. During the year ended** December 31, ~~2022~~ **2024 , employees purchased 53, 818 shares of common stock for an aggregate purchase price of $ 125 under the ESPP. As of December 31, 2024, 914, 072 shares remain authorized and available for issuance under the ESPP. As of December 31, 2024, the Company held $ 11 on behalf of employees for future purchases under the ESPP, and this amount** was ~~$ 3, 141~~ **recorded in accrued payroll and payroll taxes in the Company' s balance sheet** . NOTE ~~14~~ **12** - INCOME TAXES Significant components of the provision for income taxes for the years ended December 31, **2024 and** 2023 ~~and 2022~~ are as follows: **SCHEDULE OF** PROVISION FOR INCOME TAXES December 31, ~~2023~~ **2024** December 31, ~~2022~~ **2023** Current Federal $ (**4, 442) $ (** 6, 014) ~~$ 258~~ State (**1, 873) (** 2, 547) ~~93 Foreign — 1, 100~~ Total (**6, 315) (** 8, 561) ~~1, 451~~ Deferred Federal 4, **048 4,** 876 ~~3, 448~~ State 2, **025 2,** 227 ~~538~~ Total **6, 073** 7, 103 ~~3, 986~~ Total income tax expense before change in valuation allowance (**242) (** 1, 458) ~~5, 437~~ Change in valuation allowance **242** 1, 458 ~~(4, 337)~~ Total income tax expense $ — $ ~~1, 100 — F- 24~~ The reconciliation of income tax attributable to income before provision for income taxes at the U. S. federal statutory tax rate to income tax expense for the years ended December 31, **2024 and** 2023 ~~and 2022~~ is as follows: **SCHEDULE OF** INCOME TAX RECONCILIATION BASED ON FEDERAL STATUTORY RATE December 31, ~~2023~~ **2024** December 31, ~~2022~~ **2023** Statutory federal income tax rate of 21 % applied to loss before income taxes $ (~~5~~ **6** , ~~942~~ **272**) $ (~~1~~ **5** , ~~093~~ **942**) State income tax rate of 7 %, net of federal benefit (2, **120) (2,** 017) ~~(364) Foreign income taxes — 1, 100 Convertible note interest — 12~~ Other temporary differences **1, 829** (83) ~~1, 339~~ Change in valuation allowance **6, 563** 8, 042 ~~106~~ Total income tax expense $ — $ ~~— 1, 100 F- 28~~ Significant components of the Company' s deferred tax assets and liabilities as of December 31, **2024 and** 2023 ~~and 2022~~ were as follows: SCHEDULE OF DEFERRED TAX ASSETS AND LIABILITIES December 31, ~~2023~~ **2024** December 31, ~~2022~~ **2023** Deferred tax assets Stock- based compensation $ **11, 200 $** 10, 900 ~~$ 9, 181~~ Accruals 1, **982 1,** 690 ~~4, 388~~ Fixed assets ~~67~~ **77** 67 Net operating losses **49, 304** 45, 593 ~~34~~ **Capitalized research and development expenses 4** , ~~921~~ **282 2, 964** Tax credits 4, 549 4, 549 Total deferred tax assets ~~62~~ **71** , ~~799 53~~ **394 65** , ~~106~~ **763** Deferred tax liabilities State taxes (~~3~~ **4** , ~~686~~ **236**) (~~2~~ **3** , ~~623~~ **686**) Prepaid expenses (**155) (** 234) ~~(446) Fixed assets — 75~~ Total deferred tax liabilities (~~3~~ **4** , ~~920~~ **391**) (~~2~~ **3** , ~~994~~ **920**) Net deferred tax assets before valuation allowance ~~58~~ **67** , ~~879 50~~ **003 61** , ~~112~~ **843** Valuation allowance (~~58~~ **67** , ~~879~~ **003**) (~~50~~ **61** , ~~112~~ **843**) Net deferred tax assets $ — $ — Deferred income tax assets and liabilities are recorded for differences between the financial statement and tax basis of the assets and liabilities that will result in taxable or deductible amounts in the future based on enacted laws and rates applicable to the periods in which the differences are expected to affect taxable income. Valuation allowances are established when necessary to reduce deferred tax assets to the amount expected to be realized. The Company has evaluated the available evidence supporting the realization of its gross deferred tax assets, including the amount and timing of future taxable income, and has determined it is more likely than not that the assets will not be realized. Due to uncertainties surrounding the realizability of the deferred tax assets, the Company has recorded a full valuation allowance against its deferred tax assets at December 31, **2024 and** 2023 ~~and 2022~~ . At December 31, **2024 and** 2023 ~~and 2022~~ , the Company had federal income tax net operating loss carryforwards of approximately $ ~~160~~ **165** , 000 and $ ~~132~~ **148** , 000, respectively. At December 31, **2024 and** 2023 ~~and 2022~~ , the Company had California income tax net operating loss carryforwards of approximately $ ~~134~~ **160** , 000 and $ ~~106~~ **140** , 000, respectively. Of the total federal net operating loss,

approximately $ ~~22~~ **70** , ~~330~~ **000** has an indefinite carryforward period as of December 31, ~~2023~~ **2024** . The remaining federal and California net operating loss carryforwards will expire through December 31, ~~2040~~ **2044** , unless previously utilized. At December 31, ~~2023~~ **2024** , the Company also has federal and California research and development tax credits of **approximately** $ ~~2~~ **4** , ~~579~~ **000** and $ ~~1~~ **3** , ~~970~~ **100** , respectively. The federal credits will expire through ~~2040~~ **2044** unless previously utilized. The California credits carryforward indefinitely. The utilization of net operating loss and tax credit carryforwards may be subject to limitation under the provisions of the Internal Revenue Code Section 382 and similar state provisions. **F- 25** The Company has adopted the provisions in ASC 740 relating to the accounting for uncertain tax positions. This provision requires that the Company recognize the impact of a tax position in its financial statements if the position is more likely than not to be sustained upon examination and on the technical merits of the position. The Company' s also has a policy to recognize interest and / or penalties on the income tax expense related to uncertain tax positions. The Company had no material uncertain tax positions as of December 31, **2024 and** 2023 ~~and 2022~~ , respectively, and consequently, no interest or penalties have been accrued by the Company. The Company is subject to taxation in the United States and state jurisdictions. The Company' s tax years for 2010 and forward are subject to examination by the United States and California tax authorities due to the carry forward of unutilized net operating losses. ~~F- 29~~ NOTE ~~15~~ **13** - LEGAL MATTERS **To** ~~As of December 31, 2023, we were the defendant in one pending litigation. On November 6, 2023, the Los Angeles County Superior Court granted~~ the Company' s **knowledge** ~~motion for summary judgment and issued an order and final judgment dismissing all claims against the Company with prejudice. Although the plaintiff filed a notice of appeal of the dismissal order with the California Court of Appeal~~ , **it** ~~the plaintiff subsequently filed a request for dismissal of his appeal, which was dismissed by the appellate court on February 23, 2024. Accordingly, the order and final judgment dismissing all claims against the Company with prejudice~~ is ~~now final~~ **not currently the subject of any material legal proceeding** . In the future, the Company may be involved in ~~additional~~ actual and / or threatened legal proceedings, claims, investigations and government inquiries arising in the ordinary course of our business, including legal proceedings, claims, investigations and government inquiries involving intellectual property, data privacy and security, other torts, illegal or objectionable content, consumer protection, securities, employment, contractual rights, civil rights infringement, false or misleading advertising, or other legal claims relating to our business. NOTE **14 – SEGMENT INFORMATION The Company operates and manages its business as one reportable and operating as a clinical stage biopharmaceutical company. The Company' s current focus is on developing oncolytic immunotherapies for the treatment of cancer. The Company' s Chief Operating Decision Maker (" CODM ") reviews financial information presented and decides how to allocate resources based on net income (loss). Net income (loss) is used for evaluating financial performance. Significant segment expenses include research and development, salaries, insurance, and stock- based compensation. Operating expenses include all remaining costs necessary to operate our business, which primarily include external professional services and other administrative expenses. The following table presents the significant segment expenses and other segment items regularly reviewed by our CODM: SCHEDULE OF SEGMENT INFORMATION Year ended December 31, 2024 2023 Revenue $ 8 $ 170 Less: Research and development, excluding salaries 12, 295 8, 353 Salaries 6, 017 5, 040 Insurance 966 1, 078 Stock- based compensation 8, 114 6, 144 Operating expenses 4, 012 3, 720 Other income (expenses) 1, 827 (4, 132) NET LOSS $ (29, 869) $ (28, 297) F- 26 NOTE 15 – REIMBURSEABLE COSTS In October 2024, the Company announced that the first patient had been dosed in a Phase 2, open- label, randomized, and controlled clinical trial designed to evaluate the efficacy and safety of intravenously delivered Olvi- Vec oncolytic VACV for patients with recurrent non- small cell lung cancer (" NSCLC ") in the United States. In accordance with our license agreement with our partner in China, Newsoara, Newsoara is generally obligated to fund the Phase 2 clinical trial in its entirety. In November 2023, we agreed with Newsoara that the Company would directly engage a contract research organization on mutually agreeable terms to conduct certain startup activities for the NSCLC trial in the U. S. only, with Newsoara reimbursing the Company for the costs and expenses of such agreed- upon startup activities. Newsoara is permitted to defer such reimbursement payments until the completion of its next round of financing, which Newsoara expects to occur in 2025. During the three months ended September 30, 2024, the Company entered into a Clinical Trial Services Agreement with Hong Kong Tigermed Consulting Co., Ltd., to provide regulatory and development support services for the NSCLC trial in the U. S. During the years ended December 31, 2024 and 2023, the Company incurred $ 2, 068 of costs relating to the Phase 2 clinical trial and they are included in Research and development expenses during the year ended December 31, 2024. All of these costs are to be reimbursed by Newsoara upon their successful financing, which the Company believes will occur by the end of 2025. Once reimbursement is received from Newsoara, the Company will reduce R & D expenses during the period they are received. NOTE** 16- SUBSEQUENT EVENTS **On March 26** ~~Subsequent to December 31~~ , ~~2023~~ **2025** , ~~several warrant holders exercised their~~ -- **the** ~~warrants to purchase 76~~ **Company completed an underwritten offering of 3** , ~~487~~ **000, 000** shares of **its** common stock at an **offering price of $ 3. 50 per share. The gross proceeds received from the offering were $ 10. 5 million, before deducting underwriting discounts and commissions and estimated offering expenses payable by the Company. F- 27 Exhibit 4. 16 DESCRIPTION OF CAPITAL STOCK The following summary description of the capital stock of Genelux Corporation (" we, " " our " or " us ") is based on the provisions of our amended and restated certificate of incorporation, as well as our amended and restated bylaws, and the applicable provisions of the General Corporation Law of the State of Delaware (the " DGCL "). This information is qualified entirely by reference to the applicable provisions of our amended and restated certificate of incorporation, our amended and restated bylaws and the DGCL. Our amended and restated certificate of incorporation and amended and restated bylaws have previously been filed as exhibits to our Current Report on Form 8- K filed on January 30, 2023 with the U. S. Securities and Exchange Commission. Our amended and restated certificate of incorporation authorizes us to issue 200, 000, 000 shares of common stock, par value $ 0. 001 per share. Voting Rights Our common stock, par value $ 0. 001 per share, is entitled to one vote per share on any matter that**

is submitted to a vote of our stockholders. Our amended and restated certificate of incorporation does not provide for cumulative voting for the election of directors. Our amended and restated certificate of incorporation establishes a classified board of directors that is divided into three classes with staggered three- year terms. Only the directors in one class will be subject to election by a plurality of the votes cast at each annual meeting of our stockholders, with the directors in the other classes continuing for the remainder of their respective three- year terms. Economic Rights Except as otherwise expressly provided in our amended and restated certificate of incorporation or required by applicable law, all shares of common stock have the same rights and privileges and rank equally, share ratably and are identical in all respects for all matters, including those described below. Dividends. Subject to preferences that may apply to any shares of preferred stock outstanding at the time, the holders of our common stock are entitled to receive dividends out of funds legally available if our board of directors, in its discretion, determines to issue dividends and then only at the times and in the amounts that our board of directors may determine. Liquidation Rights. On our liquidation, dissolution or winding- up, the holders of our common stock will be entitled to share equally, identically and ratably in all assets remaining after the payment of any liabilities, liquidation preferences and accrued or declared but unpaid dividends, if any, with respect to any outstanding preferred stock, unless a different treatment is approved by the affirmative vote of the holders of a majority of the outstanding shares of such affected class, voting separately as a class. No Preemptive or Similar Rights The holders of shares of our common stock are not entitled to preemptive rights and are not subject to conversion, redemption or sinking fund provisions. Under our amended and restated certificate of incorporation, our board of directors has the authority, without further action by the stockholders, to issue up to 10, 000, 000 shares of preferred stock, par value $ 0. 001 per share, in one or more series, to establish from time to time the number of shares to be included in each such series, to fix the rights, preferences and privileges of the shares of each wholly unissued series and any qualifications, limitations or restrictions thereon and to increase or decrease the number of shares of any such series, but not below the number of shares of such series then outstanding. Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of the common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in our control that may otherwise benefit holders of our common stock and may adversely affect the market price of the common stock and the voting and other rights of the holders of common stock. Anti- Takeover Provisions The provisions of Delaware law, our amended and restated certificate of incorporation and amended and restated bylaws, which are summarized below, may have the effect of delaying, deferring or discouraging another person from acquiring control of our company. They are also designed, in part, to encourage persons seeking to acquire control of us to negotiate first with our board of directors. We believe that the benefits of increased protection of our potential ability to negotiate with an unfriendly or unsolicited acquirer outweigh the disadvantages of discouraging a proposal to acquire us because negotiation of these proposals could result in an improvement of their terms. Certificate of Incorporation and Bylaws Because our stockholders do not have cumulative voting rights, stockholders holding a majority of the voting power of our shares of common stock will be able to elect all of our directors. Our amended and restated certificate of incorporation and amended and restated bylaws provide that stockholders may only take action at a duly called meeting of stockholders. A special meeting of stockholders may be called by a majority of our board of directors, the chair of our board of directors, or our chief executive officer or president. Our amended and restated bylaws establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of our stockholders, including proposed nominations of persons for election to our board of directors. In accordance with our amended and restated certificate of incorporation, our board of directors is divided into three classes with staggered three- year terms. The foregoing provisions make it more difficult for another party to obtain control of us by replacing our board of directors. Since our board of directors has the power to retain and discharge our officers, these provisions could also make it more difficult for existing stockholders or another party to effect a change in management. In addition, the authorization of undesignated preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change our control. These provisions are designed to reduce our vulnerability to an unsolicited acquisition proposal and to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and may have the effect of deterring hostile takeovers or delaying changes in our control or management. As a consequence, these provisions may also inhibit fluctuations in the market price of our stock that could result from actual or rumored takeover attempts. Section 203 of the General Corporation Law of the State of Delaware We are subject to Section 203 of the DGCL, which prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years after the date that such stockholder became an interested stockholder, subject to certain exceptions. Choice of Forum Our amended and restated certificate of incorporation and amended and restated bylaws provide that the Court of Chancery of the State of Delaware will be the sole and exclusive forum for the following types of actions or proceedings under Delaware statutory or common law: (i) any derivative action or proceeding brought on our behalf; (ii) any action or proceeding asserting a claim of breach of a fiduciary duty owed by any of our current or former directors, officers, or other employees to us or our stockholders; (iii) any action or proceeding asserting a claim against us or any of our current or former directors, officers, or other employees, arising out of or pursuant to any provision of the DGCL, our amended and restated certificate of incorporation or our amended and restated bylaws; (iv) any action or proceeding to interpret, apply, enforce, or determine the validity of our amended and restated certificate of incorporation or our amended and restated bylaws; (v) any action or proceeding as to which the DGCL confers jurisdiction to the Court of

Chancery of the State of Delaware; and (vi) any action asserting a claim against us or any of our directors, officers, or other employees governed by the internal affairs doctrine, in all cases to the fullest extent permitted by law and subject to the court' s having personal jurisdiction over the indispensable parties named as defendants. These provisions would not apply to suits brought to enforce a duty or liability created by the Exchange Act. Furthermore, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all such Securities Act actions. Accordingly, both state and federal courts have jurisdiction to entertain such claims. To prevent having to litigate claims in multiple jurisdictions and the threat of inconsistent or contrary rulings by different courts, among other considerations, our amended and restated certificate of incorporation and our amended and restated bylaws further provide that the federal district courts of the United States of America will be the exclusive forum for resolving any complaint asserting a cause or causes of action arising under the Securities Act, including all causes of action asserted against any defendant to such complaint. For the avoidance of doubt, this provision is intended to benefit and may be enforced by us, our officers and directors, the underwriters to any offering giving rise to such complaint, and any other professional entity whose profession gives authority to a statement made by that person or entity and who has prepared or certified any part of the documents underlying this offering. While the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive forum provisions. In such instance, we would expect to vigorously assert the validity and enforceability of the exclusive forum provisions of our amended and restated certificate of incorporation and our amended and restated bylaws. These exclusive forum provisions may limit a stockholder' s ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers, or other employees and may discourage these types of lawsuits. Furthermore, the enforceability of similar choice of forum provisions in other companies' certificates of incorporation or bylaws has been challenged in legal proceedings, and it is possible that a court could find these types of provisions to be inapplicable or unenforceable. We note that investors cannot waive compliance with the federal securities laws and the rules and regulations thereunder. Exchange Listing Our common stock is listed on The Nasdaq Capital Market under the symbol " GNLX. " Transfer Agent and Registrar The transfer agent and registrar for our common stock is Equiniti Trust Company, LLC. The transfer agent and registrar' s address is 6201 15th Avenue, Brooklyn, New York 11219. Exhibit INSIDER TRADING POLICY Effective January 25, 2023 Introduction During the course of your relationship with Genelux Corporation. (" Genelux "), you may receive material information that is not yet publicly available (" material nonpublic information ") about Genelux or other publicly traded companies that Genelux has business relationships with. Material nonpublic information may give you, or someone you pass that information on to, a leg up over others when deciding whether to buy, sell or otherwise transact in Genelux' s securities or the securities of another publicly traded company. This policy sets forth guidelines with respect to transactions in Genelux securities by our employees, directors and consultants and the other persons subject to this policy as described below. Statement of Policy It is the policy of Genelux that an employee, director or consultant of Genelux (or any other person subject to this policy) who is aware of material nonpublic information relating to Genelux may not, directly or indirectly: 1. engage in any transactions in Genelux' s securities (e. g., buying, selling or offering to buy or sell), except as otherwise specified under the heading " Exceptions to this Policy " below; 2. recommend, advise, procure or encourage the purchase or sale of any Genelux' s securities by another person; 3. disclose material nonpublic information to persons within Genelux whose jobs do not require them to have that information, or outside of Genelux to other persons, such as family, friends, business associates and investors, unless the disclosure is made in accordance with Genelux' s policies regarding the protection or authorized external disclosure of information regarding Genelux; or 4. assist anyone engaged in the above activities. The prohibition against insider trading is absolute. It applies even if the decision to trade is not based on such material nonpublic information. It also applies to transactions that may be necessary or justifiable for independent reasons (such as the need to raise money for an emergency expenditure) and also to very small transactions. All that matters is whether you are aware of any material nonpublic information relating to Genelux at the time of the transaction. The U. S. federal securities laws do not recognize any mitigating circumstances to insider trading. In addition, even the appearance of an improper transaction must be avoided to preserve Genelux' s reputation for adhering to the highest standards of conduct. In some circumstances, you may need to forgo a planned transaction even if you planned it before becoming aware of the material nonpublic information. So, even if you believe you may suffer an economic loss or sacrifice an anticipated profit by waiting to trade, you must wait. It is also important to note that the laws prohibiting insider trading are not limited to trading by the insider alone; advising others to trade on the basis of material nonpublic information is illegal and squarely prohibited by this policy. Liability in such cases can extend both to the " tippee " — the person to whom the insider disclosed material nonpublic information — and to the " tipper, " the insider himself or herself. In such cases, you can be held liable for your own transactions, as well as the transactions by a tippee and even the transactions of a tippee' s tippee. For these and other reasons, it is the policy of Genelux that no employee, director or consultant of Genelux (or any other person subject to this policy) may either (a) recommend to another person that they buy, hold or sell Genelux' s securities at any time or (b) disclose material nonpublic information to persons within Genelux whose jobs do not require them to have that information, or outside of Genelux to other persons (unless the disclosure is made in accordance with Genelux' s policies regarding the protection or authorized external disclosure of information regarding Genelux). In addition, it is the policy of Genelux that no employee, director or consultant of Genelux (or any other person subject to this policy) who, in the course of working for Genelux, learns of or is otherwise aware of material nonpublic information about another publicly traded company with which Genelux does business, including a partner or collaborator of Genelux, may trade in that company' s securities until the information becomes public or is no longer material. There are no exceptions to this policy, except as

specifically noted above or below. Transactions Subject to this Policy This policy applies to all transactions in securities issued by Genelux, as well as derivative securities that are not issued by Genelux, such as exchange- traded put or call options or swaps relating to Genelux' s securities. Accordingly, for purposes of this policy, the terms " trade, " " trading " and " transactions " include not only purchases and sales of Genelux' s common stock in the public market but also any other purchases, sales, transfers or other acquisitions and dispositions of common or preferred equity, options, warrants and other securities (including debt securities) and other arrangements or transactions that affect economic exposure to changes in the prices of these securities. Persons Subject to this Policy This policy applies to you and all other employees, directors and consultants of Genelux and its subsidiaries. This policy also applies to members of your immediate family, persons with whom you share a household, persons who are your economic dependents and any other individuals or entities whose transactions in securities you influence, direct or control (including, e. g., a venture or other investment fund, if you influence, direct or control transactions by the fund). The foregoing persons who are deemed subject to this policy are referred to in this policy as " Related Persons. " You are responsible for making sure that your Related Persons comply with this policy. Material Nonpublic Information Material information It is not always easy to figure out whether you are aware of material nonpublic information. Information is nonpublic if it has not been disclosed generally to the market or to the investing public. But there is one important factor to determine whether nonpublic information you know about a public company is material: whether the information could be expected to affect the market price of that company' s securities or to be considered important by investors who are considering trading that company' s securities. If the information makes you want to trade, it would probably have the same effect on others. Keep in mind that both positive and negative information can be material. There is no bright- line standard for assessing materiality; rather, materiality is based on an assessment of all of the facts and circumstances, and is often evaluated by relevant enforcement authorities with the benefit of hindsight. Depending on the specific details, the following items may be considered material nonpublic information until publicly disclosed within the meaning of this policy. There may be other types of information that would qualify as material information as well; use this list merely as a non- exhaustive guide: ● Clinical developments; ● Financial results or forecasts; ● Regulatory developments, including developments with the U. S. Food and Drug Administration and similar foreign agencies; ● New products or product candidates; ● Establishment of, or developments in, strategic partnerships, joint ventures or similar collaborations; ● Communications with government agencies; ● Strategic plans; ● Potential mergers, acquisitions, tender offers or the sale of assets of the Company or a subsidiary thereof; ● Potential acquisitions of additional product candidates or technology; ● Significant write- offs; ● Notice of issuance of patents, the acquisition of other material intellectual property rights or other significant intellectual property developments; ● Significant changes or developments in the biopharmaceutical industry or technological innovations; ● New major customers, licensors, contracts, orders, vendors, or finance sources, or the loss thereof; ● Significant changes or developments in supplies; ● Significant pricing changes; ● Events regarding the Company' s securities (e. g., defaults on senior securities, calls of securities for redemption, repurchase plans, stock splits, public or private equity / debt offerings, or changes in Company dividend policies or amounts); ● Significant changes in control or senior management; ● Significant changes in compensation policy; ● Bankruptcies or receiverships; ● Actual or threatened major litigation, or a major development in or the resolution of such litigation; and ● Change in auditors or a notification that the Company can no longer rely on an auditor' s report. When information is considered public The prohibition on trading when you have material nonpublic information lifts once that information becomes publicly disseminated. But for information to be considered publicly disseminated, it must be widely disseminated through a press release, a filing with the Securities and Exchange Commission (the " SEC "), or other widely disseminated announcement. Once information is publicly disseminated, it is still necessary to afford the investing public with sufficient time to absorb the information. Generally speaking, information will be considered publicly disseminated for purposes of this policy only after one full trading day has elapsed since the information was publicly disclosed. For example, if we announce material nonpublic information before trading begins on Wednesday, then you may execute a transaction in our securities on Thursday; if we announce material nonpublic information after trading ends on Wednesday, then you may execute a transaction in our securities on Friday. Depending on the particular circumstances, Genelux may determine that a longer or shorter waiting period should apply to the release of specific material nonpublic information. Quarterly Trading Blackouts Because the directors, officers and certain members of management and consultants of Genelux who have been notified of their designation, who we refer to as our " Covered Insiders ", are most likely to have regular access to material nonpublic information about Genelux, we require them to do more than refrain from insider trading. To minimize even the appearance of insider trading among our Covered Insiders, we have established " quarterly trading blackout periods " during which our Covered Insiders and their Related Persons — regardless of whether they are aware of material nonpublic information or not — may not conduct any trades in Genelux securities. That means that, except as described in this policy, Covered Insiders and their Related Persons will be able to trade in Genelux securities only during limited open trading window periods that generally will begin after one full trading day has elapsed since the public dissemination of Genelux' s annual or quarterly financial results and end at the beginning of the next quarterly trading blackout period. Of course, even during an open trading window period, you may not (unless an exception applies) conduct any trades in Genelux securities if you are otherwise in possession of material nonpublic information. For purposes of this policy, each " quarterly trading blackout period " will generally begin at the conclusion of each fiscal quarter and end after one full trading day has elapsed since the public dissemination of Genelux' s financial results for that quarter. Please note that the quarterly trading blackout period may commerce early or may be extended if, in the judgment of the Chief Executive Officer, there exists undisclosed information that would make trades by Covered Insiders inappropriate. It is important to note that the fact

that the quarterly trading blackout period has commenced early or has been extended should be considered material nonpublic information that should not be communicated to any other person. A Covered Insider who believes that special circumstances require him or her to trade during a quarterly trading blackout period should consult the Chief Executive Officer. Permission to trade during a quarterly trading blackout period will be granted only where the circumstances are extenuating, the Chief Executive Officer concludes that the person is not in fact aware of any material nonpublic information relating to Genelux or its securities, and there appears to be no significant risk that the trade may subsequently be questioned. Event- Specific Trading Blackouts From time to time, an event may occur that is material to Genelux and is known by only a few directors, officers and / or employees. So long as the event remains material and nonpublic, the persons designated by the Chief Executive Officer may not trade in Genelux' s securities. In that situation, Genelux will notify the designated individuals that neither they nor their Related Persons may trade in the Genelux' s securities. The existence of an event- specific trading blackout should also be considered material nonpublic information and should not be communicated to any other person. Even if you have not been designated as a person who should not trade due to an event- specific trading blackout, you should not trade while aware of material nonpublic information. Exceptions will not be granted during an event- specific trading blackout. The quarterly and event- driven trading blackouts do not apply to those transactions to which this policy does not apply, as described under the heading " Exceptions to this Policy " below. Exceptions to this Policy This policy does not apply in the case of the following transactions, except as specifically noted: 1. Option Exercises. This policy does not apply to the exercise of options granted under Genelux' s equity compensation plans for cash or, where permitted under the option, by a net exercise transaction with the Company. This policy does, however, apply to any sale of stock as part of a broker- assisted cashless exercise or any other market sale, whether or not for the purpose of generating the cash needed to pay the exercise price ~~of $ 9~~ **or pay taxes** . ~~00 per~~ **2. Tax Withholding Transactions. This policy does not apply to the surrender of** ~~share~~ **shares directly** ~~. Total proceeds relating~~ to **Genelux to satisfy tax withholding obligations as a result of** the **issuance of shares upon vesting or** ~~exercises~~ - **exercise of restricted stock units** ~~was $ 688. Subsequent to December 31~~ , ~~2023,~~ **options or** ~~the~~ **other** ~~Company extended~~ **equity awards granted under Genelux' s equity compensation plans. Of course, any market sale of** the ~~warrant expiration date on the warrants~~ **stock received upon exercise or vesting of any such equity awards remains subject to all provisions of this policy whether or not** for **the purpose of generating the cash needed** ~~two~~ - **to pay** ~~warrant holders. Their warrants were set to expire on December 31, 2023, but were extended to March 31, 2024. The total number of shares subject to~~ the ~~extended warrants was 3, 809, each with an~~ exercise price ~~of $ 10~~ **or pay taxes** . ~~50~~ **3** . ~~F~~ **ESPP. This policy does not apply to the purchase of stock by employees under Genelux' s 2021 Employee Stock Purchase Plan (" ESPP ") on periodic designated dates in accordance with the ESPP. This policy does, however, apply to any sale of stock acquired pursuant to the ESPP. 4. 10b5** - ~~30~~ **1 Automatic Trading Programs. Under Rule 10b5- 1 of the Securities Exchange Act of 1934, as amended (the " Exchange Act "), employees, directors and consultants may establish a trading plan under which a broker is instructed to buy and sell Genelux securities based on pre- determined criteria (a " Trading Plan "). So long as a Trading Plan is properly established, purchases and sales of Genelux securities pursuant to that Trading Plan are not subject to this policy. To be properly established, an employee' s, director' s or consultant' s Trading Plan must be established in compliance with the requirements of Rule 10b5- 1 of the Exchange Act and any applicable 10b5- 1 trading plan guidelines of Genelux at a time when they were unaware of any material nonpublic information relating Genelux and when Genelux was not otherwise in a trading blackout period. Moreover, all Trading Plans must be reviewed and approved by Genelux before being established to confirm that the Trading Plan complies with all pertinent company policies and applicable securities laws. 5. Gifts. This policy does not apply to bona fide gifts of Genelux securities that have been pre- cleared by Genelux' s Chief Executive Officer or his or her designee. Whether a gift is truly bona fide will depend on the facts and circumstances surrounding each gift. Pre- clearance must be obtained in advance of the proposed gift, and pre- cleared gifts not completed within five business days will require new pre- clearance. Genelux may choose to shorten this period. Special and Prohibited Transactions 1. Inherently Speculative Transactions. No Genelux employee, director or consultant may engage in short sales, transactions in put options, call options or other derivative securities on an exchange or in any other organized market, or in any other inherently speculative transactions with respect to Genelux' s stock. 2. Hedging Transactions. Hedging or monetization transactions can be accomplished through a number of possible mechanisms, including through the use of financial instruments such as prepaid variable forwards, equity swaps, collars and exchange funds. Such hedging transactions may permit a Genelux employee, director or consultant to continue to own Genelux' s securities obtained through employee benefit plans or otherwise, but without the full risks and rewards of ownership. When that occurs, the Genelux employee, director or consultant may no longer have the same objectives as Genelux' s other shareholders. Therefore, Genelux employees, directors and consultants are prohibited from engaging in any such transactions. 3. Margin Accounts and Pledged Securities. Securities held in a margin account as collateral for a margin loan may be sold by the broker without the customer' s consent if the customer fails to meet a margin call. Similarly, securities pledged (or hypothecated) as collateral for a loan may be sold in foreclosure if the borrower defaults on the loan. Because a margin sale or foreclosure sale may occur at a time when the pledgor is aware of material nonpublic information or otherwise is not permitted to trade in Genelux' s securities, Genelux employees, directors and consultants are prohibited from holding Company Securities in a margin account or otherwise pledging Genelux' s securities as collateral for a loan. 4. Standing and Limit Orders. Standing and limit orders (except standing and limit orders under approved Trading Plans, as discussed above) create heightened risks for insider trading violations similar to the use of margin accounts. There is no control over the timing of purchases or sales that result from standing instructions to a broker, and as a result the broker could execute a transaction when a Genelux employee, director or consultant is in possession of material nonpublic information. Genelux**

therefore discourages placing standing or limit orders on Genelux' s securities. If a person subject to this policy determines that they must use a standing order or limit order (other than under an approved Trading Plan as discussed above), the order should be limited to short duration and the person using such standing order or limit order is required to cancel such instructions immediately in the event restrictions are imposed on their ability to trade pursuant to the " Quarterly Trading Blackouts " and " Event- Specific Trading Blackouts " provisions above. Pre- Clearance and Advance Notice of Transactions In addition to the requirements above, Covered Insiders who have been notified that they are subject to pre- clearance requirements face a further restriction: Even during an open trading window, they may not engage in any transaction in Genelux' s securities without first obtaining pre- clearance of the transaction from Genelux' s Chief Executive Officer or his or her designee in advance of the proposed transaction. The Chief Executive Officer or his or her designee will then determine whether the transaction may proceed and, if so, will direct the Compliance Coordinator (as identified in Genelux' s Section 16 Compliance Program) to help comply with any required reporting requirements under Section 16 (a) of the Exchange Act. Pre- cleared transactions not completed within five business days will require new pre- clearance. Genelux may choose to shorten this period. Persons subject to pre-clearance must also give advance notice of their plans to exercise an outstanding stock option to the Chief Executive Officer. Once any transaction takes place, the officer, director or applicable member of management must immediately notify the Compliance Coordinator and any other individuals identified under the heading " Notification of Execution of Transaction " in Genelux' s Section 16 Compliance Program so that Genelux may assist in any Section 16 reporting obligations. If a Covered Insiders seeks pre- clearance and the request is denied by Genelux' s Chief Executive Officer, then he or she should refrain from engaging in any transaction in the Genelux' s securities, and should not inform any other person of the restriction. Moreover, pre- clearance does not, in any circumstance, relieve anyone of his or her legal obligation to refrain from trading while in possession of material nonpublic information. In other words, even if pre-clearance is received, if the requesting person becomes aware of material nonpublic information or becomes subject to a blackout period or event- specific trading restriction (as discussed below), the transaction may not be completed. Pre-clearance of a transaction is valid only for the two (2) Trading Day period immediately following receipt by the Covered Insiders of such pre- clearance. The Covered Insiders who have a reporting obligation under Section 16 of the Exchange Act shall also notify Genelux' s Chief Executive Officer of the occurrence of any purchase, sale or other acquisition or disposition of Genelux securities as soon as possible following the transaction, but in any event within one Trading Day after the transaction. Such notification must be in writing (including by e- mail) and should include the identity of the Covered Insiders, the type of transaction, the date of the transaction, the number of shares involved and the purchase or sale price. For both the " Pre- Clearance Procedures " section above and this " Post- Transaction Notice " section, a purchase, sale or other acquisition or disposition shall be deemed to occur at the time the person or entity becomes irrevocably committed to it (for example, in the case of an open market purchase or sale, this occurs when the trade is executed, not when it settles). Short- Swing Trading, Control Stock and Section 16 Reports Officers and directors subject to the reporting obligations under Section 16 of the Exchange Act should take care to avoid short- swing transactions (within the meaning of Section 16 (b) of the Exchange Act) and the restrictions on sales by control persons (Rule 144 under the Securities Act of 1933, as amended), and should file all appropriate Section 16 (a) reports (Forms 3, 4 and 5), which are described in Genelux' s Section 16 Compliance Program, and any notices of sale required by Rule 144. Policy' s Duration This policy continues to apply to your transactions in Genelux' s securities or the securities of other public companies engaged in business transactions with Genelux even after your relationship with Genelux has ended. If you are aware of material nonpublic information when your relationship with Genelux ends, you may not trade Genelux' s securities or the securities of other applicable companies until the material nonpublic information has been publicly disseminated or is no longer material. Further, if you leave Genelux during a trading blackout period, then you may not trade Genleux' s securities or the securities of other applicable companies until the trading blackout period has ended. Dealing in Securities of Other Companies If you have material nonpublic information, about a company other than Genelux, the same insider trading rules outlined above apply to buying and selling securities of that company. Engaging in insider trading on those securities will be considered a violation of this policy. Individual Responsibility Persons subject to this policy have ethical and legal obligations to maintain the confidentiality of information about Genelux and to not engage in transactions in Genelux' s securities while aware of material nonpublic information. Each individual is responsible for making sure that he or she complies with this policy, and that any family member, household member or other person or entity whose transactions are subject to this policy, as discussed under the heading " Persons Subject to this Policy " above, also comply with this policy. In all cases, the responsibility for determining whether an individual is aware of material nonpublic information rests with that individual, and any action on the part of Genelux or any employee or director of Genelux pursuant to this policy (or otherwise) does not in any way constitute legal advice or insulate an individual from liability under applicable securities laws. You could be subject to severe legal penalties and disciplinary action by Genelux for any conduct prohibited by this policy or applicable securities laws. See " Penalties " below. Anyone who engages in insider trading or otherwise violates this policy may be subject to both civil liability and criminal penalties, including being sentenced to a substantial jail term and required to pay a criminal penalty of several times the amount of profits gained or losses avoided. In addition, violators also risk disciplinary action by Genelux, up to and including termination of employment. Anyone who has questions about this policy should contact their own attorney or Genelux' s Compliance Officer. Amendments Genelux is committed to continuously reviewing and updating its policies and procedures. Genelux therefore reserves the right to amend, alter or terminate this policy at any time and for any reason. A current copy of the Genelux' s policies regarding insider trading may be obtained by contacting Genelux' s Compliance Officer. Exhibit 23. 1 CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM We

consent to the incorporation by reference in the Registration Statements on Form S- 8 (File Nos. 333- **278372, 333-** 269427 and 333- 275555) and Form S- 3 (File No. 333- 276847) of Genelux Corporation of our report dated March ~~29~~ **28** , ~~2024~~ **2025** , (which report contains an explanatory paragraph relating to substantial doubt about Genelux Corporation' s ability to continue as a going concern) relating to the financial statements of Genelux Corporations as of December 31, **2024 and** 2023 ~~and 2022~~ and for the years then ended which appears in this Form 10- K. / s / Weinberg & Company, P. A. ~~Los Angeles, California~~ March ~~29~~ **28** , ~~2024~~ **2025** Exhibit 31. 1 CERTIFICATION PURSUANT TO RULES 13a- 14 (a) AND 15d- 14 (a) UNDER THE SECURITIES EXCHANGE ACT OF 1934, AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES- OXLEY ACT OF 2002 I, Thomas Zindrick, certify that: 1. I have reviewed this Annual Report on Form 10- K of Genelux Corporation; 2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report; 3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report; 4. The registrant' s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a- 15 (e) and 15d- 15 (e) – and internal control over financial reporting (as defined in Exchange Act Rules 13a- 15 (f) and 15d- 15 (f)) **for the registrant and have** : (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared; (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles; (c) Evaluated the effectiveness of the registrant' s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and (d) Disclosed in this report any change in the registrant' s internal control over financial reporting that occurred during the registrant' s most recent fiscal quarter (the registrant' s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant' s internal control over financial reporting; and 5. The registrant' s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant' s auditors and the audit committee of the registrant' s board of directors (or persons performing the equivalent functions): (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant' s ability to record, process, summarize and report financial information; and (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant' s internal control over financial reporting. ~~Date: March 29, 2024~~ By: / s / Thomas Zindrick Thomas Zindrick, J. D. President, Chief Executive Officer and Chairman (Principal Executive Officer) Exhibit 31. 2 I, ~~Lourie Zak~~ **Matthew Pulisic** , certify that: By: / s / ~~Lourie Zak Lourie Zak~~ **Matthew Pulisic Matthew Pulisic** Chief Financial Officer (Principal Financial and Accounting Officer) Exhibit 32. 1 CERTIFICATION PURSUANT TO 18 U. S. C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES- OXLEY ACT OF 2002 Pursuant to the requirement set forth in Rule 13a- 14 (b) of the Securities Exchange Act of 1934, as amended, (the " Exchange Act ") and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U. S. C. § 1350), Thomas Zindrick, J. D., President and Chief Executive Officer of Genelux Corporation (the " Company "), and ~~Lourie Zak~~ **Matthew Pulisic** , Chief Financial Officer of the Company, each hereby certifies that, to the best of his ~~or her~~ knowledge: (1) The Company' s Annual Report on Form 10- K for the fiscal year period ended December 31, ~~2023~~ **2024** , to which this Certification is attached as Exhibit 32. 1 (the " Annual Report "), fully complies with the requirements of Section 13 (a) or Section 15 (d) of the Exchange Act; and (2) the information contained in the Annual Report fairly presents, in all material respects, the financial condition and results of operations of the Company. Dated: March ~~29~~ **28** , ~~2024~~ **2025** In Witness Whereof, the undersigned have set their hands hereto as of the ~~29th~~ **28th** day of March, ~~2024~~ **2025** . / s / Thomas Zindrick, J. D. / s / ~~Lourie Zak~~ **Matthew Pulisic** Thomas Zindrick, J. D. ~~Lourie Zak~~ **Matthew Pulisic** President, Chief Executive Officer and Chairman Chief Financial Officer (Principal Executive Officer) (Principal Financial and Accounting Officer) This certification accompanies the Form 10- K to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Genelux Corporation under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10- K), irrespective of any general incorporation language contained in such filing. ~~Exhibit 97~~