UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

☒ **Annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.**

For the Fiscal Year Ended December 31, 2024
or
☐ **Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.**

For the transition period from _____ to _____

Commission File No. 001-34079

Opus Genetics, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**11-3516358**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
8 Davis Drive, Suite 220 **Durham, NC** (Address of principal executive offices)	**27709** (Zip Code)

Registrant's telephone number, including area code: (984) 884-6030

N/A
(Former name or former address, if changed since last report)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, $0.0001 par value per share	**IRD**	**The Nasdaq Stock Market LLC**

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days: Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

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

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

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. Yes ☐

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to § 240.10D-1(b). ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☒

The aggregate market value of the common equity held by non-affiliates of the registrant on June 28, 2024, the last business day of the registrant's most recently completed second fiscal quarter, based on the closing price on that date of $1.53, was approximately $38.7 million. As of March 27, 2025, there were 45,483,823 shares of the registrant's common stock outstanding.

Documents Incorporated by Reference

Portions of the registrant's Definitive Proxy Statement to be filed with the Commission pursuant to Regulation 14A in connection with the registrant's 2025 Annual Meeting of Stockholders are incorporated by reference into Part III of this report. Such Definitive Proxy Statement will be filed with the Securities and Exchange Commission not later than 120 days after the conclusion of the registrant's fiscal year ended December 31, 2024.

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Opus Genetics, Inc.
Form 10-K

In this Annual Report on Form 10-K, unless otherwise specified, references to "we," "us," "our," "Opus" or "the Company" mean Opus Genetics, Inc. Our financial statements are prepared in accordance with accounting principles generally accepted in the United States ("U.S. GAAP").

FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements within the meaning of the safe harbor provisions of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). These forward-looking statements relate to us, our business prospects and our results of operations and are subject to certain risks and uncertainties posed by many factors and events that could cause our actual business, prospects and results of operations to differ materially from those anticipated by such forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those described under the heading "Risk Factors" included in this Annual Report on Form 10-K. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this report. In some cases, you can identify forward-looking statements by the following words: "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "ongoing," "plan," "potential," "predict," "project," "should," "will," "would" or the negative of these terms or other comparable terminology, although not all forward-looking statements contain these words. We undertake no obligation to revise any forward-looking statements in order to reflect events or circumstances that might subsequently arise. Readers are urged to carefully review and consider the various disclosures made by us in this report and in our other reports filed with the U.S. Securities and Exchange Commission (the "SEC") that advise interested parties of the risks and factors that may affect our business.

SUMMARY RISK FACTORS

Our business is subject to a number of risks, as more fully described in "Item 1A. Risk Factors" in this Annual Report. We are providing the following summary of our principal risk factors to enhance the readability and accessibility of our risk factor disclosures. We encourage you to carefully review the full risk factors discussed below the summary in their entirety for additional information.

Risks Related to the Opus Acquisition

- Failure to successfully integrate our businesses with Former Opus (as defined below) could have a material adverse effect on our business, financial condition and results of operations.
- The Opus Acquisition (as defined below) significantly expanded our product pipeline and business operations and shifted our business strategies, which may not improve the value of our common stock.

Risks Related to the Development of Our Gene Therapy Products and Other Product Candidates

- Our gene therapy product candidates are based on a novel technology that is difficult to develop and manufacture, which may result in delays and difficulties in obtaining regulatory approval.
- Our planned clinical trials may face substantial delays, result in failure, or provide inconclusive or adverse results that may not satisfy FDA requirements to further develop our therapeutic products.
- Delays or difficulties associated with patient enrollment in clinical trials may affect our ability to conduct and complete those clinical trials and obtain necessary regulatory approvals.
- Changes in regulatory requirements could result in increased costs or delays in development timelines.

Risks Related to the Commercialization of RYZUMVI and Other Product Candidates

- We depend heavily on the success of our product pipeline; if we fail to find strategic partners or fail to adequately develop or commercialize our pipeline products, our business will be materially harmed.
- Others may discover, develop, or commercialize products similar to those in our pipeline before or more successfully than we do or develop generic variants of our products even while our product patents remain active, thereby reducing our market share and potential revenue from product sales.
- We do not currently have any sales or marketing infrastructure in place and we have limited drug research and discovery capabilities.
- The future commercial success of our products could significantly depend upon several uncertain factors, including third-party reimbursement practices and the existence of competitors with similar products.
- Product liability lawsuits against us or our suppliers or manufacturers could cause us to incur substantial liabilities and could limit commercialization of any product candidate that we may develop.
- Failure to comply with health and safety laws and regulations could lead to material fines.

Risks Related to Our Financial Position and Need for Additional Capital

- We have not generated significant revenue from sales of any products and expect to incur losses for the foreseeable future.
- Our future viability is difficult to assess due to our short operating history and our future need for substantial additional capital, access to which could be limited by any adverse developments that affect the financial markets.
- Raising additional capital may cause our stockholders to be diluted, among other adverse effects.

Risks Related to Government Regulation

- We operate in a highly regulated industry and face many challenges adapting to sudden changes in legislative reform or the regulatory environment, which affects our pipeline stability and could impair our ability to compete in international markets.
- We may not receive regulatory approval to market our developed product candidates within or outside of the U.S.
- With respect to any of our product candidates that receive marketing approval, we may be subject to substantial penalties if we fail to comply with applicable regulatory requirements.
- Our potential relationships with healthcare providers and third-party payors will be subject to certain healthcare laws and regulations, which could expose us to extensive potential liabilities.

Risks Related to Our Reliance on Third Parties

- We rely on third parties for material aspects of our business, such as conducting our nonclinical and clinical trials and supplying and manufacturing bulk drug substances, which exposes us to certain risks.
- We may be unsuccessful in entering into or maintaining licensing arrangements or establishing strategic alliances on favorable terms, which could harm our business.
- Our current focus on the cash-pay utilization for future sales of RYZUMVI may limit our ability to increase sales or achieve profitability with this product.

Risks Related to Our Intellectual Property

- Inadequate patent protection for our product candidates may result in our competitors developing similar or identical products or technology, which would adversely affect our ability to successfully commercialize.
- We may be unable to obtain full protection for our intellectual property rights under U.S. or foreign laws.
- We may become involved in lawsuits for a variety of reasons associated with our intellectual property rights, including alleged infringement suits initiated by third parties.

Risks Related to Our Employee Matters and Managing Growth

- We are dependent on our key personnel, and if we are not successful in attracting and retaining highly qualified personnel, we may not be able to successfully implement our business strategy.
- As we grow, we may not be able to operate internationally or adequately develop and expand our sales, marketing, distribution, and other corporate functions, which could disrupt our operations.

Risks Related to Ownership of Our Common Stock

- The market price of our common stock is expected to be volatile and subject to certain dilutive risks associated with our Equity Line of Credit arrangement.
- Factors out of our control related to our securities, such as securities litigation or actions of activist stockholders, could adversely affect our business and stock price and cause us to incur significant expenses.

INDUSTRY AND MARKET DATA

In this Annual Report, we reference information, statistics and estimates regarding the medical devices and healthcare industries. We have obtained this information from various third-party sources, including industry and general publications, reports by market research firms and other sources. This information involves a number of assumptions and limitations, and we have not independently verified the accuracy or completeness of this information. Some data and other information are also based on the good faith estimates of management, which are derived from our research, review of internal surveys, general information discussed in the industry, and third-party sources. We believe that these external sources and estimates are reliable but have not independently verified them. The industries in which we operate are subject to a high degree of uncertainty, change, and risk due to a variety of factors, including those described in “Item 1A. Risk Factors.” These and other factors could cause results to differ materially from those expressed in this Annual Report and other publications.

PART I

ITEM 1. BUSINESS

Opus Genetics, Inc. (the “Company,” “Opus,” “we,” “us,” or “our”) is a clinical-stage ophthalmic biotechnology company developing gene therapies for the treatment of inherited retinal diseases (“IRDs”) and other types of therapies for additional ophthalmic disorders.

Opus was founded in February 2018 as Ocuphire Pharma, Inc. and has since undergone the following transactions:

- In April 2018, Ocuphire Pharma, Inc. merged with Ocularis Pharma, LLC, the original innovator of phentolamine mesylate ophthalmic solution.

- In January 2020, Ocuphire Pharma, Inc. obtained from Apexian Pharmaceuticals, Inc. certain rights to its Ref-1 inhibitor program, including APX3330.

- In November 2020, Ocuphire Pharma, Inc. completed a reverse merger into Rexahn Pharmaceuticals, Inc. ("Rexahn"), a publicly traded company that had ceased its business of drug development activities, and simultaneously raised just over $21 million through an offering of common shares and warrants to purchase common shares. The combined company continued to operate under the name of Ocuphire Pharma, Inc.

- On October 22, 2024, Ocuphire Pharma, Inc. acquired a private corporation then operating under the name of "Opus Genetics Inc." ("Private Opus") pursuant to the terms of an Agreement and Plan of Merger, dated as of October 22, 2024 (such agreement, the "Merger Agreement" and the transaction consummated via the Merger Agreement, the "Opus Acquisition"), by and among the Company, Opus, and certain merger subsidiaries party thereto.

Our expanded pipeline following the Opus Acquisition includes assets from the adeno-associated virus ("AAV") based gene therapy portfolio of Private Opus that address mutations in genes that cause different forms of Leber congenital amaurosis ("LCA"), bestrophinopathy, and retinitis pigmentosa.

Our most advanced gene therapy program is designed to address mutations in the LCA5 gene ("LCA5"), which encodes the lebercilin protein. More specifically, we are developing OPGx-LCA5 to treat LCA5-associated IRD, an early-onset retinal degeneration, and an open-label, dose-escalation Phase 1/2 clinical trial is ongoing. The trial has shown clinical proof-of-concept—one-year data has provided evidence that the therapy supported visual improvement in three out of three adult patients participating in the trial, each of whom has late-stage disease. Additionally, there were no dose-limiting toxicity or serious adverse events ("AEs"), with most AEs being mild in nature and resolved within 30 days of treatment at the 1E10 vg/eye dose. There were four observed ocular AEs, including two relating to eye pain, one relating to subretinal hyperreflectivities, and one relating to corneal abrasion. All were deemed not to be drug-related but instead treatment-related and were managed through the use of steroids and other medications. Upon review of the data from the first three adult patients, the data safety monitoring board indicated that there was no observed toxicity, and they recommended an adaptive trial design with data-driven dose escalation. On March 3, 2025, we held a Type D meeting with the U.S. Food and Drug Administration (the "FDA") to discuss the potential regulatory path for OPGx-LCA5, including the design of a potential registrational study. We plan to further interact with the FDA via submission or a formal meeting, with supporting documentation, in the second quarter of 2025. Enrollment of the first pediatric patient in the LCA5 Phase 1/2 trial occurred in the first quarter of 2025, with the first data anticipated in the third quarter of 2025. The program has received Rare Pediatric Disease Designation and Orphan Drug Designation from the FDA.

OPGx-BEST1 is another gene therapy candidate in our portfolio, which Private Opus acquired from Iveric Bio, a biopharmaceutical company focused on the discovery and development of novel treatments for retinal diseases, in late 2022. This asset is being developed for the treatment of IRDs associated with mutations in the BEST1 gene ("Best Disease"), which can lead to legal blindness. In preclinical studies conducted in a naturally occurring canine model of Best Disease, OPGx-BEST1 provided evidence in support of a first-in-man clinical trial. We aim to obtain preliminary data from a Phase 1/2 study by the first quarter of 2026. The proposed trial design is an open-label, non-randomized, single ascending dose escalation, safety and tolerability study of OPGx-BEST1 in subjects with best vitelliform macular dystrophy (BVMD) or autosomal recessive BEST1 (ARB), which utilizes a basket approach of three patients per each dose. We are planning to discuss with the FDA an adaptative Phase 1/2/3 trial design, similar to the design of the OPGx-LCA5 trial, and acceleration to a pivotal study if the majority of patients show a treatment-related fluid resolution on optical coherence tomography (OCT).

Apart from gene therapies, our pipeline also includes Phentolamine Ophthalmic Solution 0.75%, a non-selective alpha-1 and alpha-2 adrenergic antagonist to reduce pupil size, which is currently being evaluated in two Phase 3 trials for the treatment of presbyopia and dim (mesopic) light vision disturbances, as well as APX3330, a novel small-molecule inhibitor of Ref-1 designed to slow the progression of non-proliferative diabetic retinopathy ("NPDR").

In November 2022, we entered into a license and collaboration agreement (the "Viatris License Agreement") with a company now known as Viatris, Inc. ("Viatris"), pursuant to which we granted Viatris an exclusive license to develop, manufacture, import, export and commercialize its refractive product candidate Phentolamine Ophthalmic Solution 0.75% (initially known as Nyxol) ("PS"). PS is a once-daily eye drop formulation of phentolamine mesylate designed to reduce pupil diameter and improve visual acuity. PS was approved by the FDA for the treatment for pharmacologically induced mydriasis produced by adrenergic agonists (e.g., phenylephrine) or parasympatholytic agents (e.g., tropicamide), or a combination thereof, under the brand name RYZUMVI® in September 2023, and the product launched commercially in April 2024. The VEGA-3 Phase 3 clinical trial evaluating PS for the treatment of presbyopia (age-related blurry near vision) completed enrollment and topline results are expected in the first half of 2025. Additionally, for the treatment of decreased vision under mesopic (low) light conditions following keratorefractive surgery, we received FDA agreement under Special Protocol Assessment ("SPA") for LYNX-2, a Phase 3 Trial of PS. LYNX-2 completed enrollment and topline results are expected mid-year 2025. We expect that an additional Phase 3 study of LYNX-3 for the treatment of decreased vision under mesopic (low) light conditions following keratorefractive surgery will commence in the second half of 2025.

APX3330 has completed a Phase 2 clinical study in 103 patients and FDA agreement under SPA was reached for a Phase 3 program. However, due to the capital requirements and developmental timelines associated with APX3330, we are currently seeking a strategic partner to advance the clinical development of this diabetic retinopathy program and redirecting existing resources toward the acquired gene therapy programs.

Many of the Company's employees, directors, advisors and consultants have been involved in the development and commercialization of a variety of innovative ophthalmic drugs including approved products such as LUXTURNA marketed by Spark Therapeutics (a member of the Roche group) and Novartis, IZERVAY™ marketed by Astellas, VABYSMO® marketed by Roche, LUMIFY® marketed by Bausch & Lomb Incorporated, ZIRGAN® marketed by Bausch & Lomb Incorporated, DUREZOL® marketed by Novartis, RHOPRESSA® marketed by Alcon, ROCKLATAN® marketed by Alcon, VYZULTA® marketed by Bausch & Lomb Incorporated, XIIDRA® marketed by Bausch & Lomb Incorporated, CEQUA® marketed by Sun Pharmaceuticals Industries Limited, IYUZEH™ marketed by Thea Pharma Inc., DIQUAS® marketed by Santen Company Limited, AzaSite® marketed by Inspire Pharmaceuticals and DEXTENZA® marketed by Ocular Therapeutix, Inc. The management team, led by Chief Executive Officer George Magrath, MD, collectively has significant experience in operating pharmaceutical companies and discovering, developing, and commercializing treatments in multiple therapeutic areas.

Strategy

The Company's goal is to develop leading gene therapies to treat IRDs. We will also continue developing or seeking partnerships to develop our product candidates that existed prior to the Opus Acquisition. The key elements of our strategy we aim to achieve are the following:

- **Advance the clinical development of our gene therapy products.** OPGx-LCA5 is designed to address a form of LCA due to biallelic mutations in the LCA5, which encodes the lebercilin protein. New six-month efficacy and safety data on OPGx-LCA5 were presented at a virtual KOL event on December 11, 2024 and showed improvement in visual function in the first three adult patient cohort treated, each of whom has late-stage disease. Twelve-month data on OPGx-LCA5 in the adult patients cohort will be presented at ARVO in May 2025. A pediatric cohort to test the therapy in younger subjects is in progress

  OPGx-BEST1 is being developed for the treatment of Best disease, a monogenic central maculopathy which can lead to legal blindness. Preclinical studies conducted in a naturally occurring genetic canine model of Best disease treated with OPGx-BEST1 provided evidence in support of a first in man clinical trial. We aim to obtain preliminary data from a Phase 1/2 study by the first quarter of 2026.

- **Future IRD programs.** Beyond clinical development of OPGx-LCA5 and OPGx-BEST1, Opus has a preclinical portfolio of other AAV gene therapy candidates targeting different forms of vision threatening IRDs, including retinitis pigmentosa (e.g. adRP-RHO, CNGB1) and LCA (e.g., NMNAT1, RDH12). These programs can be potentially further developed for clinical applications, subject to capital availability. We will continue IND-enabling work for these preclinical gene therapy programs, but these programs may require additional funding to progress.

- **Maximize the value of APX3330 through partnership.** In December 2024, we reached agreement with the FDA under SPA for a Phase 3 clinical trial evaluating oral APX3330 for the treatment of moderate to severe NPDR. The SPA agreement reflects that the proposed Phase 3 trial design, and planned analyses adequately address the objectives necessary to support a New Drug Application (NDA) submission for treatment of NPDR, subject to a successful outcome of the trial and review of all the data in the NDA, if submitted. The agreed primary endpoint for this clinical trial is a reduction in 3-step or greater worsening on the binocular diabetic retinopathy severity scale (DRSS) score, compared to placebo. We are seeking a partner to advance the clinical development of APX3330, as we focus our resources on advancing our gene therapy candidates for IRDs.

- **Complete late-stage development of PS programs.** PS was approved by the FDA for the treatment for pharmacologically-induced mydriasis under the brand name RYZUMVI in September 2023 and was launched commercially in April 2024.

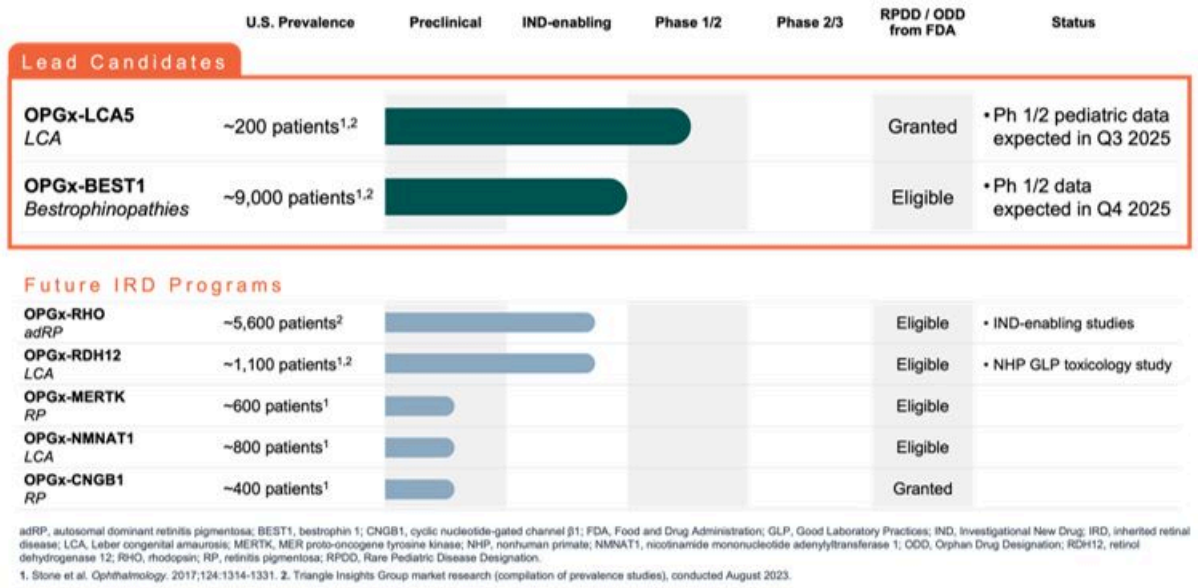
We continue to develop PS in new indications. There are two ongoing Phase 3 studies encompassing the use of PS in two new indications: 1) the VEGA-3 Phase 3 clinical trial evaluating PS for the treatment of presbyopia (age-related blurry near vision) and 2) the LYNX-2 Phase 3 clinical trial for the treatment of mesopic (low) light conditions following keratorefractive surgery.

The FDA has granted Fast Track designation for Phentolamine Ophthalmic Solution 0.75% as treatment for significant chronic night driving impairment with concomitant increased risk of motor vehicle accidents and debilitating loss of best spectacle corrected mesopic vision in keratorefractive patients with photic phenomena (i.e., glare, halos, starburst). Fast Track status has been designated to facilitate the development and expedite the review of drugs to treat serious conditions that fill an unmet medical need.

We expect interim topline data in the first half of 2025 for presbyopia and mid-2025 for decreased vision under mesopic (low) light conditions following keratorefractive surgery. We expect that an additional Phase 3 study of LYNX-3 for the treatment of decreased vision under mesopic (low) light conditions following keratorefractive surgery will commence in the second half of 2025.

If approved, the use of PS in these indications will also be commercialized by Viatris in the U.S. and major non-U.S. markets pursuant to the Viatris License Agreement.

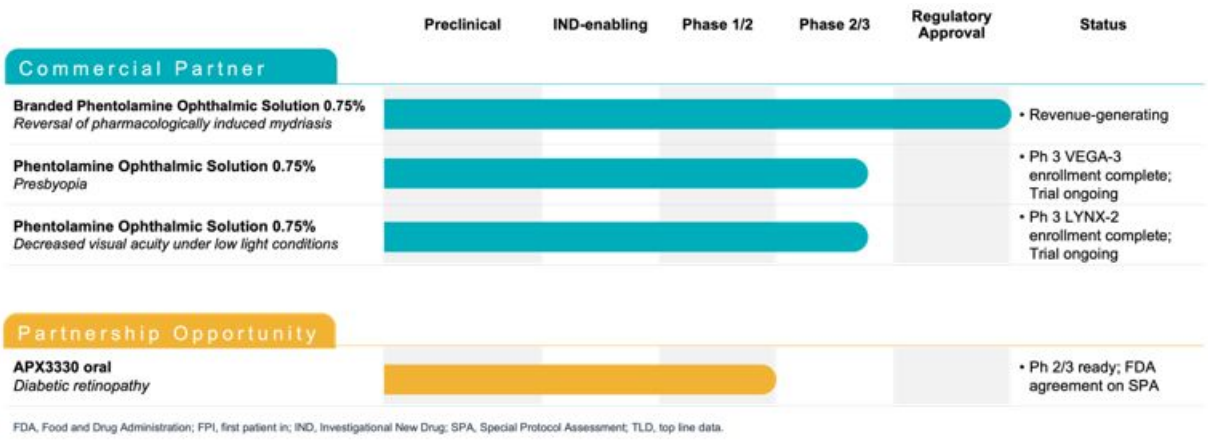
IRD Pipeline:



adRP, autosomal dominant retinitis pigmentosa; BEST1, bestrophin 1; CNGB1, cyclic nucleotide-gated channel β1; FDA, Food and Drug Administration; GLP, Good Laboratory Practices; IND, Investigational New Drug; IRD, inherited retinal disease; LCA, Leber congenital amaurosis; MERTK, MER proto-oncogene tyrosine kinase; NHP, nonhuman primate; NMNAT1, nicotinamide mononucleotide adenylyltransferase 1; ODD, Orphan Drug Designation; RDH12, retinol dehydrogenase 12; RHO, rhodopsin; RP, retinitis pigmentosa; RPDD, Rare Pediatric Disease Designation.

1. Stone et al. *Ophthalmology*. 2017;124:1314-1331. 2. Triangle Insights Group market research (compilation of prevalence studies), conducted August 2023.

Phentolamine and APX3330 Pipeline:

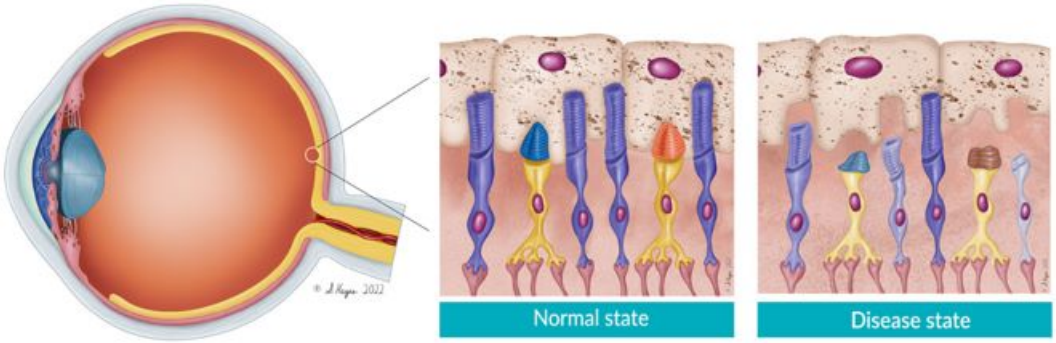


Pipeline: OPGx-LCA5, OPGx-BEST1, Other Preclinical IRD Programs, PS, and APX3330

OPGx-LCA5

OPGx-LCA5 is designed to address LCA5, which is a severe, early-onset form of IRD. The LCA5 gene encodes for the protein lebercilin, a ciliary protein which is critical for bidirectional protein trafficking in photoreceptor inner and outer segments. Photoreceptors are retinal cells that enable vision by absorbing light and transducing it into an electrochemical signal that is communicated to the visual centers of the brain. In LCA5, the outer segments do not properly develop and photoreceptor function is severely impaired. However, studies have reported evidence that these photoreceptors can survive through the third decade of life, suggesting a broad window of opportunity for therapeutic intervention through gene augmentation.

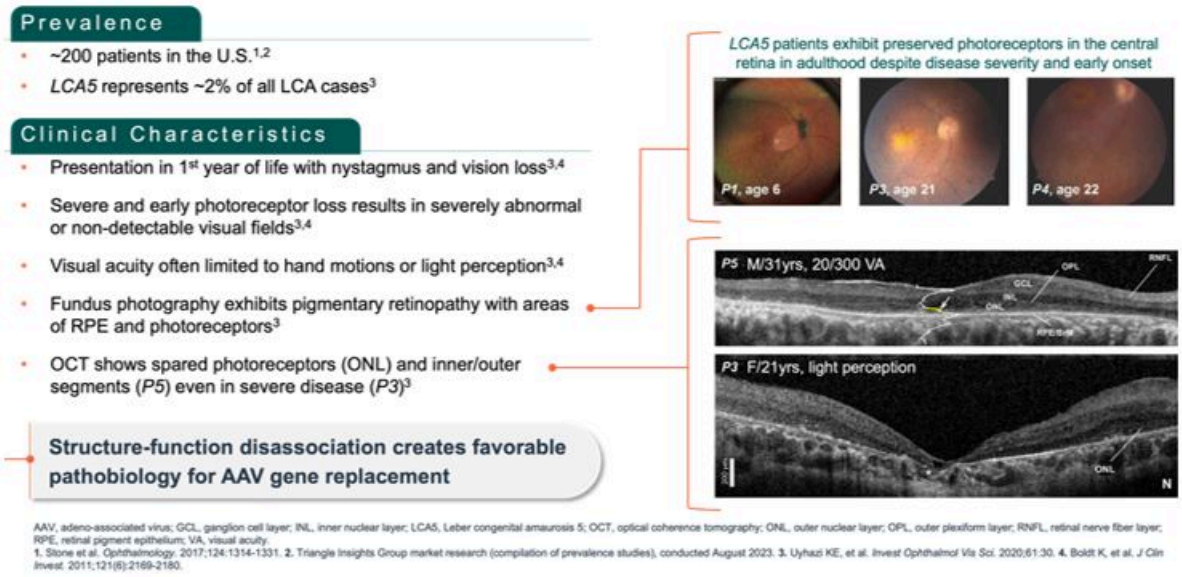
LCA5 Mechanism of Disease:



Mechanism of Action

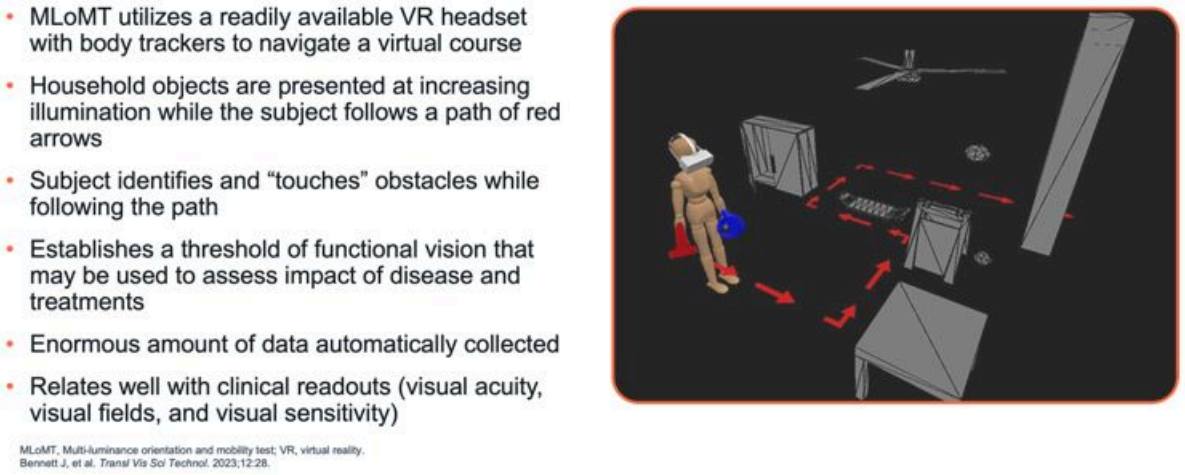
OPGx-LCA5 uses an adeno-associated virus 8 (“AAV8”) vector to deliver a functional LCA5 to the outer retina. OPGx-LCA5 is the same promoter technology as used with Luxturna. OPGx-LCA5 is administered through a validated surgical delivery method via subretinal injection. OPGx-LCA5’s proposed efficacy endpoints include measurement of functional vision using: 1) the Multi-Luminance orientation and Mobility Test (MLoMT); 2) Full-Field Stimulus Testing (FST), which measures the retina's sensitivity to light; and 3) microperimetry, which measures point-wise sensitivity to light.

LCA5 Disease Overview:



AAV, adeno-associated virus; GCL, ganglion cell layer; INL, inner nuclear layer; LCA5, Leber congenital amaurosis 5; OCT, optical coherence tomography; ONL, outer nuclear layer; OPL, outer plexiform layer; RNFL, retinal nerve fiber layer; RPE, retinal pigment epithelium; VA, visual acuity.
1. Stone et al. *Ophthalmology.* 2017;124:1314-1331. **2.** Triangle Insights Group market research (compilation of prevalence studies), conducted August 2023. **3.** Uyhazi KE, et al. *Invest Ophthalmol Vis Sci.* 2020;61:30. **4.** Boldt K, et al. *J Clin Invest.* 2011;121(6):2169-2180.

Functional Vision Assessment with a Multi-Luminance orientation and Mobility Test (MLoMT):

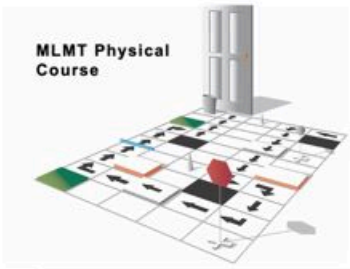


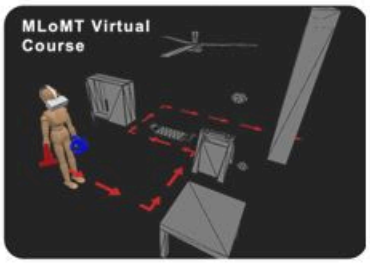
MLoMT, Multi-luminance orientation and mobility test; VR, virtual reality.
Bennett J, et al. *Transl Vis Sci Technol.* 2023;12:28.

MLoMT Builds Upon the Success of MLMT®:

- Automatic randomization of dozens of configurations
- Delivers test in a relatively short time (20 mins)
- Equipment/space affordable
- Easy to deploy and duplicate at multiple sites
- No physical obstacles that could cause harm in a collision
- Attractive to digital-savvy pediatric population
- Quantitative information (timing, direction of gaze, acceleration, deceleration, collisions) captured automatically as digital data
- Data obtained instantaneously and analyzed objectively (no need for reading center)

MLMT® and Multi-Luminance Mobility Test® are registered trademarks of Spark Therapeutics, Inc.
MLoMT, Multi-luminance orientation and Mobility Test; MLMT, Multi-Luminance Mobility Test; VR, virtual reality.
1. Bennett J, et al. *Transl Vis Sci Technol.* 2023;12:28; **2.** Aleman et al. *Clin Ophthalmol.* 2021;15:939





Clinical Development Process and Plan

OPGx-LCA5 is currently being evaluated in a Phase 1/2 clinical trial at the University of Pennsylvania designed to evaluate its safety and preliminary efficacy in patients with IRD due to biallelic mutations in LCA5. New six-month efficacy and safety data on OPGxLCA5 was presented at a virtual KOL event on December 11, 2024 and showed improvement in visual function in the first three adult patients treated, each of whom has late-stage disease.

Treatment of three pediatric subjects (13-17 years of age) was initiated in February, 2025 with all three pediatric patients expected to receive treatment by the second quarter of 2025. OPGx-LCA5's proposed efficacy endpoints include measurement of functional vision using: 1) the Multi-Luminance orientation and Mobility Test (MLoMT); 2) Full-Field Stimulus Testing (FST), which measures the retina's sensitivity to light; and 3) microperimetry, which measures point-wise sensitivity to light.

OPGx-LCA5 Phase 1/2 Study 12-Month Data Summary:

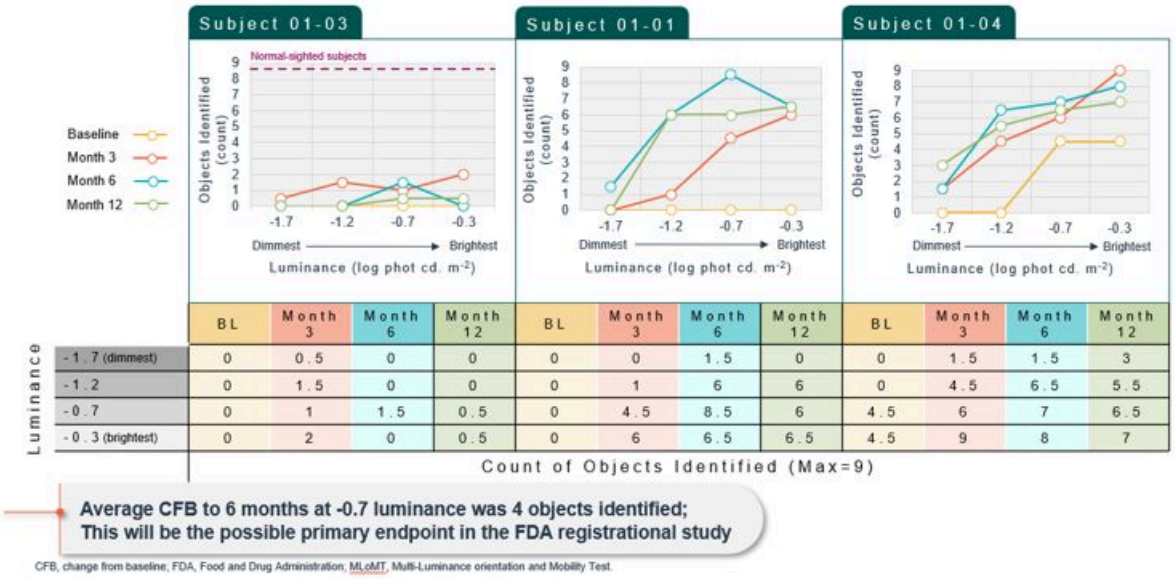
OPGx-LCA5 Improved Visual Function in Three Legally Blind Adult Patients in Phase 1/2 Study

- **First-in-human, open label, dose-escalation study**
  - Three low-dose adult patients completed in 2024
- **Visual improvement observed in all three patients at 12 months:**
  - Significant improvement in mobility testing
  - Improvement in the FST functional test of light sensitivity
  - Substantial Improvement in Macular Sensitivity in one patient
- **Recent 12-month data demonstrated:**
  - No SAEs
  - Well-tolerated
  - Clear signs of visual improvement in multiple assessments in all subjects

Observed **compelling visual function improvement** Phase 1/2

MLoMT: All Treated Subjects Identified More Objects Through 12 Months Compared to Baseline:

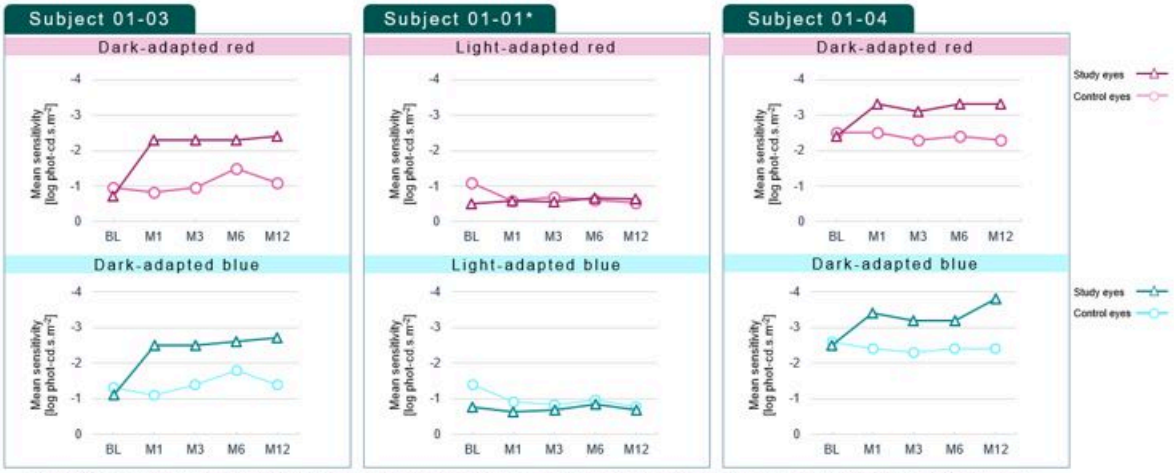
MLoMT: All Treated Subjects Identified More Objects at Through 12 Compared to Baseline:



Luminance	Subject 01-03 BL	Subject 01-03 Month 3	Subject 01-03 Month 6	Subject 01-03 Month 12	Subject 01-01 BL	Subject 01-01 Month 3	Subject 01-01 Month 6	Subject 01-01 Month 12	Subject 01-04 BL	Subject 01-04 Month 3	Subject 01-04 Month 6	Subject 01-04 Month 12
-1.7 (dimmest)	0	0.5	0	0	0	0	1.5	0	0	1.5	1.5	3
-1.2	0	1.5	0	0	0	1	6	6	0	4.5	6.5	5.5
-0.7	0	1	1.5	0.5	0	4.5	8.5	6	4.5	6	7	6.5
-0.3 (brightest)	0	2	0	0.5	0	6	6.5	6.5	4.5	9	8	7

CFB, change from baseline; FDA, Food and Drug Administration; MLoMT, Multi-Luminance orientation and Mobility Test.

Full-field Stimulus Testing: Retinal Sensitivity Gains Comparable to Adult Patients Treated with Luxturna:

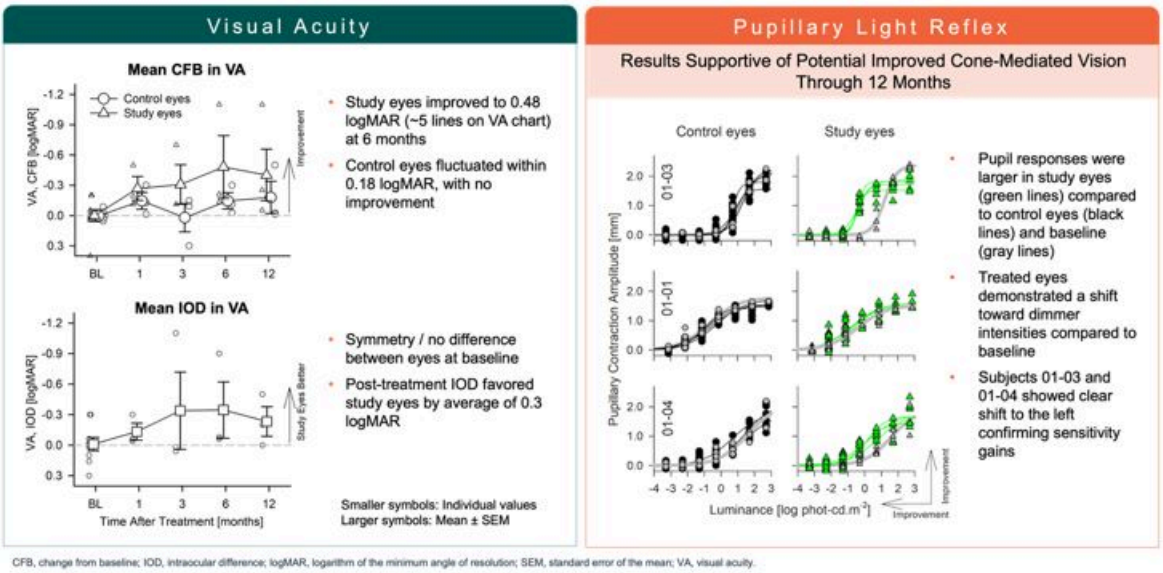


*Subject 01-01 was measured in light-adapted conditions; Remaining rod function was strong enough that it interfered with measuring cone function; to isolate and measure cone responses, rods had to be desensitized by adapting the eye to white light

Note: Subject 01-03 and 01-04 are cone-mediated disease and Subject 01-01 is rod-mediated disease.

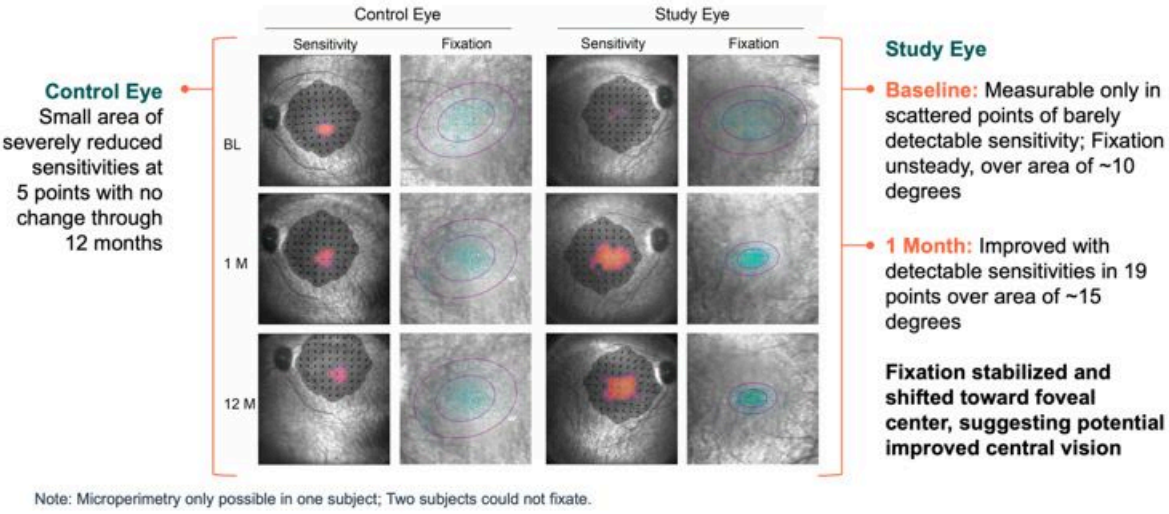
BL, baseline; FST, full-field stimulus testing; M, month.

Broad Clinical Efficacy in Visual Acuity and Pupillometry:



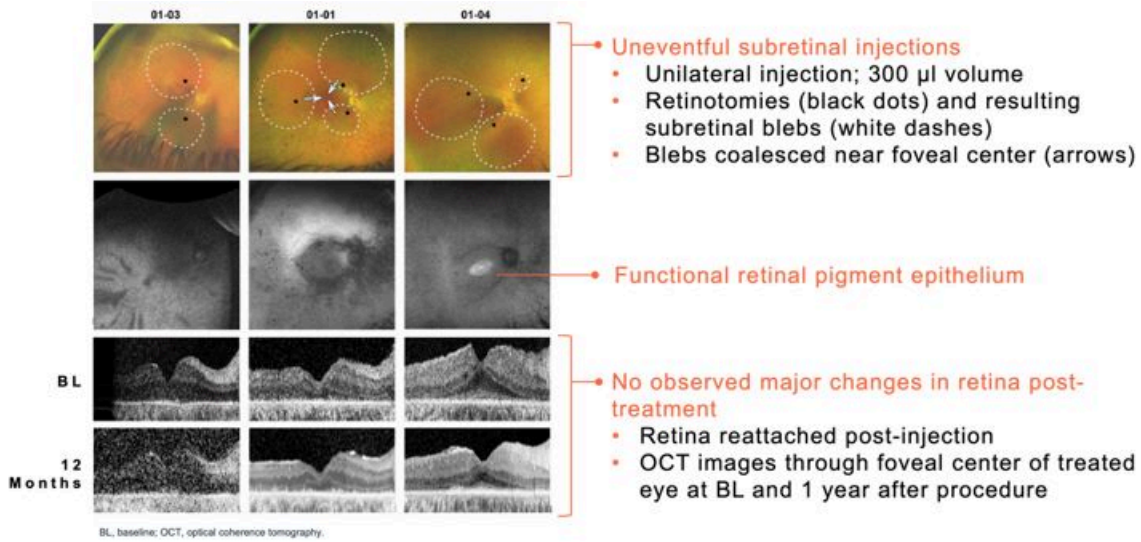
CFB, change from baseline; IOD, intraocular difference; logMAR, logarithm of the minimum angle of resolution; SEM, standard error of the mean; VA, visual acuity.

Substantial Improvement in Macular Sensitivity in Subject 01-04:



Note: Microperimetry only possible in one subject; Two subjects could not fixate.

Uneventful Subretinal Injections and Unchanged Retinal Structure



BL, baseline; OCT, optical coherence tomography.

OPGx-BEST1

OPGx-BEST1 is in development for the treatment of BEST1-associated retinal disease, an IRD that causes vision loss. The BEST1 gene encodes for bestrophin-1, a protein that functions as a retinal pigment epithelial ("RPE") cell membrane channel.

Mechanism of Action

The OPGx-BEST1 targets BEST1 using the AAV2 capsid employed in Luxturna and an RPE-specific promoter. This gene therapy approach aims to restore normal function of the RPE cells such that they can provide proper support to the photoreceptors, the cells that detect light.

OPGx-BEST1 Demonstrated Structural and Functional Improvement in an IND-enabling Toxicology Study:

Unilateral subretinal injection of OPGx-BEST1 at 3 doses over 13 weeks in canine model of *BEST1* disease:

Key Efficacy Findings

- Stage II/III lesions regressed or disappeared
- Focal reattachment of photoreceptor-RPE interface
- No disease in treated areas → Potential evidence of protection
- All dose groups exhibited significant improvement in ERG retinal function; dose-dependent increase observed in low and high groups

Key Safety Findings

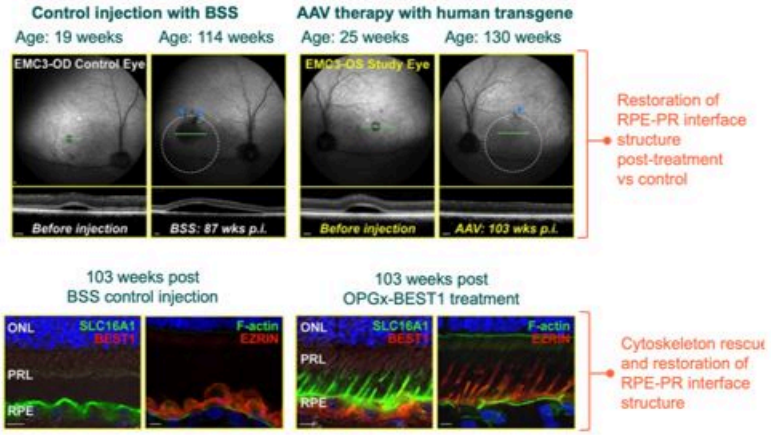
- No signs of ocular toxicity at low and mid doses
- Minor fundus discoloration at high dose with no histological findings
- NOAEL identified

BEST1, bestrophin 1; ERG, electroretinogram; NOAEL, no-observed-adverse-effect-level; RPE, retinal pigment epithelium.

BEST1 Proof of Concept: Restored Retinal Structure Observed in IND-Enabling Studies with OPGx-BEST1:

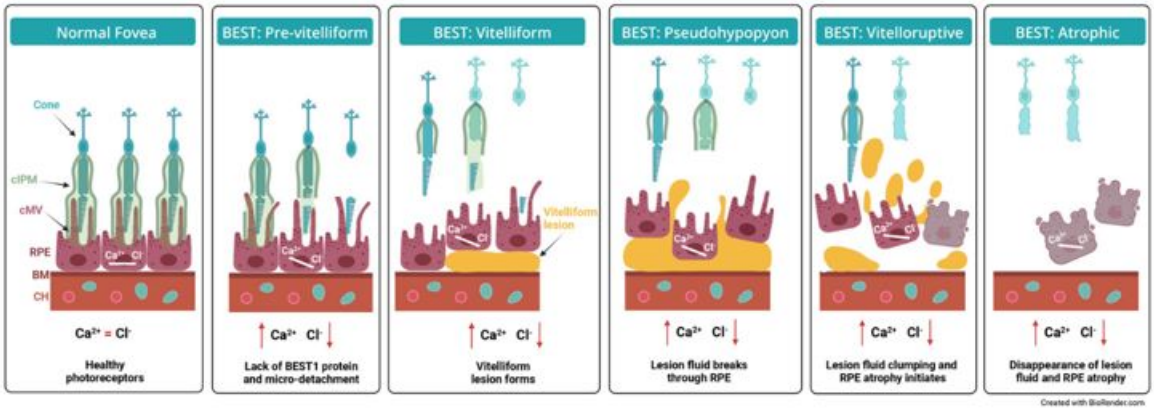
AAV-treated canine model of autosomal recessive *BEST1* disease demonstrated:

- Reversal of lesions and microdetachments
- Restoration of the RPE-photoreceptor interface architecture
- No safety signals observed



AAV, adeno-associated virus; BEST1, bestrophin 1; BSS, balanced salt solution; IND, Investigational New Drug; PR, photoreceptor; RPE, retinal pigment epithelium.
Guziewicz, et al. *PNAS*. 2018;115:E2839–E2848.

BEST1 Mechanism of Disease:



The BEST1 disease affects ~9000 patients in the U.S alone, and accounts for 3.5% of all IRDs. It is characterized by retinal lesions, with symptoms including dimness of vision, metamorphosphia (distorted vision), and areas of vision loss or scotoma (blind spot). The BEST1 gene encodes for bestrophin-1, a protein that functions as a RPE cell membrane channel. The BEST1 channel, when activated by calcium (Ca2+) ions, controls chloride (Cl-) ion transfer into and out of the RPE cell. This function is crucial to the maintenance of homeostasis between the photoreceptors (rods and cones) and RPE cells. Mutations in BEST1 disrupt this homeostasis and result in the breakdown of the interphotoreceptor matrix (IPM) and microvilli (MV) connections with the RPE. Retinal lesions form containing vitelliform material (“egg-yolk” like) between the RPE and Bruch’s membrane (BM)/choroid (CH). These vitelliform lesions disrupt and cause atrophy of the RPE. Without support from the RPE, photoreceptor cells critical for normal vision die, resulting in progressive vision loss.

Clinical Development Process and Plan

OPGx-BEST1 which is designed for the treatment of BEST1-associated retinal disease is ready for the clinic. As many of these subjects are found in Europe, a site will be planned for inclusion as part of the clinical development plan for this asset. This plan is based on the IND-enabling studies, where we observed compelling proof-of-concept efficacy data in a naturally occurring genetic canine bestrophinopathy model with acceptable safety and tolerability to inform clinical trial implementation. We aim to obtain preliminary data from a Phase 1/2 study by the first quarter of 2026.

Other Pre-clinical IRD Programs:

	Age of Onset	U.S. Prevalence	Program Stage
OPGx-RHO *adRP*	Varies from late childhood to late adulthood[1]	~5,600 patients[2]	IND-enabling
OPGx-RDH12 *LCA*	As early as 1 year, with legal blindness before third decade of life[3]	1,100 patients[1,4]	IND-enabling
OPGx-MERTK *RP*	Second decade of life; generally before 18 years[5]	~600 patients[4]	Pre-IND
OPGx-NMNAT1 *LCA*	Early childhood; frequently within first year of life[6]	~800 patients[4]	Pre-IND
OPGx-CNGB1 *RP*	Young adult onset with slow progression & preserved visual acuity through late adulthood[7]	~400 patients[4]	Pre-IND; Collaboration with NIH-funded consortium of university researchers and Foundation of the NIH's Bespoke Gene Therapy Consortium through Phase 1

adRP, autosomal dominant retinitis pigmentosa; CNGB1, cyclic nucleotide-gated channel β1; IND, Investigational New Drug; LCA, Leber congenital amaurosis; MERTK, MER proto-oncogene tyrosine kinase; NMNAT1, nicotinamide mononucleotide adenylyltransferase 1; NIH, National Institutes of Health; RDH12, retinol dehydrogenase 12; RHO, rhodopsin; RP, retinitis pigmentosa; VA, visual acuity.
1. Sahel J, et al. *Cold Spring Harb Perspect Med.* 2015;5:a017111. **2.** Triangle Insights Group market research (compilation of prevalence studies), conducted August 2023. **3.** Daich Varela M, et al. Ophthalmic Genet. 2022;43:301-306. **4.** Stone EM, et al. *Ophthalmology.* 2017;124:1314-1331. **5.** Audo I, et al. *Hum Mutat.* 2018;39:887-913. **6.** Yi Z, et al. *Eye (Lond).* 2022;36:2279-2285. **7.** Nassisi M, et al. *Hum Mutat.* 2021;42:641-666.

OPGx-RHO

OPGx-RHO is a gene therapy that targets autosomal dominant retinitis pigmentosa caused by RHO mutations (RHO-adRP). RHO-adRP affects approximately 5,600 people in the U.S., making it one of the most common IRDs, albeit not as common as Best disease.

Encoded by the RHO gene, rhodopsin is an important component of the photopigment in rod photoreceptors that absorbs light and provides structure to the rod outer segments. Autosomal dominant mutations in rhodopsin cause RHO-adRP, which is characterized by progressive death of the rod photoreceptors that can lead to vision loss. OPGx-RHO is designed to preserve the rod photoreceptors by replacing a patient's RHO gene with a functional copy of the gene. We are continuing grant-supported preclinical IND-enabling studies for OPGx-RHO in 2025.

OPGx-RDH12

OPGx-RDH12 is designed to restore protein expression and halt functional deterioration in patients with retinal dystrophy caused by mutations in the retinal dehydrogenase (RDH12) gene.

Patients with RDH12 mutations, which affect approximately 1,100 people in the U.S., often have early visual acuity loss with retinal structural changes by two years of age, and longitudinal studies have reported a steep decline in visual acuity within the second decade of life. OPGx-RDH12 leverages AAVs to transport a functional gene to photoreceptors in the retina. In preclinical studies of OPGx-RDH12 in cellular and mouse models, we observed evidence of functional improvement of RDH12 activity.

OPGx-MERTK

Mutations in the MERTK gene cause a rod-cone dystrophy with early macular atrophy, with retinitis pigmentosa being the most common phenotype. Preclinical studies have shown proof of concept in rats and mice and an early clinical trial with an AAV vector was carried out several years ago with mixed results. We are developing OPGx-MERTK as a modern AAV vector for the treatment of MERTK IRD, which affects approximately 600 people in the U.S.

OPGx-NMNAT1

OPGx-NMNAT1 is a gene augmentation therapy designed to halt functional deterioration in pediatric patients with retinal degenerative disease caused by mutations in the nicotinamide mononucleotide adenylyltransferase 1 (NMNAT1) gene, which affects approximately 800 people in the U.S. NMNAT1 is an enzyme required for regenerating an essential metabolite, nicotinamide adenine dinucleotide (NAD+), in cell nuclei. Photoreceptors, in particular, are highly vulnerable to loss of NMNAT1 function. Preclinical data in a mouse model exhibiting key features of the human disease provided evidence of the potential for OPGx-NMNAT1 delivered via AAV to stabilize disease progression.

OPGx-CNGB1

OPGx-CNGB1 is an AAV gene therapy being developed for a late onset form of retinitis pigmentosa due to mutations in the CNGB1 gene, which affects approximately 400 people in the U.S. We are collaborating with a consortium of university researchers funded by the National Institute of Health ("NIH") and the Foundation of the NIH's Bespoke Gene Therapy Consortium to bring this therapy into and through a Phase 1 clinical trial.

RYZUMVI and Phentolamine Ophthalmic Solution 0.75% (PS)

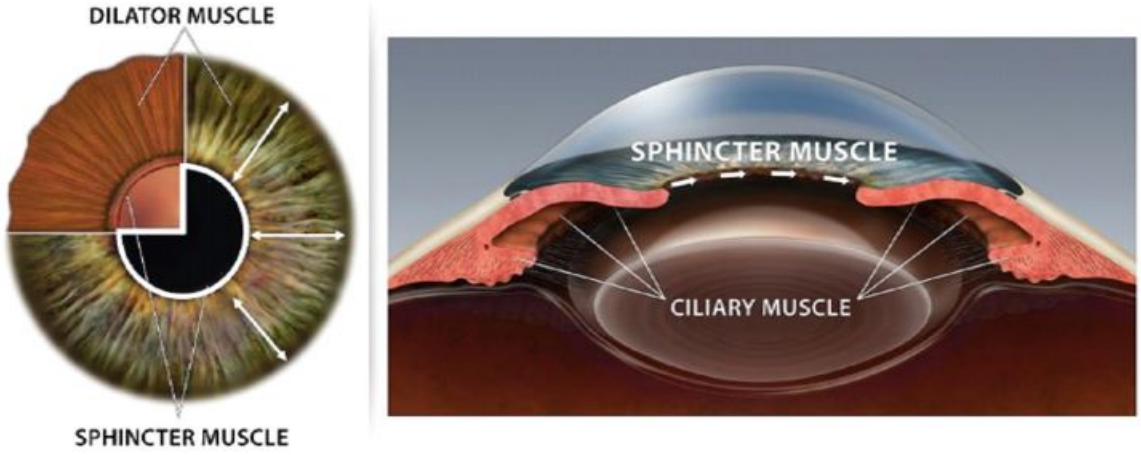
In November 2022, we entered into the Viatris License Agreement with Viatris, pursuant to which we granted Viatris an exclusive license to develop, manufacture, import, export and commercialize (i) our refractive product candidate PS, for treating (a) reversal of pharmacologically-induced mydriasis, (b) decreased vision under mesopic (low) light conditions after keratorefractive surgery, and (c) presbyopia; and (ii) PS with low dose pilocarpine for treating presbyopia worldwide except for certain countries and jurisdictions in Asia. PS was approved by the FDA for the treatment of pharmacologically-induced mydriasis under the brand name RYZUMVI in September 2023, which triggered a $10 million milestone payment under the Viatris License Agreement. RYZUMVI was commercialized by Viatris in April 2024.

PS Mechanism of Action

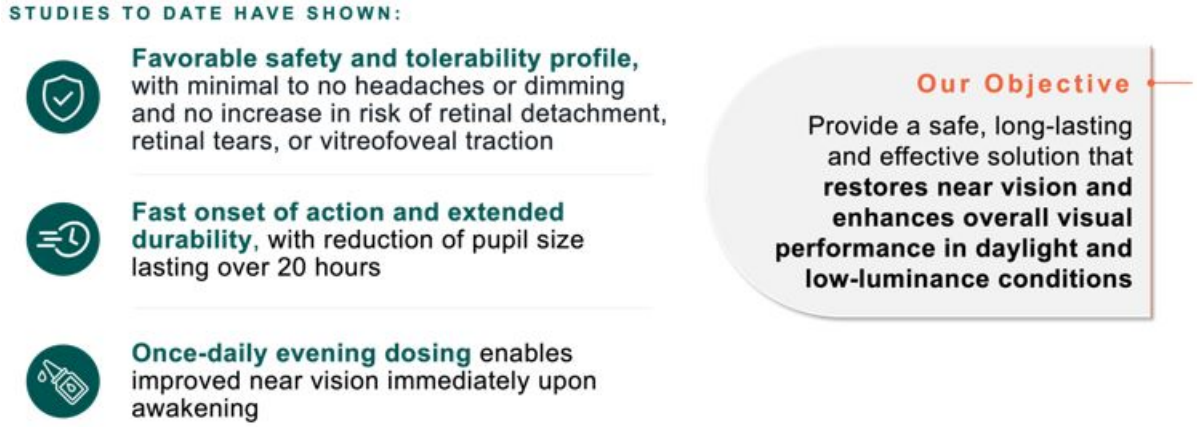
PS is a once-daily sterile eye drop formulation of phentolamine mesylate designed to reduce pupil diameter and improve visual acuity. The active pharmaceutical ingredient of PS, phentolamine mesylate, is a non-selective alpha-1 and alpha-2 adrenergic antagonist that inhibits activation of the smooth muscle of the iris, reducing pupil diameter (see the below figure).

For the treatment of pharmacologically-induced mydriasis indication, PS, either by directly antagonizing the alpha-1 agonist or by indirectly antagonizing the pupil dilation effect of muscarinic blocking, may expedite the reversal of mydriasis prior to natural reversal. For presbyopic patients, we believe that it is possible to reach a target 2 mm to 3 mm optimal pupil diameter by relaxing the dilator iris muscle with PS and contracting the iris sphincter muscle with a muscarinic agonist such as low dose pilocarpine. Lastly, for the dim light vision disturbances, it is proposed that a moderate miotic effect by application of PS might mitigate night vision difficulties, a large portion of which are caused by imperfections or aberrations present in the periphery of the cornea.

Pupillary Mechanism:



Overview of PS for Presbyopia and Decreased Vision Under Mesopic (Low) Light Conditions after Keratorefractive Surgery:



Clinical Development Process and Plan

PS has been assessed in 13 investigator-initiated and company-sponsored Phase 1, Phase 2, and Phase 3 clinical trials. Across all these trials, over 900 adult subjects have been exposed to at least one dose of phentolamine ophthalmic solution. Clinical trial data from Phase 2 and Phase 3 trials have been presented at meetings of the American Academy of Ophthalmology (AAO), Association for Research in Vision and Ophthalmology (ARVO), and American Society of Cataract and Refractive Surgery (ASCRS) and may be presented at future medical conferences.

VEGA Program: Presbyopia Indication for PS

Phase 3 VEGA-2 Trial (Completed)

VEGA-2 (NYXP-301) is a double-masked, randomized, placebo-controlled multi-center trial of PS, placebo and with adjunctive LDP compared with vehicle (placebo) in presbyopic patients. 333 subjects were randomized 1:1:1:1 to one of four treatment groups in two stages. The primary efficacy endpoint was met.

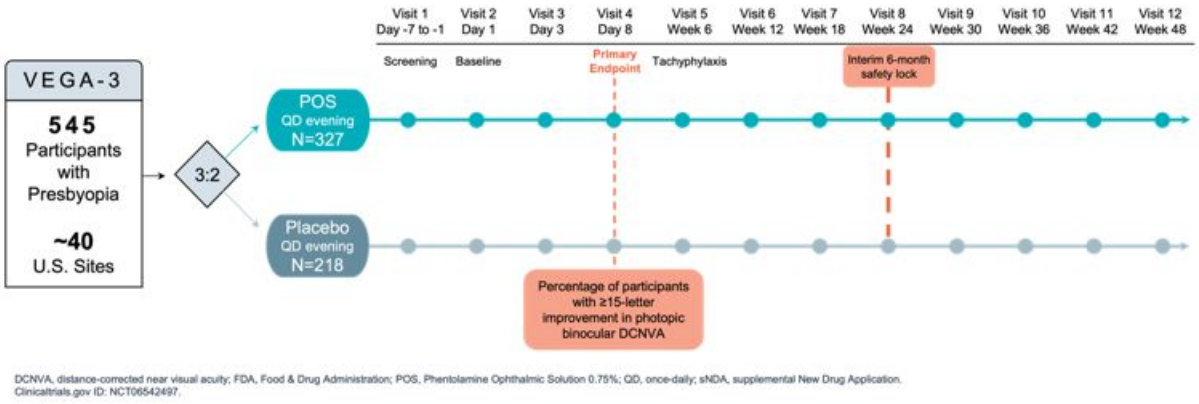
Phase 2 VEGA-1 Trial (Completed)

VEGA-1 (NYXP-201) was a double-masked, randomized, placebo-controlled, multi-center trial of PS and LDP compared with vehicle (placebo) ophthalmic solution in presbyopic patients. A total of 150 patients were randomized 4:3:3:4 to one of four treatment groups. The primary efficacy endpoint for this study was met.

Phase 3 VEGA-3 Trial

We and Viatris are currently conducting the VEGA-3 (NYXP-302) trial as a double-masked, randomized, placebo-controlled, multicenter trial in approximately 545 patients with presbyopia. This second registration trial will evaluate the efficacy and safety of PS similar to VEGA-2 and include similar primary and key secondary endpoints and analysis, with assessment of tachyphylaxis and an optional extension for a total of 48 weeks. Topline data is expected in the first half of 2025.

VEGA-3 Phase 3 Pivotal Study Design:



DCNVA, distance-corrected near visual acuity; FDA, Food & Drug Administration; POS, Phentolamine Ophthalmic Solution 0.75%; QD, once-daily; sNDA, supplemental New Drug Application.
Clinicaltrials.gov ID: NCT06542497.

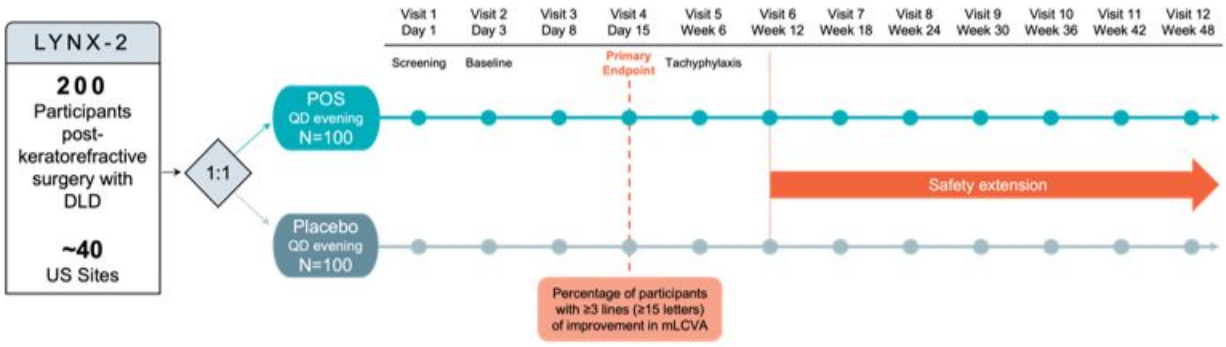
LYNX Program: Decreased Vision Under Dim (Mesopic or Low) Light Conditions After Keratorefractive Surgery Indication for PS

PS: Phase 3 LYNX-1 Trial (Completed)

LYNX-1 (NYXDLD-301) was a Phase 3 double-masked, randomized, placebo-controlled, multi-center study comparing PS to placebo ophthalmic solution in 145 patients experiencing dim light vision disturbances at multiple sites across the U.S. Treatment was self-administered in each eye once daily at or near bedtime for 14 days. PS met the primary endpoint, showing a statistically significant higher percent of subjects with ≥ 15 Early Treatment Diabetic Retinopathy Study (ETDRS) letters (≥ 3 lines) of improvement compared to baseline in monocular mLCVA at Day 8). A total of 66 Treatment Emergent Adverse Events ("TEAEs") were reported in 23 subjects (32%) treated with POS and 22 TEAEs were reported in 12 subjects (16%) treated with placebo. All TEAEs were mild or moderate in intensity, except for one severe TEAE (instillation site pain) experienced by a subject in the PS group. No subjects had any TEAEs leading to withdrawal from the study. One subject in each treatment group (POS and placebo) had TEAEs leading to study medication discontinuation.

We are developing PS in partnership with Viatris. In November 2022, we submitted an NDA for PS for the treatment of pharmacologically induced-mydriasis, which was approved in September 2023. In December 2023, we entered into agreement under SPA with the FDA for PS for decreased vision under dim (mesopic or low) light conditions following keratorefractive surgery.

LYNX-2 Phase 3 Pivotal Study Design:



DLD, dim light disturbances; FDA, Food and Drug Administration; mLCVA mesopic low contrast best-corrected distance visual acuity; POS, Phentolamine Ophthalmic Solution 0.75%; QD, once daily; SPA, Special Protocol Assessment.
Clinicaltrials.gov ID: NCT06349759

Based on the positive results observed in the first Phase 3 trial, LYNX-1, we and Viatris are continuing trials for the treatment of decreased vision under dim (mesopic or low) light conditions following keratorefractive surgery. LYNX-2 has completed enrollment and topline results are expected mid-year 2025. We expect that a clinical trial for LYNX-3 will commence in the second half of 2025.

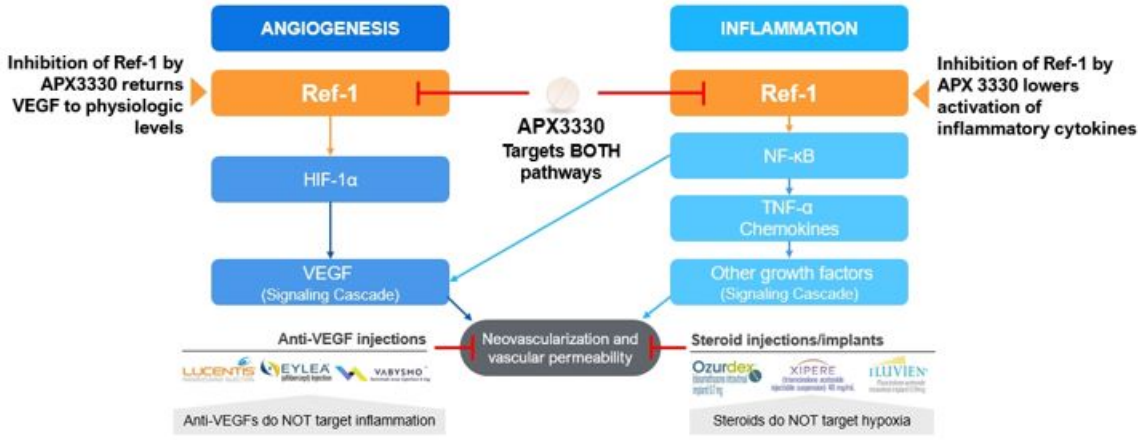
APX3330

Mechanism of Action

APX3330 is a selective small molecule that is designed to act on the dual-functioning Apurinic/Apyrimidinic Endonuclease 1/Redox Effector Factor-1 (APE1/Ref-1) protein, referred to as Ref-1. This protein is implicated in both redox signalling and DNA repair. Because APX3330 selectively inhibits the redox function without affecting the molecule's ability to carry out DNA repair, normal cell function is left intact. Moreover, interference of Ref-1 activity with APX3330 blocks angiogenesis and inflammation by simultaneously decreasing the activity of several important transcription factors such as HIF-1α and NF-κB (see the below figure for a visual description). HIF-1α regulates the expression of VEGF, a protein that is paramount for angiogenesis, and NF-κB is an upstream regulator of proteins involved in inflammatory processes such as TNFα and chemokines.

APX3330 has a dual mechanism that decreases both abnormal angiogenesis and inflammation. APX3330 blocks pathways downstream of Ref-1. Blocking HIF-1α reduces VEGF signaling, and blocking NF-κB modulates VEGF, TNF-α and other inflammatory cytokine production. In contrast, anti-VEGF agents solely inhibit the actions of VEGF (see the below figure for a visual description).

APX3330 Mechanism of Action:



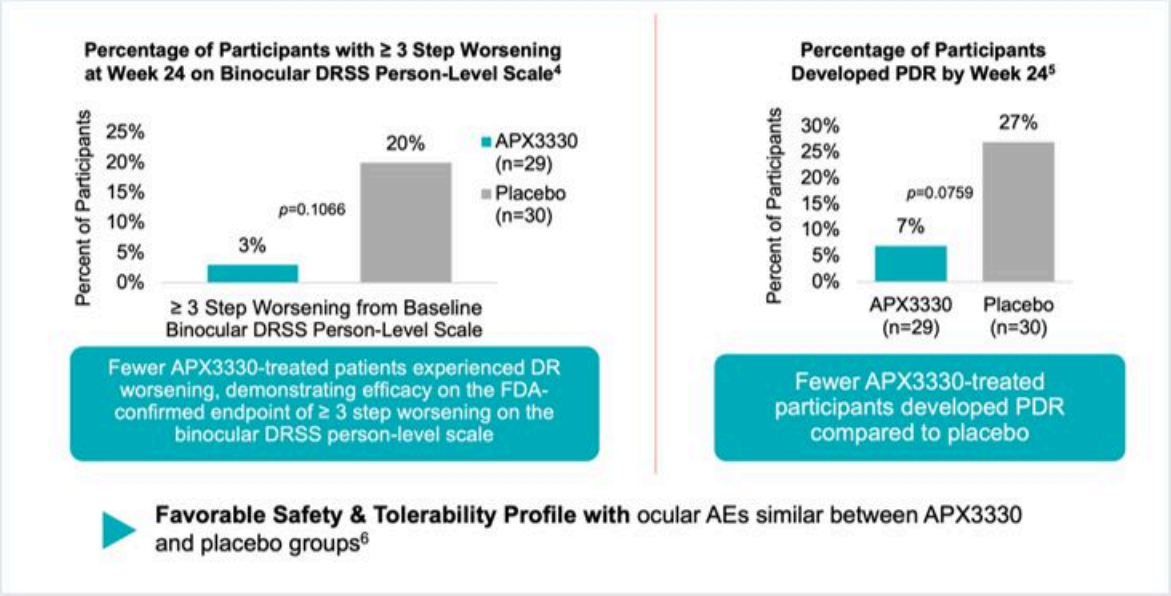
Note: Eylea® is registered trademark of Regeneron and Lucentis® is registered trademark of Roche/Genentech, VABYSMO™ is a registered trademark of the Roche Group, OZURDEX® is registered trademark of Allergan, XIPERE® is registered trademark of Clearside Biomedical, Inc., ILUVIEN® is registered trademark of Alimera Sciences Inc.

Clinical Development Process and Plan

APX3330 has been studied in over 375 healthy volunteers or patients with hepatitis or cancer or diabetic retinopathy.

In August 2022 we completed ZETA-1, a Phase 2b double-masked, randomized, placebo-controlled, multi-center trial in 103 patients with DR and DME. This study evaluated the effect of 600 mg daily dose of APX3330 in treating patients with DR, including moderately severe NPDR to mild PDR, as well as patients with DME without loss of central vision. The primary endpoint was percent of patients with a ≥2 step improvement in Early Treatment of Diabetic Retinopathy Study (ETDRS) diabetic retinopathy severity scale (DRSS) at week 24 in the study eye. The ZETA-1 trial did not meet the primary endpoint in the study eye; however, the trial provided evidence of the potential for clinically meaningful prevention of progression of diabetic retinopathy when evaluating both eyes. In the ZETA-1 trial, 13% of subjects within the placebo arm compared to 5% of subjects within the APX3330 arm worsened by ≥ 3 step on binocular person-level scale from baseline at week 24. Additional efficacy endpoints were directionally supportive of the biological effect of APX3330 in slowing the progression of DR and preserving vision.

ZETA-1 Phase 2 Subset Analysis Results:



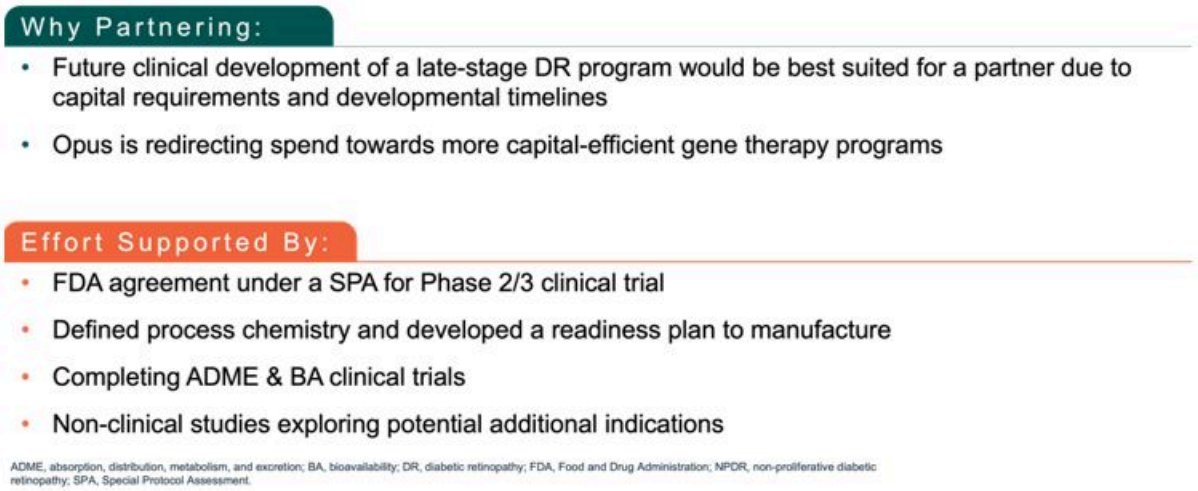
AEs, adverse events; DR, diabetic retinopathy; DRSS, Diabetic Retinopathy Severity Scale; NPDR, non-proliferative diabetic retinopathy; PDR, proliferative diabetic retinopathy.

Sources: Data on file. 4. ZETA-1 Table 14.2.2.7.6.; ZETA-1 Table 14.2.6.7.5.; ZETA-1 Tables: 14.3.1.1, 14.3.1.7, 14.3.1.10, 16.2.7.

Overall, there were 211 adverse events ("AEs") in 64 subjects, with only 31 of these AEs considered drug-related (14 APX3330, 17 placebo). All treatment-related AEs were mild or moderate in severity. There were no adverse treatment effects on any other characteristics of the ophthalmic examination or on any assessments of systemic safety.

For APX3330, we conducted an EOP2 meeting with the FDA and shared the outcome of the meeting in October 2023 which stated the agreement on the registrational program including confirmation of the primary endpoint for registration of a systemic agent for DR. In December 2024, the Company reached agreement with the FDA under SPA related to a Phase 3 clinical trial design. However, due to the capital requirements and developmental timelines of APX3330, which was recently approved for a Phase 3 clinical trial evaluating its oral treatment of moderate to severe NPDR, the Company is seeking a strategic partner to advance the clinical development of this late-stage diabetic retinopathy program and will redirect its existing resources towards the acquired gene therapy programs.

APX3330 is Primed for a Pivotal Study and Available for Partnering:

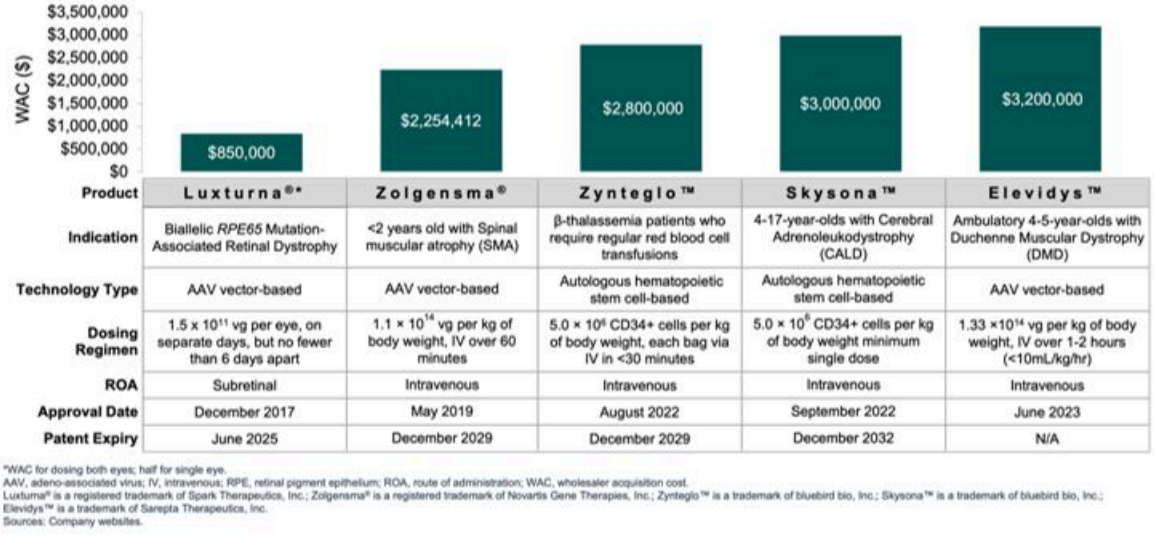


Overview of Eye Disease Market

Inherited Retinal Disease Market

Retinal degeneration is a devastating cause of severe vision loss beginning in childhood and progressing into adulthood. There are over 300 genetic mutations associated with IRDs. Only one of these, RPE65, has an approved treatment, Luxturna. Many of the mutations attributable to IRDs may be amenable to gene augmentation therapy using an established, standardized subretinal delivery method. Our pipeline addresses seven of these mutations with variable prevalence as a potential one-time treatment. Precedent for one-time gene therapy treatments supports pricing consistent with the value delivered by the product.

Pricing for Approved Gene Therapies:



Product	Luxturna®*	Zolgensma®	Zynteglo™	Skysona™	Elevidys™
Indication	Biallelic *RPE65* Mutation-Associated Retinal Dystrophy	<2 years old with Spinal muscular atrophy (SMA)	β-thalassemia patients who require regular red blood cell transfusions	4-17-year-olds with Cerebral Adrenoleukodystrophy (CALD)	Ambulatory 4-5-year-olds with Duchenne Muscular Dystrophy (DMD)
Technology Type	AAV vector-based	AAV vector-based	Autologous hematopoietic stem cell-based	Autologous hematopoietic stem cell-based	AAV vector-based
Dosing Regimen	1.5 x 10^{11} vg per eye, on separate days, but no fewer than 6 days apart	1.1 × 10^{14} vg per kg of body weight, IV over 60 minutes	5.0 × 10^{6} CD34+ cells per kg of body weight, each bag via IV in <30 minutes	5.0 × 10^{6} CD34+ cells per kg of body weight minimum single dose	1.33 ×10^{14} vg per kg of body weight, IV over 1-2 hours (<10mL/kg/hr)
ROA	Subretinal	Intravenous	Intravenous	Intravenous	Intravenous
Approval Date	December 2017	May 2019	August 2022	September 2022	June 2023
Patent Expiry	June 2025	December 2029	December 2029	December 2032	N/A

*WAC for dosing both eyes; half for single eye.
AAV, adeno-associated virus; IV, intravenous; RPE, retinal pigment epithelium; ROA, route of administration; WAC, wholesaler acquisition cost.
Luxturna® is a registered trademark of Spark Therapeutics, Inc.; Zolgensma® is a registered trademark of Novartis Gene Therapies, Inc.; Zynteglo™ is a trademark of bluebird bio, Inc.; Skysona™ is a trademark of bluebird bio, Inc.; Elevidys™ is a trademark of Sarepta Therapeutics, Inc.
Sources: Company websites.

Anterior (Front of the Eye) Segment Disease Market

There are approximately 100 million eye dilations in the United States and this number is expected to go up with the increasing aging and diabetic population that requires more frequent eye exams and procedures. Millions of Americans also suffer from various refractive errors in addition to an age-related loss in accommodation known as presbyopia.

Presbyopia is common in patients over the age of 40 years, which results in decreased ability to see objects at near distances due to a loss of accommodative function. This condition affects nearly 133 million Americans and usually requires reading glasses, bifocals/varifocals, contact lenses or surgical refractive treatment to enable clear vision at near distances.

Further, according to GlobalData, approximately 38 million patients in the U.S. suffer from dim light or night vision disturbances caused by LASIK, night myopia, keratoconus, eye surgery, or the natural aging process. There is also a global trend in vision disturbances in younger individuals due to the overuse of smartphone screens. There are 600,000 to 700,000 laser vision correction procedures conducted every year in the U.S., of these, 35% of LASIK patients report dim light disturbances post treatment.

Our pipeline includes PS, which has been approved by the FDA to treat pharmacologically-induced mydriasis and which is currently the subject of the VEGA-3 Phase 3 clinical trial for the treatment of presbyopia.

Diabetic Retinopathy Market

Diabetic Retinopathy ("DR") is an eye disease resulting from diabetes, affecting over 10 million patients in the U.S. alone, in which chronically elevated blood sugar levels result in damage to the microvascular blood vessels of the retina. It is the leading cause of vision loss in adults aged 20-74 years. There are two major types of DR:

- ***Non-proliferative DR, or NPDR.*** NPDR is an earlier stage of DR and can progress into more severe forms of DR over time if left untreated and if exposure to elevated blood sugar levels persist. Approximately 8 million patients in the U.S. have NPDR and are at risk of progressing to PDR (as defined below) if left untreated.

- ***Proliferative DR, or PDR.*** PDR is a more advanced stage of DR than NPDR. It is characterized by retinal neovascularization and, if left untreated, leads to permanent damage to the retina that results in loss of vision.

Therapies for NPDR and PDR are distinct. For NPDR, treatment is usually directed at observation, lifestyle changes, and control of elevated blood sugars that all lead to the progression of NPDR. Additionally, the current treatment paradigm is for physicians to wait and monitor early-stage DR/NPDR patients, with anti-VEGF (as defined below), steroid injectable therapy or laser treatment reserved for patients who advance to the proliferative form of DR or Diabetic Macular Edema ("DME").

Sales and Marketing

In November 2022, we entered into the Viatris License Agreement for the development and commercialization of all PS indications in the U.S. and ex-U.S. markets (excluding certain countries in Asia). Viatris is responsible for any commercialization activities associated with any approved PS indications.

Currently, we do not have any employees dedicated to the sales and marketing of any of our pipeline products. We may look to build our own sales and marketing infrastructure or pursue a partnership to commercialize any future drugs upon approval.

Manufacturing

We contract with manufacturers to produce drug substances (chemical and biologic), gene therapies drug products, and formulated drug products for use in our preclinical studies and clinical trials, utilizing reliable and reproducible processes and common manufacturing techniques which are consistent with applicable regulations for the intended use. Gene therapy drug products, Master Cell Banks, and plasmids are located at a contracted biorepository for long term storage, or the manufacturing site prior to relocation for storage. Contracts for ongoing stability storage and testing are established for current clinical inventory of drug substances, gene therapies, and drug products. We do not have any long-term manufacturing agreements but do intend to secure such arrangements for drug substances, gene therapies, or drug products in the event any of our products being developed become commercialized. We do not currently own or operate, and we have no current plans to establish any manufacturing facilities.

OPGx-LCA5

The manufacturing of current Good Manufacturing Practice ("cGMP") -grade OPGx-LCA5 drug substance and drug product for nonclinical toxicology and clinical studies was performed at an academic manufacturing partner, using an adherent process, with in-house and outsourced testing. The current batch size is 50 liters.

We are developing plans for technical transfer and scale-up of the manufacturing process, including analytical support, for pivotal Phase 3 clinical and pre-commercial readiness, at a commercial scale contract drug manufacturing organization ("CDMO").

OPGx-BEST1

Manufacturing of cGMP-grade OPGx-BEST1 drug substance and drug product for BEST nonclinical toxicology and clinical studies was performed at Catalent Incorporated, with in-house and outsourced testing. Process and analytical development work for OPGx-BEST1 were conducted at small scale. Following scale-up, replicate batches were produced at 200L scale, using the same process used for the Good Laboratory Practice ("GLP") toxicology studies. Batches of drug product, drug substance, and diluent were placed on stability programs which remain ongoing.

The Company does not currently have any active manufacturing agreements. We are developing plans for technical transfer and of the OPGx-BEST1 manufacturing process, including analytical support, for pivotal Phase 3 clinical and pre-commercial readiness.

Other Pre-clinical IRD Assets

The remaining IRD pipeline, including OPGx-RHO, OPGx-RDH12, OPGx-MERTK, OPGx-NMNAT1, and OPGx-GNGB1, are pre-clinical candidates in varying stages of phase appropriate development, based on the asset. Manufacturing completed to date has been conducted to support non-clinical toxicology programs, at a scale of 50L or less, with planning to support technical transfer and scale-up ongoing. There are no current or ongoing manufacturing agreements in place. A request for proposal process, to include small scale process development, technical transfer, and analytical method development, to identify a manufacturing partner is being conducted. The overall corporate strategy is to advance each from the current manufacturing status, from pre-clinical into clinical Phase 1/2 readiness consolidated with a CDMO meeting capability requirements under cGMP manufacturing conditions.

Phentolamine Solution (PS)

Pursuant to the Viatris License Agreement, we have transferred commercial manufacturing responsibilities for RYZUMVI to Viatris. Transfer of commercial manufacturing responsibilities for additional indications for which PS is in development is intended. Currently, we use purchase orders with multiple manufacturers for PS clinical supply manufacturing. We are qualifying our selected manufacturers to provide bulk drug substances and drug products in conjunction with the planned sNDA regulatory submissions to the FDA.

APX3330

APX3330 is a solid oral formulation of a small molecule drug substance that is synthesized from readily available raw materials and using conventional chemical processes. The APX3330 drug substance has been optimized to a new form. Process and analytical development of APX3330 drug substance and drug product is in development, and plans for production scale up according to cGMP regulatory requirements are established. Previously, the APX3330 drug product manufacturer performed pharmaceutical development to support the cGMP manufacturing campaign for tablets of 60 mg and 120 mg dose strengths, the latter being used in prior clinical trials. We have reformulated the drug product and increased the dose strength to 300 mg for convenient once or twice a day dosing and completed one human bioavailability trial with the new formulation to demonstrate comparability with the prior investigational product. Planning to complete the remaining process development, scale up, and validation are established, pending execution following a partnership agreement.

License Agreements

Apexian Sublicense Agreement

On January 21, 2020, the Company entered into a sublicense agreement with Apexian Pharmaceuticals, Inc. pursuant to which it obtained an exclusive worldwide patent and other intellectual property rights relating to a Ref-1 Inhibitor program, including APX3330, for the treatment of ophthalmic or diabetic diseases. In exchange for the patent and other intellectual rights, the Company agreed to certain milestone payments and royalty payments on future sales. As of December 31, 2024, there was sufficient uncertainty with regard to any future cash milestone payments under the sublicense agreement that no liabilities were recorded related to the sublicense agreement.

University of Pennsylvania LCA5/RDH12 License Agreement

On June 15, 2022, Opus entered into an amended and restated license agreement (the "LCA5/RDH12 Agreement") with the Trustees of the University of Pennsylvania ("Penn") pursuant to which it was granted an exclusive, royalty-bearing license to certain patents and a non-exclusive license to certain information relating to products directed towards treatment or correction of mutation of the LCA5 or RDH12 genes. In connection with signing, we granted to Penn shares of common stock equal to a mid single-digit percentage of our then total capital stock calculated on a fully diluted basis. We will make additional payments to Penn upon the achievement of certain specified development, regulatory and commercial milestone events up to a maximum potential aggregate amount of $2.6 million. Until we are required to pay royalties under the LCA5/RDH2 Agreement, we must pay an annual license maintenance fee to Penn in the low tens of thousands of dollars. In addition, we will make quarterly tiered royalty payments in low single-digit percentages on net sales of licensed products, subject to minimum annual royalty payments up to the low tens of thousands of dollars, depending on the given year. We will also make payments on any sublicense income, in percentages up to the mid teens, with such percentage depending on the stage of product development. The term of the LCA5/RDH12 Agreement continues until the later of (i) expiration of the licensed patents and (ii) 10 years after first commercial sale, unless Penn has cause to terminate earlier for our material breach of the license or bankruptcy. We have the right to terminate the LCA5/RDH12 Agreement at any time during the term with certain prior written notice to Penn. As of December 31, 2024, there was sufficient uncertainly with regard to any future cash milestone payments under the LCA5/RDH12 Agreement that no liabilities were recorded related to the agreement.

Iveric Asset Purchase Agreement – BEST1 and RHO Programs

On December 23, 2022, Opus entered into an asset purchase agreement with Iveric (the "Iveric Agreement") pursuant to which the Company acquired certain assets, including the BEST1 License (as defined below), relating to the BEST1 and RHO products.

If, with respect to the BEST1 products or the RHO products during a specified earn-out period (i.e., from the date of signing the Iveric Agreement until the later of 15 years following first commercial sale of a product in a country or the expiration of all applicable regulatory exclusivity periods with respect to such product in such country), (i) we materially breach our diligence obligations with respect to the BEST1 products or the RHO products, as applicable, (ii) the acquired intellectual property licenses relating to the BEST1 products or the RHO products, as applicable, are terminated for any reason, or (iii) we cease efforts to exploit the BEST1 products or the RHO products, as applicable, for a certain period (subject to certain exceptions), then upon Iveric's request we are obligated to assign to Iveric our rights to the BEST1 products or the RHO products, as applicable, including related patent rights, contracts, information and regulatory documents.

Until the sixth anniversary of signing, Iveric has a right of first refusal if we intend to seek or pursue a deal to license, sell, transfer or otherwise dispose of all or substantially all of our assets primarily relating to either or both of the BEST1 or RHO product candidates, or if we receive an unsolicited offer from a third party relating to the foregoing.

In connection with signing of the Iveric Agreement, we paid Iveric an upfront fee of $500,000 and issued to Iveric certain shares of series seed preferred stock of Opus equivalent to a high single digit percentage of our then outstanding capital stock. We will make additional payments to Iveric upon the achievement of specified (i) development milestones, the maximum potential aggregate amount of such milestones being $11.35 million with respect to the BEST1 program and $1.45 million with respect to the RHO program and (ii) commercial milestones, the maximum potential aggregate amount of such milestones being $95.4 million with respect to the BEST1 program and $3.5 million with respect to the RHO program. In addition, we will make royalty payments in the low single digit percentages on net sales of licensed RHO and BEST1 products. As of December 31, 2024, there was sufficient uncertainty with regard to any future cash milestone payments under the Iveric Agreement that no liabilities were recorded related to the agreement.

Penn and University of Florida BEST1 License Agreement

On April 10, 2019, Iveric entered into an exclusive patent license agreement (as amended, the "BEST1 License") with Penn and the University of Florida Research Foundation ("UF"), which agreement was assigned to Opus under the terms of the Iveric Agreement. Under the BEST1 License, Opus received exclusive patent rights and non-exclusive knowhow and data rights with regard to products to treat diseases associated with mutations in the BEST1 gene. In connection with signing, Iveric paid Penn an upfront fee in the low hundreds of thousands of dollars. We will make additional payments to Penn upon the achievement of specified (i) clinical and regulatory milestones up to a maximum potential aggregate amount of $15.65 million for the first licensed product, regardless of category (i.e., "wildtype only products" or "knockdown and replace products"), and $3.13 million for the first licensed product from a different category, and (ii) commercial milestones, up to a maximum potential aggregate amount of $48 million for the first licensed product, regardless of category, and $9.6 million for the first licensed product from a different category. In consideration for Penn and UF's consent to the assignment of the BEST1 License to us under the Iveric Agreement, we will also pay Penn a percentage, in the mid teens, of each milestone payment that we are required to pay to Iveric under the Iveric Agreement. Until we are required to pay royalties under the BEST1 License, we must pay an annual license maintenance fee to UF and Penn in the low tens of thousands of dollars. In addition, we will make quarterly tiered royalty payments in the low single-digit percentages on net sales of licensed BEST1 products, subject to minimum annual royalty payments in the mid tens of thousands of dollars, starting from the earlier of the first commercial sale of a licensed product or a future specified date. We will also make payments on sublicense income, in percentages up to the mid teens, with such percentage depending on the stage of product development.

The term of the BEST1 License continues until the later of (i) expiration of the licensed patents, (ii) expiration of regulatory exclusivity, or (iii) 10 years after the first commercial sale of a licensed product, unless UF or Penn has caused the BEST1 License to terminate earlier for our material breach of the license or bankruptcy. We have the right to terminate the BEST1 License in its entirety or with respect to a particular category of licensed products with certain prior written notice to Penn (without affecting our rights or obligations to the other category of licensed products), at any time prior to an investigational new drug application or clinical trial application ("IND") for a licensed product in such category becoming effective. After an IND for a licensed product in a particular category becomes effective, then the BEST1 License will be non-cancellable with respect to such category, except that we will have the right to terminate the agreement with respect to such category by providing UF and Penn written notice. As of December 31, 2024, there was sufficient uncertainty with regard to any future cash milestone payments under the BEST1 License that no liabilities were recorded related to the agreement.

LCA5 VR License

On March 2, 2023, Opus entered into a non-exclusive license agreement (the "LCA5 VR License") with Penn pursuant to which it was granted a non-exclusive license to certain patents and copyrights relating to testing visual function using simulated living situations in individuals with visual disorders, for Opus' use in clinical trials for the

evaluation of retinal disorder treatments caused by LCA5 mutations. In connection with signing, we paid Penn an upfront fee in the low tens of thousands of dollars. We will make additional payments to Penn, in the low single digit thousands of dollars, for each use of a licensed product in a clinical trial. The term of the LCA5 VR License continues until six months after the conclusion of all clinical trials for the evaluation of treatments for retinal disorders caused by a mutation or mutations in the LCA5 gene. We have the right to terminate the LCA5 VR License at any time during the term with certain prior written notice to Penn.

Penn and UF RHO License Agreement

On June 6, 2018, Iveric entered into an exclusive patent license agreement (the "RHO License") by and between Penn and UF pursuant to which the Company has exclusive patent rights and non-exclusive knowhow and data rights with regard to products to treat rhodopsin-mediated diseases. In return for these rights, the Company is obligated to make certain development milestone payments and royalty payments on future sales of such products. As of December 31, 2024 there was sufficient uncertainty with regard to any future cash milestone payments under the RHO License that no liabilities were recorded related to the agreement.

Massachusetts Eye and Ear Infirmary License Agreement

On November 9, 2021, Opus entered into a license agreement (the "MEEI License") with the Massachusetts Eye and Ear Infirmary ("MEEI"), granting an exclusive worldwide license of MEEI patents for use in the NMNAT1 program for all products and processes including the treatment of retinal disease in humans, and a non-exclusive worldwide license to technological information. In return for these rights, the Company is obligated to make certain development milestone payments and royalty payments on future sales of such products. As of December 31, 2024 there was sufficient uncertainty with regard to any future cash milestone payments under the MEEI License that no liabilities were recorded related to the agreement.

Intellectual Property

Gene Therapy

We in-license multiple patents and patent applications directed to our gene therapy programs. We also own one patent family directed to our MERTK therapeutic program. Our patent estate for each gene therapy program, as of December 31, 2024, is described in more detail below.

For our LCA5 therapeutic program, we in-license one patent family directed to compositions of matter and therapeutic methods using such compositions of matter. The patent family contains patents in the U.S., Japan, Australia, and South Korea and pending patent applications in the U.S., Europe, and additional foreign countries. The foregoing U.S. patent expires in 2039, and the Japanese, Australian, and South Korean patents, including any patents that may be granted based on the foregoing pending patent applications, will expire in 2038, each not including any patent term extension.

For our BEST1 therapeutic program, we in-license four patent families. The first patent family is directed to compositions of matter and therapeutic methods using such compositions of matter and has patent applications pending in the U.S., Europe, Japan, and additional foreign countries. If the foregoing patent applications are granted, these patents would expire in 2039, not including any patent term extension. The second and third patent families are each directed to methods of treatment and have patent applications pending in the U.S., Europe, Japan, and additional foreign countries. Patents, if granted based on the foregoing patent applications, would expire in 2041, not including any patent term extension. The fourth patent family is direct to methods of treatment and methods for assessing treatment and has patent applications pending in the U.S. and Europe. Patents, if granted based on the foregoing patent applications, would expire in 2042, not including any patent term extension.

For our RHO therapeutic program, we in-license two patent families, each directed to compositions of matter and therapeutic methods using such compositions of matter. The first patent family has patents in the U.S., Europe, Japan, and additional foreign countries, while the second patent family has patents in Japan and China. Each patent family also has patent applications pending in the U.S., Europe, and additional foreign countries. The foregoing patents, including any patents to grant based on the foregoing patent applications, will expire from 2037 to 2039, not including any patent term extension.

For our MERTK therapeutic program, we own one international patent application to compositions of matter and therapeutic methods using such compositions of matter. This patent, if granted based on the foregoing patent application to be filed based on the foregoing international patent application, would expire in 2044, not including any patent term extension.

For our RDH12 therapeutic program, we in-license one patent family directed to compositions of matter and therapeutic methods using such compositions of matter, consisting of patents in the U.S., Japan, Australia, and additional foreign countries and pending patent applications in the U.S., Europe, and additional foreign countries. The foregoing patents, including any patents to grant based on the pending patent applications, will expire in 2037, not including any patent term extension.

For our NMNAT1 therapeutic program, we in-license one patent family directed to compositions of matter and therapeutic methods using such compositions of matter, consisting of pending patent applications in the U.S., Europe, Japan, and additional foreign countries. These patents, if granted based on the pending patent applications, would expire in 2041, not including any patent term extension.

For our CNGB1 therapeutic program, we in-license one patent family directed to compositions of matter and therapeutic methods using such compositions of matter. This patent family contains a patent in Japan and pending patent applications in the U.S., Europe, and additional foreign countries, whereby the Japanese patent and patents, if granted, based on the foregoing pending patent applications, expire in year 2038, not including any patent term extension.

PS

Our patent estate includes patents and patent applications to forms of phentolamine mesylate, formulations containing phentolamine mesylate, methods of using phentolamine mesylate, and methods of manufacturing phentolamine mesylate. We own all of the worldwide rights to PS for all indications, but out-license certain rights to PS pursuant to the Viatris License Agreement.

Our patent estate relating to PS contains over 12 U.S. patents, over seven pending U.S. non-provisional patent applications, a pending international patent application, as well as issued patents in Australia, Canada, Europe, Japan, and Mexico and pending patent applications in Europe, Japan, and other foreign countries. Multiple U.S. patents and counterpart Australian, Canadian, European, and Japanese patents are directed to aqueous phentolamine mesylate formulations and are scheduled to expire in 2034. Additional multiple U.S. patents and counterpart Australian, Canadian, European, and Japanese patents are directed to methods of improving visual performance using, for example, phentolamine mesylate and are scheduled to expire in 2034.

We also own two U.S. patents with claims to methods of treating presbyopia, and one U.S. patent with claims to methods of treating mydriasis—each of the foregoing U.S. patents are scheduled to expire in 2039. Additionally, we own one pending U.S. patent application with claims to treating presbyopia and two pending U.S. patent applications with claims to treating mydriasis. Counterpart patent applications are pending in Europe, Japan, and other foreign countries—if granted based on these pending applications, these patents would expire in 2039. Patent applications are also pending in the U.S., Europe, Japan, and other foreign countries directed to additional methods for treating mydriasis—if granted based on the foregoing patent applications, these patents would expire in 2042.

We also own two U.S. patents, one pending U.S. patent application, and pending foreign patent applications in Europe, Japan, and additional foreign countries directed to high-purity phentolamine mesylate and methods for making the same. We also have a pending international patent application, pending U.S. patent application, and pending European patent application directed to particular phentolamine mesylate crystal forms and their use—if granted based on the foregoing patent applications, these patents would expire in 2043.

We have obtained registration of the “RYZUMVI” trademark in the United States.

APX3330

As of December 31, 2024, the patent estate that we in-license for APX3330 and related compounds contains nine U.S. patents and two pending U.S. non-provisional patent applications, as well as issued patents in Europe, Japan, and additional foreign countries, and pending patent applications in Europe, Japan, and additional foreign countries. The license is for the use and commercialization of APX3330 and related compounds covered by the subject patents and patent applications in the field of human health uses for ophthalmic and diabetes mellitus indications.

One in-licensed U.S. patent is directed to methods of treating diabetic retinopathy and other diseases using, for example, APX3330, and is scheduled to expire in year 2030, not including any patent term extension. Counterpart patents have issued in Europe, Japan, and additional foreign countries, which are scheduled to expire in year 2028. A separate in-licensed patent family directed to methods of treating wet Age-Related Macular Degeneration and other diseases using, for example, APX2009 or APX2014, contains one U.S. patent, one pending U.S. patent application, and patents in Europe, Japan, and additional foreign countries, as well as a pending patent application in Canada —these patents, including any patents to grant based on the pending patent applications, will expire in 2039. Additional in-licensed patents and patent applications are directed to methods of treating certain retinal diseases, combination therapy, and/or derivatives of APX3330—these patents, including any patents to grant based on the foregoing pending patent applications, will expire from 2028 to 2039, not including any patent term extension.

In addition, as of December 31, 2024, we own one U.S. provisional patent application, one U.S.non-provisional patent application, one international patent application, and patent applications in Europe, Japan, and additional foreign countries and directed to methods of treating diabetic retinal diseases using APX3330. Patents, if granted, based on the foregoing patent applications would expire from 2042 to 2045, not including any patent term extension. Additionally, we own one pending international patent application with counterpart patent applications pending in the U.S., Taiwan, and Argentina directed to APX3330 salts and esters—whereby patents, if granted based on the foregoing patent applications, would expire in 2043, not including any patent term extension.

Competition

We and our development partners face competition from both branded and generic pharmaceutical companies as well as products that are currently in development. Many of these companies have significantly greater financial and human resources and experience in drug development, R&D, and commercialization. These competitors compete with us in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites and patient enrollment for clinical trials, and acquiring products, product candidates or other technologies complementary to our programs. Smaller and other early-stage companies may also prove to be significant competitors if they choose to partner with large, established companies.

Inherited Retinal Diseases

While we are not currently aware of any direct competitors for our OPGx-LCA5 gene therapy program, there are various companies developing gene therapies for the treatment of IRDs, which may ultimately directly compete with us in the future. To our knowledge, there are no active IRD gene therapy programs in development for the treatment of LCA5, BEST1, NMNAT1, or MerTK genes. With respect to the RDH12 gene, there is an investigator-initiated trial in China and a program from MeiraGTX. For the Rho program, Octant Bio appears to have a preclinical program. Cell therapies and optogenetics are potential competition for late stages for our diseases from genes of interest at which point, gene augmentation may be less efficacious.

PS

Phentolamine Ophthalmic Solution 0.75% is in development for additional indications of presbyopia as well as decreased visual acuity under low light conditions following keratorefractive surgery. There are multiple potential competitors for the treatment of presbyopia including Lenz Therapeutics (LNZ100 - 1.75% Aceclidine) and AbbVie (VUITY® (pilocarpine hydrochloride ophthalmic solution) - 1.25%). We are not aware of direct competition for the treatment of DLD following keratorefractive surgery.

In January 2025, we received a Paragraph IV Certification Notice (“Notice Letter”) that Sandoz, Inc., a provider of generic and biosimilar medicines (“Sandoz”), submitted an Abbreviated New Drug Application (ANDA) to the FDA seeking approval to manufacture, use or sell a generic version of RYZUMVI for the reversal of pharmacologically-induced mydriasis in the U.S. prior to the expiration of six of our patents listed in the FDA’s *Approved Drug Products with Therapeutic Equivalence Evaluations* publication (the “Orange Book”). The Notice Letter alleges that these patents are invalid or unenforceable or will not be infringed by the generic product described in Sandoz’s ANDA. If the challenge by Sandoz is successful, it could result in the introduction of a generic competitor to the market before the expiration of our patents, thereby reducing our market share and potential future revenue from sales of RYZUMVI for reversal of pharmacologically-induced mydriasis. In March 2025, in collaboration with our commercialization partner for RYZYMVI®, we filed a complaint for patent infringement of certain RYZYMVI® patents against Sandoz in the District of New Jersey in response to Sandoz’s ANDA filing. The complaint seeks, among other relief, equitable relief enjoining Sandoz from infringing the RYZUMVI patents.

APX3330

There are multiple products currently used to treat diabetic retinopathy and macular edema including anti-VEGF therapies, including faricimab-svoa (Vabysmo), ranibizumab (Lucentis) and aflibercept (Eylea). There are also multiple additional therapies in research and development stages for the treatment of diabetic retinopathy. Photocoagulation and vitrectomies may also be used to treat diabetic retinopathy.

Government Regulation and Product Approvals

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

The EMA is a decentralized agency governed by an independent management board responsible for the evaluation, supervision, and safety monitoring of medicines in the EU. The Medicines and Healthcare products Regulatory Agency (MHRA) regulates medicines, medical devices, and blood components in the United Kingdom (UK) and serves as a similar function to the EMA in the EU, following the exit of the UK from the EU(the so-called "Brexit"). The Japanese Pharmaceuticals and Medical Devices Agency (PMDA) serves a similar function to the FDA in the United States and is an independent administrative institution. The National Medical Products Administration (NMPA) is the Chinese agency for regulating drugs and medical devices (formerly the China Food and Drug Administration or CFDA).

Review and Approval of Drugs and Biologics in the United States

In the United States, the FDA regulates drug and biological products under the Federal Food, Drug, and Cosmetic Act ("FDCA"), and the Public Health Service Act ("PHSA"), respectively, and implementing regulations. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations requires the expenditure of substantial time and financial resources. The failure to comply with applicable requirements under the FDCA, PHSA and other applicable laws at any time during the product development process, approval process or after approval may subject an applicant and/or sponsor to a variety of administrative or judicial sanctions, including refusal by the FDA to approve pending applications, withdrawal of an approval, imposition of a clinical hold, issuance of warning letters, untitled letters, and other types of letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement of profits, or civil or criminal investigations and penalties brought by the FDA and the Department of Justice or other governmental entities.

An applicant seeking approval to market and distribute a new drug or biological product in the United States must typically undertake the following:

- completion of preclinical laboratory tests, animal studies and formulation studies in compliance, as applicable, with the Animal Welfare Act and FDA's good laboratory practice, or GLP, regulations;

- submission to the FDA of an IND, which must take effect before human clinical trials may begin;

- approval by an independent institutional review board, or IRB, representing each clinical site before each clinical trial may be initiated;
- performance of human clinical trials, including adequate and well-controlled clinical trials, in accordance with good clinical practices, or GCP, and other applicable regulations to establish the safety and efficacy of the proposed drug product, or the safety, purity, and potency of the proposed biologic, for each proposed indication;
- manufacturing, packaging, labelling, and distribution of drug substances and drug products consistent with the FDA's cGMP regulations, as well as GLP non-clinical and GCP clinical studies to investigate the drug candidate;
- development of product label, package inserts, and prescriber information that is intended to be used and included with the commercial product;
- preparation and submission to the FDA of an NDA, BLA or supplements;
- review of the product by an FDA advisory committee, where appropriate or if applicable;
- satisfactory completion of one or more FDA inspections of the manufacturing facility or facilities at which the product, or components thereof, are produced to assess compliance with cGMP requirements and to assure that the facilities, methods and controls are adequate to preserve the product's identity, strength, quality and purity;
- satisfactory completion of FDA audits of clinical trial site(s) to assure compliance with GCPs and the integrity of the clinical data;
- FDA approval of application; and
- compliance with any post-approval requirements, including Risk Evaluation and Mitigation Strategies, or REMS, and post-approval studies required by the FDA.

Preclinical Studies

Preclinical studies include laboratory evaluations of product chemistry, toxicity and formulation, as well as *in vitro* and *in vivo* animal studies to assess the safety and activity of the product candidate for initial testing in humans and to establish a rationale for therapeutic use. The conduct of preclinical studies is subject to federal regulations and requirements, including GLP regulations. The results of the preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature and plans for clinical trials, among other things, are submitted to the FDA as part of an IND. Some long-term preclinical testing, such as long-term repeat-dose toxicology studies, may continue after the IND is submitted.

Companies usually must complete some long-term preclinical testing, such as long-term repeat-dose toxicology studies, and must also develop additional information about the chemistry and physical characteristics of the investigational product and finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the candidate product and, among other things, the manufacturer must develop methods for testing the identity, strength, quality and purity of the final product. Additionally, appropriate packaging must be selected and tested, and stability studies must be conducted to demonstrate that the candidate product does not undergo unacceptable deterioration over its shelf life.

The IND and IRB Processes

An IND is an exemption from the FDCA that allows an unapproved drug or biological to be shipped in interstate commerce for use in an investigational clinical trial. In support of a request for an IND, applicants must submit a protocol for each clinical trial and any subsequent protocol amendments must be submitted to the FDA as part of the IND. In addition, the results of preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature and plans for clinical trials, among other things, are submitted to the FDA as part of an IND. An IND goes into effect 30-days after its filing, unless during this 30-day period the FDA raises concerns or questions and imposes a clinical hold.

A clinical hold is an order issued by the FDA to the sponsor to delay a proposed clinical investigation or to suspend an ongoing investigation. A partial clinical hold is a delay or suspension of only part of the clinical work requested under the IND. For example, a specific protocol or part of a protocol is not allowed to proceed, while other protocols may do so. No more than 30 days after imposition of a clinical hold or partial clinical hold, the FDA will provide the sponsor a written explanation of the basis for the hold. Following issuance of a clinical hold or partial clinical hold, an investigation may only resume after the FDA has notified the sponsor that the investigation may proceed. The FDA will base that determination on information provided by the sponsor correcting the deficiencies previously cited or otherwise satisfying the FDA that the investigation can proceed. The FDA may also place a clinical hold or partial clinical hold on a trial after a clinical trial has begun.

A sponsor may choose, but is not required, to conduct a foreign clinical trial under an IND. When a foreign clinical trial is conducted under an IND, all FDA IND requirements must be met unless waived. When the foreign clinical trial is not conducted under an IND, the sponsor must ensure that the trial complies with certain FDA regulatory requirements in order to use the trial as support for an IND or application for marketing approval, including that such trials must be conducted in accordance with GCP, including review and approval by an independent ethics committee, or IEC, and obtaining informed consent from patients. The GCP requirements in the final rule encompass both ethical and data integrity standards for clinical studies. The FDA's regulations are intended to help ensure the protection of human patients enrolled in non-IND foreign clinical studies, as well as the quality and integrity of the resulting data. They further help ensure that non-IND foreign studies are conducted in a manner comparable to that required for IND studies.

In addition, an IRB (or Independent Ethics Committee (IEC or EC), within Europe) representing each institution participating in the clinical trial must review and approve the plan for any clinical trial before it commences at that institution, and the IRB must exercise continuing supervision over the trial. The IRB must review and approve, among other things, the trial protocol and informed consent information to be provided to trial patients. An IRB must operate in compliance with FDA regulations. An IRB can suspend or terminate approval of a clinical trial at its institution, or an institution it represents, if the clinical trial is not being conducted in accordance with the IRB's requirements or if the product candidate has been associated with unexpected serious harm to patients.

Additionally, some trials are overseen by an independent group of qualified experts organized by the trial sponsor, known as a data safety monitoring board or committee. This group provides authorization for whether or not a trial may move forward at designated check points based on access that only the group maintains to available data from the trial. Suspension or termination of development during any phase of clinical trials can occur if it is determined that the participants or patients are being exposed to an unacceptable health risk. Other reasons for suspension or termination may be made by Opus based on evolving business objectives and/or competitive climate.

Information about certain clinical trials must be submitted within specific timeframes to the National Institutes of Health, or NIH, for public dissemination on its ClinicalTrials.gov website.

Human Clinical Trials in Support of an NDA or BLA

Clinical trials involve the administration of the investigational product to human patients or healthy volunteers under the supervision of qualified investigators in accordance with GCP requirements, which include, among other things, the requirement that all research patients provide their informed consent in writing before their participation in any clinical trial. Clinical trials are conducted under written trial protocols detailing, among other things, the inclusion and exclusion criteria, the objectives of the trial, the tests to be conducted on study participants, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated.

Human clinical trials are typically conducted in 3 sequential phases, but the phases may overlap.

- *Phase 1.* The drug or biological product is initially introduced into healthy human subjects or, in certain indications such as cancer, patients with the target disease or condition and tested for safety, dosage tolerance, absorption, metabolism, distribution, excretion and, if possible, to gain an early indication of its effectiveness and to determine optimal dosage.

- *Phase 2.* The drug or biological product is administered to a limited patient population to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted diseases and to determine dosage tolerance and optimal dosage.

- *Phase 3.* The drug or biological product is administered to an expanded patient population, generally at geographically dispersed clinical trial sites, in well-controlled clinical trials to generate enough data to statistically evaluate the efficacy and safety of the product for approval, to establish the overall risk-benefit profile of the product and to provide adequate information for the labelling of the product.

Reports detailing activities under, and the status of, an IND must be submitted at least annually to the FDA. In addition, IND safety reports must be submitted to the FDA for any of the following: serious and unexpected suspected adverse reactions; findings from other studies or animal or in vitro testing that suggest a significant risk in humans exposed to the drug or biological product; and any clinically important increase in the rate of a serious suspected adverse reaction over that listed in the protocol or investigator brochure. Phase 1, Phase 2 and Phase 3 clinical trials may not be completed successfully within any specified period, or at all. Furthermore, the FDA or the sponsor may suspend or terminate a clinical trial at any time on various grounds, including a finding that the research patients are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution, or an institution it represents, if the clinical trial is not being conducted in accordance with the IRB's requirements or if the drug or biological product has been associated with unexpected serious harm to patients. The FDA will typically inspect one or more clinical sites to assure compliance with GCP and the integrity of the clinical data submitted.

Sponsors may reach an SPA agreement with respect to the design of clinical trials. The FDA's SPA process is designed to facilitate the FDA's review and approval of drugs and biologics by allowing the FDA to evaluate the proposed design and size of certain clinical or animal studies, including clinical trials that are intended to form the primary basis for determining a product candidate's efficacy. Upon specific request by a clinical trial sponsor, the FDA will evaluate the protocol and respond to a sponsor's questions regarding protocol design and scientific and regulatory requirements. The FDA aims to complete SPA reviews within 45 days of receipt of the request. The FDA ultimately assesses whether specific elements of the protocol design of the trial, such as entry criteria, dose selection, endpoints and/or planned analyses, are acceptable to support regulatory approval of the product with respect to the effectiveness of the indication studied. All exchanges between the FDA and the sponsor regarding an SPA must be clearly documented in an SPA letter or the minutes of a meeting between the sponsor and the FDA.

Although the FDA may agree to an SPA, an SPA agreement does not guarantee approval of a product. Even if the FDA agrees to the design, execution, and analysis proposed in protocols reviewed under the SPA process, the FDA may revoke or alter its agreement in certain circumstances. In particular, an SPA agreement is not binding on the FDA if public health concerns emerge that were unrecognized at the time of the SPA agreement, other new scientific concerns regarding product safety or efficacy arise, the sponsor company fails to comply with the agreed upon trial protocols, or the relevant data, assumptions or information provided by the sponsor in a request for the SPA change or are found to be false or omit relevant facts.

In addition, even after an SPA agreement is finalized, the SPA agreement may be modified, and such modification will be deemed binding on the FDA review division, except under the circumstances described above, if the FDA and the sponsor agree in writing to modify the protocol. Generally, such modification is intended to improve the study. The FDA retains significant latitude and discretion in interpreting the terms of the SPA agreement and the data and results from any study that is the subject of the SPA agreement. Moreover, if the FDA revokes or alters its agreement under the SPA, or interprets the data collected from the clinical trial differently than we do, the FDA may not deem the data sufficient to support an application for regulatory approval.

Concurrent with clinical trials, companies often complete additional animal studies and must also develop additional information about the chemistry and physical characteristics of the drug or biological product as well as finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the drug or biologic candidate and, among other things, must develop methods for testing the identity, strength, quality, purity, and potency of the final drug or biologic. Additionally, appropriate packaging must be selected and tested, and stability studies must be conducted to demonstrate that the drug or biological candidate does not undergo unacceptable deterioration over its shelf life.

Submission of an NDA or BLA to the FDA

Assuming successful completion of required clinical testing and other requirements, the results of the preclinical studies and clinical trials, together with detailed information relating to the product's chemistry, manufacture, controls and proposed labeling, among other things, are submitted to the FDA as part of an application requesting approval to market the drug or biological product for one or more indications. Under federal law, the submission of most NDAs and BLAs are subject to an application user fee. The sponsor of an approved NDA or BLA is also subject to an annual prescription drug program fee. Certain exceptions and waivers are available for some of these fees, such as an exception from the application fee for drugs or biologics with orphan designation and a waiver for certain small businesses. The FDA conducts a preliminary review of an NDA or BLA within 60 days of its receipt and informs the sponsor by the 74th day after the FDA's receipt of the submission to determine whether the application is sufficiently complete to permit substantive review. The FDA may request additional information rather than accept an NDA or BLA for filing, and the sponsor receives a Refuse to File Notice. In this event, the application must be resubmitted with the additional information. The resubmitted application is also subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA begins an in-depth substantive review. The FDA has agreed to certain performance goals in the review process of NDAs and BLAs. The goal for review of most standard applications is within 10 months from the date of filing, and for "priority review" products the review goal is within 6 months of filing. The review process may be extended by the FDA to consider new information or clarification provided by the applicant to address an outstanding deficiency identified by the FDA following the original submission.

Before approving an NDA or BLA, the FDA typically will inspect the facility or facilities where the product is or will be manufactured. These pre-approval inspections ("PAIs") may cover all facilities associated with an NDA or BLA submission, including drug or biologic component manufacturing (such as active pharmaceutical ingredients), finished drug or biological product manufacturing, and control testing laboratories. The FDA will not approve an application unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications at the commercial scale. Additionally, before approving an NDA or BLA, the FDA will typically inspect one or more clinical sites to assure compliance with GCP.

In addition, as a condition of approval, the FDA may require an applicant to develop Risk Evaluation and Mitigation Strategies ("REMS"). REMS uses risk minimization strategies to ensure that the benefits of the product outweigh the potential risks. REMS can include medication guides, physician communication plans for healthcare professionals, and elements to assure safe use ("ETASU"). ETASU may include, but are not limited to, special training or certification for prescribing or dispensing, dispensing only under certain circumstances, special monitoring, and the use of patient registries. The FDA may require a REMS at the time of approval or post-approval if it becomes aware of a serious risk associated with use of the product. The requirement for a REMS can materially affect the potential market and profitability of a product.

The FDA may refer an application for a novel drug or biologic to an advisory committee or explain why such referral was not made. Typically, an advisory committee is a panel of independent experts, including clinicians and other scientific experts, that reviews, evaluates and provides a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

Fast Track, Breakthrough Therapy, and Priority Review Designations

The FDA is authorized to designate certain products for expedited review if they are intended to address an unmet medical need in the treatment of a serious or life-threatening disease or condition. These programs are referred to as fast-track designation, breakthrough therapy designation, and priority review designation.

Specifically, the FDA may designate a product for Fast Track review if it is intended, whether alone or in combination with one or more other products, for the treatment of a serious or life-threatening disease or condition, and it demonstrates the potential to address unmet medical needs for such a disease or condition. For Fast Track products, sponsors may have greater interactions with the FDA and the FDA may initiate review of sections of a Fast Track product's application before the application is complete. The sponsor must also provide, and the FDA must approve, a schedule for the submission of the remaining information and the sponsor must pay applicable user fees. However, the FDA's time period goal for reviewing a Fast Track application does not begin until the last section of the application is submitted. In addition, the Fast Track designation may be withdrawn by the FDA if the FDA believes that the designation is no longer supported by data emerging in the clinical trial process.

Second, a product may be designated as a Breakthrough Therapy if it is intended, either alone or in combination with one or more other products, to treat a serious or life-threatening disease or condition and preliminary clinical evidence indicates that the product may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. The FDA may take certain actions with respect to Breakthrough Therapies, including holding meetings with the sponsor throughout the development process; providing timely advice to the product sponsor regarding development and approval; involving more senior staff in the review process; and assigning a cross-disciplinary project lead for the review team.

Third, the FDA may designate a product for Priority Review if it is a product that treats a serious condition and, if approved, would provide a significant improvement in safety or effectiveness. The FDA determines, on a case- by-case basis, whether the proposed product represents a significant improvement when compared with other available therapies. Significant improvement may be illustrated by evidence of increased effectiveness in the treatment of a condition, elimination or substantial reduction of a treatment-limiting product reaction, documented enhancement of patient compliance that may lead to improvement in serious outcomes, and evidence of safety and effectiveness in a new subpopulation. A priority designation is intended to direct overall attention and resources to the evaluation of such applications, and to shorten the FDA's goal for taking action on a marketing application from 10 months to 6 months.

The FDA's Decision on an NDA or BLA

On the basis of the FDA's evaluation of the NDA or BLA and accompanying information, including the results of the inspection of the manufacturing facilities, the FDA may issue an approval letter, or a complete response letter. An approval letter authorizes commercial marketing of the product with specific prescribing information for specific indications. A complete response letter generally outlines the deficiencies in the submission and may require substantial additional testing or information in order for the FDA to reconsider the application. If and when those deficiencies have been addressed to the FDA's satisfaction in a resubmission of the NDA or BLA, the FDA may issue an approval letter. The FDA has committed to reviewing such resubmissions in 2 or 6 months depending on the type of information included. Even with submission of this additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval.

If the FDA approves a product, it may limit the approved indications for use for the product, require that contraindications, warnings or precautions be included in the product labeling, require that post-approval studies, including Phase 4 clinical trials, be conducted to further assess the safety of drugs or biologics after approval, require testing and surveillance programs to monitor the product after commercialization, or impose other conditions, including distribution restrictions or other risk management mechanisms, including REMS, which can materially affect the potential market and profitability of the product. The FDA may prevent or limit further marketing of a product based on the results of post-market studies or surveillance programs. After approval, many types of changes to the approved product, such as adding new indications, manufacturing changes and additional labelling claims, are subject to further testing requirements and FDA review and approval.

Post-Approval Requirements

Drugs and biologics manufactured or distributed pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to recordkeeping, periodic reporting (such as annual reports and quarterly safety reports for the first 3 years), product sampling and distribution, advertising and promotion and reporting of adverse experiences with the product. After approval, most changes to the approved product, such as adding new indications or other labeling claims, are subject to prior FDA review and approval. There also are continuing user fee requirements for any marketed products, as well as new application fees for supplemental applications with clinical data.

In addition, drug and biological product manufacturers and other entities involved in the manufacture and distribution of approved products are required to register their establishments with the FDA and state agencies and are subject to periodic unannounced inspections by the FDA and these state agencies for compliance with cGMP requirements. Changes to the manufacturing process are strictly regulated and often require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting and documentation requirements upon the sponsor and any third-party manufacturers that the sponsor may decide to use. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain cGMP compliance.

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

- restrictions on the marketing or manufacturing of the product, complete withdrawal of the product from the market or product recalls;
- fines, warning letters or holds on post-approval clinical trials;
- refusal of the FDA to approve pending NDAs or BLAs, or supplements to approved applications, or suspension or revocation of product license approvals;
- product seizure or detention, or refusal to permit the import or export of products; or
- injunctions or the imposition of civil or criminal penalties.

The FDA strictly regulates marketing, labeling, advertising and promotion of products that are placed on the market. Drugs and biological products may be promoted only for the approved indications and in accordance with the provisions of the approved label. All promotional materials must be submitted to FDA prior to the time of their first use. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability.

In addition, the distribution of prescription pharmaceutical products is subject to the Prescription Drug Marketing Act, or PDMA, which regulates the distribution of drug samples at the federal level and sets minimum standards for the registration and regulation of drug sample distributors by the states. Both the PDMA and state laws limit the distribution of prescription pharmaceutical product samples and impose requirements to ensure accountability in distribution.

Section 505(b)(2) NDAs

NDAs for most new drug products are based on 2 adequate and well-controlled clinical trials which must contain substantial evidence of the safety and efficacy of the proposed new product. These applications are submitted under Section 505(b)(1) of the FDCA. The FDA is, however, authorized to approve an alternative type of NDA under Section 505(b)(2) of the FDCA. This type of application allows the applicant to rely, in part, on the FDA's previous findings of safety and efficacy for a similar product, or published literature. Specifically, Section 505(b)(2) applies to an NDA for a drug for which the investigations to show whether the drug is safe and effective and relied upon by the applicant for approval of the application "were not conducted by or for the applicant and for which the applicant has not obtained a right of reference or use from the person by or for whom the investigations were conducted."

Thus, Section 505(b)(2) authorizes the FDA to approve an NDA based in part on safety and effectiveness data that were not developed by the applicant. Section 505(b)(2) may provide an alternate and potentially more expeditious pathway to FDA approval for new or improved formulations or new uses of previously approved products. If the Section 505(b)(2) applicant can establish that reliance on the FDA's previous approval is scientifically appropriate, the applicant may eliminate the need to conduct certain preclinical studies or clinical trials of the new product. The FDA may also require companies to perform additional studies or measurements to support the change from the approved product. The FDA may then approve the new drug candidate for all or some of the label indications for which the referenced product has been approved, as well as for any new indication sought by the Section 505(b)(2) applicant.

Abbreviated New Drug Applications for Generic Drugs

In 1984, with passage of the Hatch-Waxman Amendments to the FDCA, Congress authorized the FDA to approve generic drugs that are the same as drugs previously approved by the FDA under the NDA provisions of the statute. To obtain approval of a generic drug, an applicant must submit an abbreviated new drug application, or ANDA, to the agency. In support of such applications, a generic manufacturer may rely on the preclinical and clinical testing previously conducted for a drug product previously approved under an NDA, known as the reference-listed drug, or RLD.

Specifically, in order for an ANDA to be approved, the FDA generally must find that the generic version is a duplicate to the Reference Listed Drug ("RLD") with respect to the active ingredients, the route of administration, the dosage form, conditions of use and the strength of the drug. The FDA must also determine that the generic drug is "bioequivalent" to the innovator drug. Under the statute, a generic drug is required to be bioequivalent to an RLD.

Upon approval of an ANDA, the FDA indicates whether the generic product is "therapeutically equivalent" to the RLD in its publication Approved Drug Products with Therapeutic Equivalence Evaluations, also referred to as the Orange Book. Clinicians and pharmacists often consider a therapeutic equivalent generic drug to be fully substitutable for the RLD. In addition, by operation of certain state laws and numerous health insurance programs, the FDA's designation of therapeutic equivalence often results in substitution of the generic drug without the knowledge or consent of either the prescribing clinicians or patient.

Under the Hatch-Waxman Amendments, the FDA may not approve an ANDA until any applicable period of non-patent exclusivity for the RLD has expired. The FDCA provides a period of five years of non-patent data exclusivity for a new drug containing a new chemical entity. For the purposes of this provision, a new chemical entity, or "NCE", is a drug that contains no active moiety that has previously been approved by the FDA in any other NDA. An active moiety is the molecule or ion responsible for the physiological or pharmacological action of the drug substance. In cases where such NCE exclusivity has been granted, an ANDA may not be filed with the FDA until the expiration of five years unless the submission is accompanied by a Paragraph IV certification, in which case the applicant may submit its application four years following the original product approval.

The FDCA also provides for a period of three years of exclusivity if the NDA includes reports of one or more new clinical investigations, other than bioavailability or bioequivalence studies, that were conducted by or for the applicant and are essential to the approval of the application. This three-year exclusivity period applies to the condition(s) of use for which the new clinical investigation was conducted and often protects changes to a previously approved drug product, such as a new dosage form, route of administration, combination or indication. Three-year exclusivity would be available for a drug product that contains a previously approved active moiety, provided the statutory requirement for a new clinical investigation is satisfied. Unlike five-year NCE exclusivity, an award of three-year exclusivity does not block the FDA from accepting ANDAs seeking approval for generic versions of the drug as of the date of approval of the original drug product.

Hatch-Waxman Patent Certification and the 30-Month Stay

Upon approval of an NDA or a supplement thereto, NDA sponsors are required to list with the FDA each patent with claims that cover the applicant's product or an approved method of using the product. Each of the patents listed by the NDA sponsor is published in the Orange Book. When an ANDA applicant files its application with the FDA, the applicant is required to certify to the FDA concerning any patents listed for the reference product in the Orange Book, except for patents covering methods of use for which the ANDA applicant is not seeking approval. To the extent that the Section 505(b)(2) applicant is relying on studies conducted for an already approved product, the applicant is required to certify to the FDA concerning any patents listed for the approved product in the Orange Book to the same extent that an ANDA applicant would.

Specifically, the applicant must certify with respect to each patent that: (1) the required patent information has not been filed, (2) the listed patent has expired, (3) the listed patent has not expired, but will expire on a particular date and approval is sought after patent expiration; or (4) the listed patent is invalid, unenforceable or will not be infringed by the new product.

A certification that the new product will not infringe the already approved product's listed patents or that such patents are invalid or unenforceable is called a Paragraph IV certification. If the applicant does not challenge the listed patents or indicates that it is not seeking approval of a patented method of use, the ANDA or 505(b)(2) application will not be approved until all the listed patents claiming the referenced product have expired (other than method of use patents involving indications for which the applicant is not seeking approval).

If the ANDA applicant has provided a Paragraph IV certification to the FDA, the applicant must also send notice of the Paragraph IV certification to the NDA and patent holders once the ANDA has been accepted for filing by the FDA. The NDA and patent holders may then initiate a patent infringement lawsuit in response to the notice of the Paragraph IV certification. The filing of a patent infringement lawsuit within 45 days after the receipt of a Paragraph IV certification automatically prevents the FDA from approving the ANDA until the earlier of 30 months after the receipt of the Paragraph IV notice, expiration of the patent, or a decision in the infringement case that is favorable to the ANDA applicant.

To the extent that the Section 505(b)(2) applicant is relying on studies conducted for an already approved product, the applicant is required to certify to the FDA concerning any patents listed for the approved product in the Orange Book to the same extent that an ANDA applicant would. As a result, approval of a Section 505(b)(2) NDA can be stalled until all the listed patents claiming the referenced product have expired, until any non-patent exclusivity, such as exclusivity for obtaining approval of an NCE, listed in the Orange Book for the referenced product has expired, and, in the case of a Paragraph IV certification and subsequent patent infringement suit, until the earlier of 30 months, settlement of the lawsuit or a decision in the infringement case that is favorable to the Section 505(b)(2) applicant.

505(b)(2) and NCE Data Exclusivity in U.S.

In the United States, the Hatch-Waxman Act provides a 3-year period of non-patent data exclusivity within the United States to the first applicant to gain approval through a 505(b)(2) application seeking regulatory approval of, for example, a new indication, dosage, or strength of an existing drug. This three-year exclusivity covers only the conditions of use associated with the new clinical investigation and does not prohibit the FDA from approving an ANDA for drugs containing the original active agent. Under this provision, PS for use in treating presbyopia, mydriasis, or decreased vision under dim (mesopic or low) lighting conditions after keratorefractive surgery may be eligible for 3 years of data exclusivity under the Hatch-Waxman Act.

In the United States, the Hatch-Waxman Act provides period of 5-years of non-patent data exclusivity for a new drug containing a new chemical entity. For the purposes of this provision, a new chemical entity, or "NCE", is a drug that contains no active moiety that has previously been approved by the FDA in any other NDA. An active moiety is the molecule or ion responsible for the physiological or pharmacological action of the drug substance. In cases where such NCE exclusivity has been granted, an ANDA may not be filed with the FDA until the expiration of five years unless the submission is accompanied by a Paragraph IV certification, in which case the applicant may submit its application four years following the original product approval.

Biosimilars and Reference Product Exclusivity

The Patient Protection and Affordable Care Act, known as the Affordable Care Act, signed into law on March 23, 2010, includes a subtitle called the Biologics Price Competition and Innovation Act of 2009 ("BPCIA") which created an abbreviated approval pathway for biological products shown to be similar to, or interchangeable with, an FDA-licensed reference biological product. This amendment to the PHSA attempts to minimize duplicative testing. Biosimilarity, which requires that there be no clinically meaningful differences between the biological product and the reference product in terms of safety, purity, and potency, can be shown through analytical studies, animal studies, and a clinical study or studies. Interchangeability requires that a product is biosimilar to the reference product and the product must demonstrate that it can be expected to produce the same clinical results as the reference product and, for products administered multiple times, the biologic and the reference biologic may be switched after one has been previously administered without increasing safety risks or risks of diminished efficacy relative to exclusive use of the reference biologic.

Under the BPCIA, an application for a biosimilar product may not be submitted to the FDA until four years following the date that the reference product was first licensed by the FDA. In addition, the approval of a biosimilar product may not be made effective by the FDA until 12 years from the date on which the reference product was first licensed. During this 12-year period of exclusivity, another company may still market a competing version of the reference product if the FDA approves a full BLA for the competing product containing the sponsor's own preclinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity and potency of their product. The BPCIA also created certain exclusivity periods for biosimilars approved as interchangeable products. At this juncture, it is unclear whether products deemed "interchangeable" by the FDA will, in fact, be readily substituted by pharmacies, which are governed by state pharmacy law. In addition, recent legislative and regulatory proposals have sought to reduce or altogether eliminate the distinctions between interchangeable products and conventional biosimilar products, making the long-term status of these products unclear.

Pediatric Studies and Exclusivity

Under the Pediatric Research Equity Act of 2003, an NDA or BLA, or supplement thereto must contain data that are adequate to assess the safety and effectiveness of the drug or biological product for the claimed indications in all relevant pediatric subpopulations, and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. With enactment of the Food and Drug Administration Safety and Innovation Act ("FDASIA"), in 2012, sponsors must also submit pediatric trial plans prior to the assessment data. Those plans must contain an outline of the proposed pediatric trial or studies the applicant plans to conduct, including trial objectives and design, any deferral or waiver requests, and other information required by regulation. The applicant, the FDA, and the FDA's internal review committee must then review the information submitted, consult with each other, and agree upon a final plan. The FDA or the applicant may request an amendment to the plan at any time.

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

Pediatric exclusivity is another type of non-patent marketing exclusivity in the United States and, if granted, provides for the attachment of an additional 6 months to the term of any patent or regulatory exclusivity, including orphan exclusivity. This 6-month exclusivity may be granted if an NDA or BLA sponsor submits pediatric data that fairly respond to a written request from the FDA for such data. The data do not need to show the product to be effective in the pediatric population studied; rather, if the clinical trial is deemed to fairly respond to the FDA's request, the additional protection is granted. If reports of requested pediatric studies are submitted to and accepted by the FDA within the statutory time limits, the latest statutory or regulatory period of exclusivity or patent covering the product is extended by 6 months. This is not a patent term extension, but it effectively extends the regulatory period during which the FDA cannot approve another application.

Orphan Drug Designation and Exclusivity

Under the Orphan Drug Act, the FDA may designate a drug or biological product as an "orphan drug" if it is intended to treat a rare disease or condition (generally meaning that it affects fewer than 200,000 individuals in the United States, or more in cases in which there is no reasonable expectation that the cost of developing and making a product available in the United States for treatment of the disease or condition will be recovered from sales of the product). A company must request orphan product designation before submitting an NDA or BLA. If the request is granted, the FDA will disclose the identity of the therapeutic agent and its potential use. Orphan product designation does not convey any advantage in or shorten the duration of the regulatory review and approval process.

If a product with orphan status receives the first FDA approval for the disease or condition for which it has such designation, the product generally will receive orphan drug exclusivity. Orphan drug exclusivity means that the FDA may not approve any other applications for the same product for the same indication for 7 years, except in certain limited circumstances. Competitors may receive approval of different products for the indication for which the orphan product has exclusivity and may obtain approval for the same product but for a different indication. If a product designated as an orphan product ultimately receives marketing approval for an indication broader than what was designated in its orphan product application, it may not be entitled to exclusivity.

Patent Term Restoration and Extension

A patent claiming a new drug or biological product may be eligible for a limited patent term extension under the Hatch-Waxman Act, which permits a patent restoration of up to 5 years for patent term lost during product development and the FDA regulatory review. The restoration period granted is typically one-half the time between the effective date of an IND and the submission date of an NDA or BLA, plus the time between the submission date of an application and the ultimate approval date. Patent term restoration cannot be used to extend the remaining term of a patent past a total of 14 years from the product's approval date. Only one patent applicable to an approved drug or biological product is eligible for the extension, and the application for the extension must be submitted prior to the expiration of the patent in question. A patent that covers multiple drugs or biologics for which approval is sought can only be extended in connection with one of the approvals. The U.S. Patent and Trademark Office reviews and approves the application for any patent term extension or restoration in consultation with the FDA. We cannot provide any assurance that any patent term extension with respect to any U.S. patent will be obtained or, if obtained, the duration of such extension, in connection with any of its product candidates.

Review and Approval of Drug Products in the European Union

In order to market any medicinal product outside of the United States, a company must also comply with numerous and varying regulatory requirements of other countries and jurisdictions regarding quality, safety and efficacy and governing, among other things, clinical trials, marketing authorization, commercial sales and distribution of products. Whether or not we obtain FDA approval for a product, we would need to obtain the necessary approvals by the comparable foreign regulatory authorities before we can commence clinical trials or marketing of the product in those countries or jurisdictions. The approval process ultimately varies between countries and jurisdictions and can involve additional product testing and additional administrative review periods. The time required to obtain approval in other countries and jurisdictions might differ from and be longer than that required to obtain FDA approval. Regulatory approval in one country or jurisdiction does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one country or jurisdiction may negatively impact the regulatory process in others.

Procedures Governing Approval of Drug Products in the European Union

Pursuant to the Clinical Trials Regulation (EU) No 536/2014, a system for the approval of clinical trials in the European Union has been implemented. Under the applicable system, an applicant must obtain approval from the competent national authority of a European Union member state in which the clinical trial is to be conducted. Furthermore, the applicant may only start a clinical trial after a competent ethics committee has issued a favorable opinion. Clinical trial application must be accompanied by an investigational medicinal product dossier with supporting information prescribed by the European Clinical Trials Regulation and corresponding national laws of the member states and further detailed in applicable guidance documents.

To obtain marketing approval of a product under European Union regulatory systems, an applicant must submit a marketing authorization application, or MAA, either under a centralized or decentralized, mutual recognition or a national procedure. The centralized procedure provides for the grant of a single marketing authorization by the European Commission that is valid for all European Union member states. The centralized procedure is compulsory for specific products, including for medicines produced by certain biotechnological processes, products designated as orphan medicinal products, advanced therapy products and products with a new active substance indicated for the treatment of certain diseases. For products with a new active substance indicated for the treatment of other diseases and products that are highly innovative or for which a centralized process is in the interest of patients, the centralized procedure may be optional.

Under the centralized procedure, the Committee for Medicinal Products for Human Use, or the CHMP, established at the European Medicines Agency, or EMA, is responsible for conducting the initial assessment of a product. The CHMP is also responsible for several post-authorization and maintenance activities, such as the assessment of modifications or extensions to an existing marketing authorization. Under the centralized procedure in the European Union, the maximum timeframe for the evaluation of an MAA is 210 days, excluding clock stops, when additional information or written or oral explanation is to be provided by the applicant in response to questions of the CHMP. Accelerated evaluation might be granted by the CHMP in exceptional cases when a medicinal product is of major interest from the point of view of public health and in particular from the viewpoint of therapeutic innovation. In this circumstance, the EMA ensures that the opinion of the CHMP is given within 150 days.

The decentralized procedure is available to applicants who wish to market a product in various European Union member states where such product has not received marketing approval in any European Union member states before. The decentralized procedure provides for simultaneous approval by one or more other, or concerned, member states of an assessment of an application performed by one-member state designated by the applicant, known as the reference member state. Under this procedure, an applicant submits an application based on identical dossiers and related materials, including a draft summary of product characteristics, and draft labelling and package leaflet, to the reference member state and concerned member states. The reference member state prepares a draft assessment report and drafts of the related materials within 210 days after receipt of a valid application. Within 90 days of receiving the reference member state's assessment report and related materials, each concerned member state must decide whether to approve the assessment report and related materials.

If a member state cannot approve the assessment report and related materials on the grounds of potential serious risk to public health, the disputed points are subject to a dispute resolution mechanism and may eventually be referred to the European Commission, whose decision is binding on all member states.

Within this framework, manufacturers may seek approval of hybrid medicinal products under Article 10(3) of Directive 2001/83/EC, as amended. Hybrid applications rely, in part, on information and data from a reference product and new data from appropriate pre-clinical tests and clinical trials. Such applications are necessary when the proposed product does not meet the strict definition of a generic medicinal product, or bioavailability studies cannot be used to demonstrate bioequivalence, or there are changes in the active substance(s), therapeutic indications, strength, pharmaceutical form or route of administration of the generic product compared to the reference medicinal product. In such cases the results of tests and trials must be consistent with the data content standards required in the Annex to the Directive 2001/83/EC, as amended by Directive 2003/63/EC.

Hybrid medicinal product applications have automatic access to the centralized procedure when the reference product was authorized for marketing via that procedure. Where the reference product was authorized via the decentralized procedure, a hybrid application may be accepted for consideration under the centralized procedure if the applicant shows that the medicinal product constitutes a significant therapeutic, scientific or technical innovation, or the granting of a community authorization for the medicinal product is in the interest of patients at the community level.

Clinical Trial Approval in the European Union

Requirements for the conduct of clinical trials in the European Union including Good Clinical Practice, or GCP, are set forth in the Clinical Trials Regulation 536/2014, and the GCP Directive 2005/28/EC, as well as in the International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use (ICH) Guideline for Good Clinical Practice, which have been adopted by the CHMP. Pursuant to the Clinical Trials Regulation and Directive 2005/28/EC, as amended, a system for the approval of clinical trials in the European Union has been implemented. Under this system, approval must be obtained from the competent national authority of each E.U. member state in which a trial is planned to be conducted. All ongoing clinical trials in the EU are subject to the provisions of the CTR as of January 31, 2025. In addition, on June 18, 2024, new CTIS transparency rules came into effect, requiring scheduled publication of certain key clinical trial information. To this end, a CTA is submitted, which must be supported by an investigational medicinal product dossier, or IMPD, and further supporting information prescribed by the Clinical Trials Regulation and Directive 2005/28/EC and other applicable guidance documents. Furthermore, a clinical trial may only be started after a competent ethics committee has issued a favorable opinion on the clinical trial application in that country.

Under the Clinical Trials Regulation, it is also possible to submit a streamlined application procedure via a single entry point, the EU portal and a single set of documents to be prepared and submitted for the application. Other main characteristics of the Clinical Trials Regulation include: as simplified reporting procedures that will spare sponsors from submitting broadly identical information separately to various bodies and different member states; a harmonized procedure for the assessment of applications for clinical trials, which is divided into two parts (Part I is assessed jointly by all member states concerned, and Part II is assessed separately by each member state concerned); strictly defined deadlines for the assessment of clinical trial applications; and the involvement of the ethics committees in the assessment procedure in accordance with the national law of the member state concerned but within the overall timelines defined by the Clinical Trials Regulation.

Periods of Authorization and Renewals

Marketing authorization is valid for five years in principle and the marketing authorization may be renewed after five years on the basis of a re-evaluation of the risk-benefit balance by the EMA or by the competent authority of the authorizing member state. To this end, the marketing authorization holder must provide the EMA or the competent authority with a consolidated version of the file in respect of quality, safety and efficacy, including all variations introduced since the marketing authorization was granted, at least six months before the marketing authorization ceases to be valid. Once renewed, the marketing authorization is valid for an unlimited period, unless the European Commission or the competent authority decides, on justified grounds relating to pharmacovigilance, to proceed with one additional five-year renewal. Any authorization which is not followed by the actual placing of the drug on the European Union market (in case of centralized procedure) or on the market of the authorizing member state within three years after authorization ceases to be valid (the so-called sunset clause).

Data and Market Exclusivity in the European Union

In the European Union, new chemical entities (“NCE”) and gene therapy products, qualify for eight years of data exclusivity (also called “regulatory data protection”) upon marketing authorization and an additional two years of market exclusivity. This data exclusivity, if granted, prevents regulatory authorities in the European Union from referencing the innovator’s data to assess a generic (abbreviated) application for eight years, after which generic marketing authorization can be submitted, and the innovator’s data may be referenced, but the generic product cannot enter the market for two years. The overall ten-year period will be extended to a maximum of eleven years if, during the first eight years of those ten years, the marketing authorization holder obtains an authorization for one or more new therapeutic indications which, during the scientific evaluation prior to their authorization, are held to bring a significant clinical benefit in comparison with existing therapies. Even if a compound is considered to be an NCE and the sponsor is able to gain the prescribed period of data exclusivity, another company nevertheless could also market another version of the product if such company can complete a full MAA with a complete database of pharmaceutical test, preclinical tests and clinical trials and obtain marketing approval of its product.

Orphan Drug Designation and Exclusivity

Regulation 141/2000 provides that a drug shall be designated as an orphan drug if its sponsor can establish: that the product is intended for the diagnosis, prevention or treatment of a life-threatening or chronically debilitating condition affecting not more than five in ten thousand persons in the European Community when the application is made, or that the product is intended for the diagnosis, prevention or treatment of a life-threatening, seriously debilitating or serious and chronic condition in the European Community and that without incentives it is unlikely that the marketing of the drug in the European Community would generate sufficient return to justify the necessary investment. For either of these conditions, the applicant must demonstrate that there exists no satisfactory method of diagnosis, prevention or treatment of the condition in question that has been authorized in the European Community or, if such method exists, the drug will be of significant benefit to those affected by that condition.

Regulation 847/2000 sets out criteria and procedures governing designation of orphan drugs in the European Union. Specifically, an application for designation as an orphan product can be made any time prior to the filing of an application for approval to market the product. Marketing authorization for an orphan drug leads to a ten-year period of market exclusivity, which can be further extended by two years if pediatric studies have been conducted in accordance with an agreed pediatric investigational plan. This period may, however, be reduced to six years if, at the end of the fifth year, it is established that the product no longer meets the criteria for orphan drug designation, for example because the product is sufficiently profitable not to justify market exclusivity. Market exclusivity can be revoked only in very selected cases, such as consent from the marketing authorization holder, inability to supply sufficient quantities of the product, demonstration of "clinically relevant superiority" by a similar medicinal product, or, after a review by the Committee for Orphan Medicinal Products of the EMA, requested by a member state in the fifth year of the marketing exclusivity period (if the designation criteria are believed to no longer apply). Medicinal products designated as orphan drugs pursuant to Regulation 141/2000 shall be eligible for incentives made available by the European Community and by the member states to support research into, and the development and availability of, orphan drugs.

It is noted that a wholesale revision of the EU pharmaceutical legislation is currently underway, which will have a direct impact on the regulatory protections afforded to medicinal products such as data exclusivity, marketing protection, market exclusivity for orphan indications and pediatric extension. On April 26, 2023, the European Commission adopted a proposal for a new Directive and a new Regulation. The legislative proposals provide for reduced periods of regulatory protections across the categories listed above. The text is now being deliberated at the level of the Council of the EU and it is not expected that the law, when adopted, will become applicable until 2026 at the earliest.

Regulatory Requirements after Marketing Authorization

As in the United States, both marketing authorization holders and manufacturers of medicinal products are subject to comprehensive regulatory oversight by the EMA and the competent authorities of the individual EU Member States both before and after grant of the manufacturing and marketing authorizations. The holder of an EU marketing authorization for a medicinal product must, for example, comply with EU pharmacovigilance legislation and its related regulations and guidelines which entail many requirements for conducting pharmacovigilance, or the assessment and monitoring of the safety of medicinal products. The manufacturing process for medicinal products in the European Union is also highly regulated and regulators may shut down manufacturing facilities that they believe do not comply with regulations and good manufacturing practice. Manufacturing requires a manufacturing authorization, and the manufacturing authorization holder must comply with various requirements set out in the applicable EU laws, including compliance with EU GMP standards when manufacturing medicinal products and active pharmaceutical ingredients.

In the European Union, the advertising and promotion of approved products are subject to EU Member States' laws governing promotion of medicinal products, interactions with clinicians, misleading and comparative advertising and unfair commercial practices. In addition, other legislation adopted by individual EU Member States may apply to the advertising and promotion of medicinal products. These laws require that promotional materials and advertising in relation to medicinal products comply with the product's Summary of Product Characteristics, or SmPC, as approved by the competent authorities. Promotion of a medicinal product that does not comply with the SmPC is considered to constitute off-label promotion, which is prohibited in the European Union.

Healthcare Reform

The healthcare industry in the United States, including the pharmaceutical sector, is highly regulated and subject to frequent substantial changes. Any significant efforts from the federal or state governments to change how healthcare is provided or funded within the United States could have a material impact on our business. Currently, the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Reconciliation Act (collectively, the "ACA") is the seminal legislation that has had, and continues to have, substantial impact on the healthcare industry. The ACA was intended to expand access to health insurance coverage for uninsured individuals while containing the overall cost of healthcare services. The ACA has been subject to reform through legislation, Executive Orders, and judicial challenges. For example, the Tax Cuts and Jobs Act of 2017 included a provision that repealed 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." Further, the Consolidated Appropriations Act of 2020 fully repealed the ACA's mandated "Cadillac" tax on certain high-cost employer-sponsored health coverage and the medical device excise tax on non-exempt medical devices, and eliminated the health insurer tax. The Bipartisan Budget Act of 2018 ("BBA") amended the ACA to increase from 50% to 70% the point-of-sale discount that is owed by pharmaceutical manufacturers who participate in Medicare Part D and to close the coverage gap in most Medicare drug plans, commonly referred to as the "donut hole." Under the Inflation Reduction Act ("IRA"), this coverage gap was eliminated effective January 1, 2025. The IRA also requires pharmaceutical manufacturers to pay 10% of the negotiated price of brands, biologics, and biosimilar products, when Medicare Part D beneficiaries are in the initial coverage phase, and 20% of the negotiated price during the catastrophic phase of Medicare Part D coverage. On June 17, 2021, the United States Supreme Court dismissed a judicial challenge to the ACA brought by several states without specifically ruling on the constitutionality of the law. In the future, there may be additional challenges and/or amendments to the ACA. It remains to be seen precisely what any new legislation will provide, when or if it will be enacted, and what impact it will have on the availability and cost of healthcare items and services, including drug and biological products. It is unclear how future actions before the Supreme Court, other such litigation, and the healthcare reform measures of the Trump administration will impact the ACA.

Provisions in the ACA impacting our potential drug candidates include:

- A special, non-deductible fee on any entity that manufactures or imports specified branded prescription drugs and biologic agents, apportioned among these entities according to their market share in certain government healthcare programs, although this fee would not apply to sales of certain products approved exclusively for orphan indications;

- Expansion of eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to certain individuals with income at or below 133% of the federal poverty level, thereby potentially increasing a manufacturer's Medicaid rebate liability;

- Expansion of manufacturers' rebate liability under the Medicaid Drug Rebate Program ("MDRP") by (i) increasing the minimum rebate for both branded and generic drugs; (ii) revising the definition of "average manufacturer price," or AMP, which must be reported to the government for purposes of calculating Medicaid drug rebates on outpatient prescription drugs; and (iii) creating a new methodology by which rebates owed by manufacturers under the MDRP are calculated for drugs that are inhaled, infused, instilled, implanted or injected;

- Expansion of the types of entities eligible for the 340B drug discount program;

- Provisions authorizing the creation of a new independent nonprofit organization called the Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research; and

- Establishment of the Center for Medicare and Medicaid Innovation within the Centers of Medicare and Medicaid Services ("CMS") to test innovative payment and service delivery models to lower Medicare and Medicaid spending, potentially including prescription drug spending.

There may be additional legislative changes, including potential repeal and replacement of certain provisions of the ACA. While the timing and scope of any potential future legislation to repeal and replace ACA provisions is highly uncertain in many respects, it is also possible that some of the ACA provisions that generally are not favorable for the research-based pharmaceutical sector could also be repealed along with ACA coverage expansion provisions.

Other legislative changes have been proposed and adopted in the United States since the ACA was enacted. In August 2011, the Budget Control Act of 2011, among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions of Medicare payments to providers of 2% per fiscal year, which went into effect in April 2013, and, due to subsequent legislative amendments, will remain in effect through the first eight months of the FY 2032 sequestration order, unless additional Congressional action is taken (with the exception of a temporary suspension, and later a temporary reduction, instituted during the COVID-19 pandemic that expired on July 1, 2022).

In addition, there has been heightened governmental scrutiny in the U.S. of pharmaceutical pricing practices in light of the rising cost of prescription drugs and biologics. Such scrutiny has resulted in several congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for products. For example, on March 11, 2021, P the American Rescue Plan Act of 2021 was signed into law, which temporarily increased premium tax credit assistance for individuals eligible for subsidies under the ACA for 2021 and 2022 and removed the 400% federal poverty level limit that otherwise applies for purposes of eligibility to receive premium tax credits. The IRA extended this increased tax credit assistance and removal of the 400% federal poverty limit through 2025.

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, several state laws require disclosures to state agencies and/or commercial purchasers with respect to price increases and new product launches that exceed certain pricing thresholds as identified in the relevant statutes. Some of these laws and regulations contain ambiguous requirements that government officials have not yet clarified. Given the lack of clarity in the laws and their implementation, our reporting actions could be subject to the penalty provisions of the pertinent federal and state laws and regulations. Some states have also established prescription drug affordability boards that are tasked with identifying certain high-cost prescription products that may pose affordability challenges for consumers and payers, conducting cost reviews on such products, and, in some circumstances, imposing upper payment limits on such products.

Policy changes, including potential modification or repeal of all or parts of the ACA or the implementation of new health care legislation, could result in significant changes to the health care system, which may prevent us from being able to generate revenue, attain profitability or commercialize our drugs. We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand or lower pricing for our product candidates, or additional pricing pressures. Additionally, federal agency priorities, leadership, policies, rulemaking, communications, spending, and staffing may be significantly impacted by election cycles, including, for example, the current presidential administration's commitment to significantly reduce government spending through cuts to federal healthcare programs and reductions in the workforces of key government agencies, such as HHS, FDA, and CMS. Efforts by the current administration to limit federal agency budgets or personnel may lead to slower response times and longer review periods, potentially affecting our ability to continue development of our product candidates or obtain regulatory approval for our product candidates.

The pharmaceutical industry is also subject to regulatory changes as the result of judicial challenges. For example, on June 28, 2024, the U.S. Supreme Court issued an opinion holding that courts reviewing agency action pursuant to the Administrative Procedure Act ("APA") "must exercise their independent judgment" and "may not defer to an agency interpretation of the law simply because a statute is ambiguous." The decision will have a significant impact on how lower courts evaluate challenges to agency interpretations of law, including those by CMS and other agencies with significant oversight of the healthcare industry. The new framework is likely to increase both the frequency of such challenges and their odds of success by eliminating one way in which the government previously prevailed in such cases. As a result, significant regulatory policies may be subject to increased litigation and judicial scrutiny. Any resulting changes in regulation may result in unexpected delays, increased costs, or other negative impacts that are difficult to predict but could have a material adverse effect on our business and financial condition. For example, certain of these changes could impose additional limitations on the rates we will be able to charge for our future products or the amounts of reimbursement available for our future products from governmental agencies or third-party payors.

Healthcare Frauds & Abuse and Compliance Laws and Regulations

There are other healthcare-related fraud and abuse and compliance laws and regulations that extensively govern how pharmaceutical companies, like Opus, are operated and regulate activities related to pharmaceutical products. These laws and regulations may require administrative guidance to implement. Failure to comply could subject the Company to legal and/or administrative actions, which may include substantial fines and/or penalties; orders to stop non-compliant activities; criminal charges; warning letters; product recalls or seizures; delays in product approvals; exclusion from participation in government reimbursement programs or contracts as well as limitations on conducting business in applicable jurisdictions.

Applicable federal and state healthcare laws and regulations include:

- The federal Anti-Kickback Statute ("AKS"), which is a criminal law that prohibits, among other things, persons and entities from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made, in whole or in part, under a federal healthcare program such as Medicare or Medicaid. The AKS has been interpreted to apply to arrangements between pharmaceutical manufacturers on the one hand and prescribers, pharmacies, purchasers, and formulary managers on the other, including, for example, consulting/speaking arrangements, discount and rebate offers, grants, charitable contributions, and patient support offerings, among others. A person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation. Further, courts have found that the AKS has been violated if any "one purpose" of an arrangement involving remuneration is to induce referrals of federal healthcare program business. Violations of the AKS can result in significant civil monetary penalties and criminal fines, per each violation, additional civil penalties and treble damages under the federal Civil False Claims Act ("FCA"), as described in detail further below, as well as imprisonment and mandatory exclusion from participation in government health care programs, meaning that federal healthcare programs would no longer reimburse (directly or indirectly) for products or services furnished by the excluded entity or individuals. Although there are a number of statutory exceptions and regulatory safe harbors to the AKS that protect certain common industry activities from prosecution, these exceptions and safe harbors are narrowly drawn. Arrangements that do not fully satisfy all elements of an available exception or safe harbor are evaluated based on the specific facts and circumstances and are typically subject to increased scrutiny;

- The FCA, which may be enforced through civil whistleblower or qui tam actions and imposes significant civil penalties, treble damages and potential exclusion from government health care programs against individuals or entities for, among other things, knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false or fraudulent or for making a false record or statement material to an obligation to pay the federal government or for knowingly and improperly avoiding, decreasing or concealing an obligation to pay money to the federal government. Further, a violation of the AKS can serve as a basis for liability under the FCA. Manufacturers can be held liable under the FCA even when they do not submit claims directly to government payors if they are deemed to "cause" the submission of false or fraudulent claims. Pharmaceutical manufacturers have been investigated and/or subject to government enforcement actions asserting liability under the FCA for a variety of alleged activities, including alleged off-label promotion of drugs, purportedly concealing price concessions in the pricing information submitted to the government for government price reporting purposes, and allegedly providing free product to customers with the expectation that the customers would bill federal healthcare programs for the product. Violations of the FCA may result in significant civil fines and penalties for each false claim, currently ranging from $14,308 - $28,619 per false claim or statement for penalties assessed after January 15, 2025, treble damages, and potential exclusion from participation in federal healthcare programs. There is also the federal Criminal False Claims Act, which is similar to the FCA and imposes criminal liability on those that make or present a false, fictitious or fraudulent claim to the federal government;

- The federal Civil Monetary Penalties Law, which authorizes the imposition of substantial civil monetary penalties against an entity that engages in activities including, among others (1) knowingly presenting, or causing to be presented, a claim for services not provided as claimed or that is otherwise false or fraudulent in any way; (2) arranging for or contracting with an individual or entity that is excluded from participation in federal health care programs to provide items or services reimbursable by a federal health care program; (3) violations of the AKS; and (4) failing to report and return a known overpayment;

- The federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which created additional federal criminal statutes that impose criminal liability for knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, including private third-party payors, or to 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; knowingly and willfully embezzling or stealing from a healthcare benefit program; willfully preventing, obstructing, misleading, or delaying a criminal investigation of a healthcare offense; and knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statements in connection with the delivery of or payment for healthcare benefits, items, or services. Similar to the federal Anti-Kickback Statute, a person or entity need not have actual knowledge of the statute or specific intent to violate it in order to have committed a violation;

- The federal Physician Payments Sunshine Act ("Sunshine Act"), implemented as the Open Payments Program, which requires certain manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid, or the Children's Health Insurance Program, among others, to track and report annually to CMS, within HHS, information related to payments and other "transfers of value" made by that entity to US-licensed physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), physician assistants, nurse practitioners, clinical nurse specialists, anesthesiologist assistants, certified registered nurse anesthetists, certified nurse midwives, and teaching hospitals. The Sunshine Act also requires certain manufacturers, among others, to track and report ownership and investment interests held by U.S.-licensed physicians and their immediate family members. Failure to timely, accurately, and completely submit the required information for all payments, transfers of value and ownership or investment interests may result in civil monetary penalties;

- The federal Health Insurance Portability and Accountability Act of 1996 ("HIPAA") which imposes criminal and civil liability for, among other things, executing or attempting to execute a scheme to defraud any healthcare benefit program, including any third-party payors, knowingly and willfully embezzling or stealing from a healthcare benefit program, willfully obstructing a criminal investigation of a healthcare offense, and knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statements or representations, or making false statements relating to healthcare benefits, items or services. Similar to the AKS, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it to have committed a violation;

- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, which mandates, among other things, the adoption of uniform standards for the electronic exchange of information in common health care transactions as well as standards relating to the privacy and security of individually identifiable health information. These standards require the adoption of administrative, physical and technical safeguards to protect such information. In addition, many states have enacted comparable laws addressing the privacy and security of health information, some of which are more stringent than HIPAA. Failure to comply with these laws can result in the imposition of significant civil and criminal penalties;

- Analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws, may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, and may be broader in scope than their federal equivalents; and

- 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; require the reporting of certain pricing information, including information pertaining to and justifying price increases; prohibit prescription drug price gouging; or impose payment caps on certain pharmaceutical products deemed by the state to be "high cost" in addition to requiring drug manufacturers to report information related to payments to physicians and other healthcare providers or marketing expenditures.

- Additionally, we expect certain of our products, if and when approved, may be eligible for coverage under Medicare, the federal health care program that provides health care benefits to the aged and disabled. Specifically, we expect our products would be primarily reimbursed under Medicare Part D, which provides an outpatient prescription drug benefit for Medicare beneficiaries. Medicare Part D is implemented through private insurance plans under contractual arrangements between the plans and the federal government. Similar to pharmaceutical coverage through private health insurance, Part D plans develop formularies, impose utilization controls (such as prior authorization, step therapy, and quantity limits), and negotiate discounts from drug manufacturers. Because of this, the list of prescription drugs covered by Part D plans varies by plan. However, with limited exceptions, individual plans are required by statute to cover certain therapeutic categories and classes of drugs or biologics and to have at least two drugs in each unique therapeutic category or class. Our products may also be covered and reimbursed under other government programs, including those discussed below:

- We expect to be required to participate in the MDRP in order for federal payment to be available for our products under Medicaid. Medicaid is a government health insurance program for eligible low-income adults, children, families, pregnant women, and people with certain disabilities and it is jointly funded by the federal and state governments. The MDRP requires pharmaceutical manufacturers to enter into and have in effect a national rebate agreement with the Secretary of the HHS as a condition for states to receive federal matching funds for the manufacturer's outpatient drugs furnished to Medicaid patients. Under the MDRP, manufacturers must pay a rebate to each state Medicaid program for quantities of products utilized on an outpatient basis (with some exceptions) that are dispensed to Medicaid beneficiaries and paid for by a state Medicaid program. MDRP rebates are calculated using a statutory formula, state-reported utilization data, and pricing data that are calculated and reported by manufacturers on a monthly and quarterly basis to CMS. These data include the AMP and, in the case of single source and innovator multiple source products, the best price for each drug.

- Under federal law, we further expect to be required to participate in the 340B drug pricing program, which 340B drug pricing program requires participating manufacturers to agree to charge statutorily-defined covered entities no more than the 340B "ceiling price" for the manufacturer's covered outpatient drugs. These 340B covered entities include health care organizations that have certain federal designations or receive funding from specific federal programs, including Federally Qualified Health Centers, Ryan White HIV/AIDS Program grantees, and certain types of hospitals and specialized clinics, as well as certain hospitals that serve a disproportionate share of low-income patients. The ACA expanded the 340B program to also include certain children's hospitals, certain free-standing cancer hospitals, critical access hospitals, certain rural referral centers and certain sole community hospitals, each as defined by ACA. The 340B ceiling price is calculated using a statutory formula, which is based on the AMP and rebate amount for the covered outpatient drug as calculated under the MDRP, and in general, products subject to the MDRP are also subject to the 340B ceiling price calculation and discount requirement. Any changes to the definition of Medicaid AMP and the Medicaid rebate amount also could affect our 340B ceiling price calculation for our products and could negatively impact our results of operations. In addition, after multiple delays, the final rule implementing civil monetary penalties against manufacturers for instances of overcharging 340B covered entities became effective on January 1, 2019. Accordingly, if we have an approved product, we could be subject to such penalties if the government were to find that we knowingly and intentionally overcharged a 340B covered entity.

- Additionally, for a company to be eligible to have its products paid for with federal funds under the MDRP and Medicare Part B programs, as well as to be purchased by certain federal agencies and grantees, it also must participate in the Department of Veterans Affairs ("VA") Federal Supply Schedule ("FSS") pricing program. To participate, manufacturers are required to enter into an FSS contract and other agreements with the VA for any products which may qualify as "covered drugs." Under these agreements, manufacturers must make such products available to the "Big Four" federal agencies-the VA, the Department of Defense ("DoD"), the Public Health Service (including the Indian Health Service), and the Coast Guard-at pricing that is capped pursuant to a statutory federal ceiling price ("FCP"), formula set forth in Section 603 of the Veterans Health Care Act of 1992 ("VHCA"). The FCP is based on a weighted average non-federal average manufacturer price ("Non-FAMP"), which manufacturers are required to report on a quarterly and annual basis to the VA.

- Any failure to comply with price reporting and rebate payment obligations under federal healthcare programs could negatively impact our financial results. Civil monetary penalties can be applied if we are found to have knowingly submitted any false price information to the government, if we are found to have made a misrepresentation in the reporting of our average sales price, or if we fail to submit the required price data on a timely basis. Such conduct also could provide a basis for other potential liability under other federal laws such as the False Claims Act.

Healthcare Reimbursement

In the U.S. and markets in other countries, patients who are prescribed treatments for their conditions and providers performing the prescribed services generally rely on third-party payors to reimburse all or part of the associated healthcare costs. Patients and healthcare providers are unlikely to use our products unless third-party payor coverage is provided and reimbursement by such payor is adequate to cover a significant portion of the cost of our products. Significant uncertainty exists as to the coverage and reimbursement status of products approved by the FDA and other comparable government authorities. Thus, even if a product candidate is approved, sales of the product will depend, in part, on the extent to which third-party payors, including government health programs in the U.S. such as Medicare and Medicaid, commercial health insurers and managed care organizations, provide coverage, and establish adequate reimbursement levels for, the product.

In order to secure coverage and reimbursement for any product that might be approved for sale, a company may need to conduct expensive pharmacoeconomic studies in order to demonstrate the medical necessity and cost-effectiveness of the product, in addition to the costs required to obtain FDA or other comparable regulatory approvals. Obtaining coverage and reimbursement approval of a product from a government or other third-party payor is a time-consuming and costly process that could require us to provide to each payor supporting scientific, clinical and cost-effectiveness data for the use of our products on a payor-by-payor basis, with no assurance that coverage and adequate reimbursement will be obtained. Nonetheless, product candidates may not be considered medically necessary or cost-effective. A decision by a third-party payor not to cover a product could reduce physician utilization once the product is approved and have a material adverse effect on sales, our operations and financial condition. Additionally, a third-party payor's decision to provide coverage for a product does not imply that an adequate reimbursement rate will be approved. Further, one payor's determination to provide coverage for a product does not assure that other payors will also provide coverage and reimbursement for the product, and the level of coverage and reimbursement can differ significantly from payor to payor. Third-party coverage and reimbursement may not be available to enable us to maintain price levels sufficient to cover our costs, including research, development, manufacture, sale and distribution.

The containment of healthcare costs also has become a priority of federal, state and foreign governments, and the prices of products have been a focus in this effort. This has resulted in congressional inquiries as well as other proposed and enacted legislation designed to (i) bring more transparency to product pricing, (ii) limit coverage and reimbursement for drugs and other medical products, and (iii) reform government health program reimbursement within the healthcare system as a whole.

For example, on March 11, 2021, former President Biden signed the American Rescue Plan Act of 2021 into law, which included among its provisions a sunset of the provision in the ACA that capped pharmaceutical manufacturers' rebate liability under the MDRP. Under the ACA, manufacturers' rebate liability was previously capped at 100% of the AMP for a covered outpatient drug. As of January 1, 2024, manufacturers' MDRP rebate liability is no longer capped, potentially resulting in a manufacturer paying more in MDRP rebates than it receives on the sale of certain covered outpatient drugs. Further, on August 16, 2022, former President Biden signed the IRA into law. The IRA includes several provisions that may potentially impact our business, including provisions that (i) create a $2,000 cap on out-of-pocket expenses for Medicare Part D beneficiaries beginning in 2025, (ii) impose new manufacturer discount obligations for all drugs in Medicare Part D, (iii) allow the U.S. government establish a "maximum fair price" for a fixed number of pharmaceutical and biological products covered under Medicare Parts B and D following a price negotiation process with CMS; (iv) require companies to pay rebates to Medicare for drug prices that increase faster than inflation. CMS has taken steps to implement the IRA, including: releasing the first round of negotiated maximum prices, which will be effective in 2026, for the ten drugs that were subject to the IRA's negotiation process; releasing quarterly lists of Medicare Part B products that are subject to adjusted coinsurance rates based on the inflationary rebate provisions of the IRA; releasing guidance outlining the methodology for identifying certain manufacturers eligible to participate in the phase-in period where discounts on applicable products will be lower than those required by the Medicare Part D Manufacturer Discount Program; releasing final guidance on the implementation of the Medicare Part D Manufacturer Discount Program; and announcing a list of fifteen additional drugs that will be subject to price negotiations during 2025 with the negotiated prices becoming effective in 2027. It remains to be seen how these drug pricing initiatives will affect the broader pharmaceutical industry. Payment methodologies may also be subject to changes under regulatory initiatives. For example, on February 14, 2023, HHS issued a report, which, among other things, selected three potential drug affordability and accessibility models to be tested by the CMS Innovation Center. Specifically, the report addressed: (1) a model that would allow Part D Sponsors to establish a "high-value drug list" setting the maximum co-payment amount for certain common generic drugs at $2; (2) a Medicaid-focused model that would establish a partnership between CMS, manufacturers, and state Medicaid agencies that would result in multi-state outcomes-based agreements for certain cell and gene therapy drugs; and (3) a model that would adjust Medicare Part B payment amounts for Accelerated Approval Program drugs to advance the developments of novel treatments.

Moreover, individual states in the United States have become increasingly active in passing laws and implementing regulations designed to control pharmaceutical product pricing, including reimbursement constraints, discounts, restrictions on certain product access, marketing cost disclosure and transparency measures and, in some cases, mechanisms to encourage importation from other countries and bulk purchasing. It is likely that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for a pharmaceutical manufacturer's products or additional pricing pressure.

Coverage policies and third-party payor reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained for one or more products for which a company or its collaborators receive regulatory approval, less favorable coverage policies and reimbursement rates may be implemented in the future. It is difficult to predict how Medicare coverage and reimbursement policies will be applied to products for which the company receives marketing approval in the future and coverage and reimbursement under different federal healthcare programs is not always consistent. Further, private payors often follow the coverage and reimbursement policies established under Medicare. If reimbursement is not available or is available only at limited levels, we may not be able to successfully commercialize our products for which we receive marketing approval.

Outside of the US, in the EU and the UK, the price of prescription only medicines is subject to governmental control, determined on a national level. Pricing negotiations with national payors can last up to years following the grant of a marketing authorization and are subject to proving clinical effectiveness, cost effectiveness and an appropriate budget impact. In some jurisdictions, such as the UK and Germany, a further positive recommendation from health technology on cost-effectiveness is required for the products to be actually prescribed and reimbursed by the respective national health systems.

As of January 12, 2025, the new EU Health Technology Regulation No 2021/2282 has become applicable in respect of new advanced therapy medicinal products (which include gene therapy products) and oncology medicines. The Regulation imposes a new procedure, a joint clinical assessment at a centralized level, as a mandatory step for the assessment of the pricing and reimbursement of medicinal products by national authorities. It requires companies applying for products in scope to make relevant submissions for the joint clinical assessment, in line with a number of prespecified criteria. By 2030, it will apply to all medicinal products.

Human Capital Resources

As of December 31, 2024, we had 18 full-time employees, with the following assignments: five engaged in clinical research and development activities, one of whom holds a Ph.D. degree, four engaged in research and development activities and business development, and nine engaged in finance, business development, human resources, and administrative support. We plan to continue to utilize expert consultants and contract organizations to support execution of the day-to-day operations. None of our employees are represented by labor unions or covered by collective bargaining agreements.

We believe that we maintain good relations with our employees. We have expanded efforts to prioritize employee engagement by conducting employee surveys and offering increased professional development opportunities and education assistance benefits.

Available Information

Our Internet address is https://opusgtx.com. We make available free of charge through our investor relations website, ir.opusgtx.com/sec-filings, copies of our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to the foregoing reports filed or furnished pursuant to Sections 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, as soon as reasonably practicable after such documents are electronically filed with, or furnished to, the SEC. The information contained on our website is not included as a part of, or incorporated by reference into, this Report.

ITEM 1A. RISK FACTORS

An investment in our securities has a high degree of risk. Before you invest you should carefully consider the risks and uncertainties described below and in our other filings with the Securities and Exchange Commission. Any of the risks and uncertainties set forth herein could materially and adversely affect our business, results of operations and financial condition, which in turn could materially and adversely affect the trading price or value of our securities. Additional risks not currently known to us or which we consider immaterial based on information currently available to us may also materially adversely affect us. As a result, you could lose all or part of your investment.

Risks Related to the Opus Acquisition

The integration with Former Opus presents challenges, and the failure to successfully integrate the businesses could have a material adverse effect on our business, financial condition and results of operations.

The Opus Acquisition combined two independent companies with different operations and focuses on drug development. We are devoting significant management attention and resources to integrating our business practices and portfolio of assets and reorienting our operations so that we may focus on developing gene therapy treatments. We may fail to realize some or all of the anticipated benefits of the Opus Acquisition if the integration process takes longer than expected or is more costly than expected. Potential difficulties we may encounter in the integration process include the following:

- the inability to successfully combine our assets in a manner that permits us to expand our product pipeline or achieve the anticipated benefits from the Opus Acquisition, which would result in the anticipated benefits of the Opus Acquisition not being realized partly or wholly in the time frame currently anticipated or at all;

- the creation of uniform standards, controls, procedures, policies and information systems;

- the addition of new personnel, including new management, which may be difficult to smoothly integrate; and

- potential unknown liabilities and unforeseen increased expenses, delays or regulatory conditions associated with the Opus Acquisition.

It is likely that the integration process could result in the diversion of our management's attention, the disruption or interruption of, or the loss of momentum in our ongoing businesses or potential partnerships which could adversely affect our ability to maintain our current business relationships or the ability to achieve the anticipated benefits of the Opus Acquisition, or could otherwise adversely affect our business and financial results.

After the Opus Acquisition, we significantly expanded our product pipeline and business operations and shifted our business strategies, and these changes may not result in an improvement in the value of our common stock.

Following the Opus Acquisition, we are now a biotech company focused on developing gene therapies to treat inherited retinal diseases ("IRDs"). We expanded our product pipeline by including gene therapy programs. We cannot guarantee that implementing the Opus Acquisition and related transactions will not impair stockholder value or otherwise adversely affect our business. The Opus Acquisition poses significant integration challenges between our businesses and management teams which could result in management and business disruptions, any of which could harm our results of operation, business prospects, and impair the value of the Opus Acquisition to our stockholders.

In the event we are unable to realize the strategic benefits currently anticipated from the Opus Acquisition, our stockholders will have experienced substantial dilution of their ownership interest without receiving any commensurate benefit. We have devoted and will continue to devote significant management attention and resources to integrate the two companies and we may not manage these processes successfully. Delays in this process could adversely affect the combined company's business, financial results, financial condition and stock price. Even if we are able to integrate the business operations successfully, there can be no assurance that this integration will result in the realization of the full benefits anticipated. It is also possible that undisclosed, contingent or other liabilities or problems in connection with the acquired company may arise in the future of which we were previously unaware. These undisclosed liabilities could have an adverse effect on our business, financial condition and prospects.

If our stockholders do not approve the conversion of our Series A Preferred Stock at the 2025 Annual Meeting of Stockholders, we may be required to divert funds from our business to pay dividends on outstanding shares of Series A Preferred Stock.

In connection with the Opus acquisition, we issued 14.1 thousand shares of convertible Series A Preferred Stock to existing stockholders of Former Opus. The shares of Series A Preferred Stock will be convertible into shares of common stock, subject to stockholder approval at the 2025 Annual Meeting of Stockholders, to be held in April 2025. If the conversion is not approved by stockholders, the holders of Series A Preferred Stock will be entitled to quarterly cash dividends commencing on October 15, 2025. The payment of such dividends could divert capital away from the development of our business to the detriment of our stockholders.

Risks Related to the Development of Our Gene Therapy Products and other Product Candidates

Our gene therapy product candidates are based on a novel technology, which makes it difficult to predict the time and cost of development and of subsequently obtaining regulatory approval.

We have focused our business on the development of gene therapy programs for the treatment of IRDs and plan to continue to expand our gene therapy portfolio. Our future success depends on our successful development of viable gene therapy products. There can be no assurance that we will not experience problems or delays in developing new products and that such problems or delays will not cause unanticipated costs, or that any such development problems can be solved. We may be unable to reduce development timelines and costs for our other gene therapy development programs. We also may experience unanticipated problems or delays in expanding our manufacturing capacity, which may prevent us from completing our clinical trials, meeting the obligations of our collaborations or successfully.

In addition, the clinical trial requirements of the FDA and other regulatory authorities and the criteria these regulators use to determine the safety and efficacy of a product candidate vary substantially according to the type, complexity, novelty and intended use and market of such product candidates. The regulatory approval process for novel product candidates such as our products, including OPGx-BEST, can be more expensive and take longer than for other, better known or more extensively studied product candidates. Even if we are successful in developing additional product candidates, it is difficult to determine how long it will take or how much it will cost to obtain regulatory approvals for these product candidates, or how long it will take to commercialize any other products for which we receive marketing approval.

Regulatory bodies and any new guidelines they promulgate may lengthen the regulatory review process, require us to perform additional studies, increase our development costs, lead to changes in regulatory positions and interpretations, delay or prevent approval and commercialization of these product candidates or lead to significant post-approval limitations or restrictions. As we advance our product candidates, we will be required to consult with these regulatory and advisory groups and comply with applicable guidelines. If we fail to do so, we may be required to delay or discontinue development of certain of our product candidates. These additional processes may result in a review and approval process that is longer than we otherwise would have expected. Delay or failure to obtain, or unexpected costs in obtaining, the regulatory approval necessary to bring a potential product to market could decrease our ability to generate sufficient product revenue, and our business, financial condition, results of operations and prospects would be materially and adversely affected.

Our gene therapy approach utilizes vectors derived from viruses, which may be perceived as unsafe or may result in unforeseen adverse events. Negative public opinion and increased regulatory scrutiny of gene therapy may damage public perception of the safety of our product and product candidates and adversely affect our ability to conduct our business or obtain regulatory approvals for our product candidates.

Gene therapy remains a novel technology with few approved to date in the United States and EU. Public perception may be influenced by claims that gene therapy is unsafe, and gene therapy may not gain the acceptance of the public or the medical community. In particular, our success will depend upon physicians who specialize in the treatment of genetic diseases targeted by our product candidates, if approved, prescribing treatments that involve the use of our product candidates, if approved, in lieu of, or in addition to, existing treatments with which they are familiar and for which greater clinical data may be available. More restrictive government regulations or negative public opinion would have an adverse effect on our business, financial condition, results of operations and prospects and may delay or impair the development and commercialization of our product candidates or demand for any products we may develop. For example, earlier gene therapy trials led to several well-publicized adverse events, including cases of leukemia and death seen in other trials using other vectors. Serious adverse events in our clinical trials, or other clinical trials involving gene therapy products or our competitors' products, even if not ultimately attributable to the relevant product candidates, and the resulting publicity, could result in increased government regulation, unfavorable public perception, potential regulatory delays in the testing or approval of our product candidates, stricter labeling requirements for those product candidates that are approved and a decrease in demand for any products for which we obtain marketing approval.

Gene therapies are novel, complex and difficult to manufacture. We could experience production problems in our network of external facilities that result in delays in our development or commercialization programs or otherwise adversely affect our business.

Our gene therapy product and product candidates require processing steps that are more complex than those required for most chemical pharmaceuticals. Moreover, unlike chemical pharmaceuticals, the physical and chemical properties of a biologic such as ours generally cannot be fully characterized. As a result, assays of the finished product may not be sufficient to ensure that the product will perform in the intended manner. Accordingly, we employ multiple steps to control our manufacturing process to assure that the product or product candidate is made strictly and consistently in compliance with the process. Problems with the manufacturing process, even minor deviations from the normal process, could result in product defects or manufacturing failures that result in lot failures, product recalls, product liability claims or insufficient inventory. We may encounter problems achieving adequate quantities and quality of clinical-grade materials that meet FDA, EU or other applicable standards or specifications with consistent and acceptable production yields and costs.

In addition, the FDA, the EMA and other foreign regulatory authorities may require us to submit samples of any lot of any approved product together with the protocols showing the results of applicable tests at any time. Under some circumstances, the FDA, the EMA or other foreign regulatory authorities may require that we not distribute a lot until the agency authorizes its release. Slight deviations in the manufacturing process, including those affecting quality attributes and stability, may result in unacceptable changes in the product that could result in lot failures or product recalls. We have experienced lot failures in the past and there is no assurance we will not experience such failures in the future. Lot failures or product recalls could cause us to delay product launches or clinical trials, which could be costly to us and otherwise harm our business, financial condition, results of operations and prospects. We also may encounter problems hiring and retaining the experienced specialist scientific, quality control and manufacturing personnel needed to operate our manufacturing process, which could result in delays in our production or difficulties in maintaining compliance with applicable regulatory requirements.

Because we are developing product candidates for the treatment of IRDs in which there is less clinical experience for gene therapy products as compared to other diseases and, in some programs, using new endpoints or techniques, there is increased risk that certain regulatory authorities may not consider the endpoints of our clinical trials to provide clinically meaningful results.

There are no pharmacologic therapies approved to treat IRDs caused by LCA5-associated gene mutations in the United States or EU. In addition, there has been limited clinical trial experience for the development of pharmaceuticals to treat IRDs. Certain aspects of IRDs render efficacy endpoints historically used for vision clinical trials less applicable as clinical endpoints, which may require the use of novel clinical endpoints. As a result, the design and conduct of clinical trials for these disorders is subject to increased risk. In addition, the treatment of certain IRDs, such as BEST1 mutations, may require assessment of clinical endpoints that reflect a stabilization, as opposed to an improvement, of functional vision. Assessing these endpoints may require longer periods of observation and may delay the completion of any trials we may undertake.

Our gene therapy product candidates and the process for administering our gene therapy product candidates may cause undesirable and unforeseen side effects or have other properties that could delay or prevent their regulatory approval, limit the commercial potential or result in significant negative consequences following any potential marketing approval.

There have been several significant adverse side effects in gene therapy treatments in the past, including reported cases of leukemia and death seen in other trials using other vectors. While new recombinant vectors have been developed to reduce these side effects, gene therapy is still a relatively new approach to disease treatment and additional adverse side effects could develop. There also is the potential risk of delayed adverse events following exposure to gene therapy products due to persistent biologic activity of the genetic material or other components of products used to carry the genetic material.

Possible adverse side effects that could occur with treatment with gene therapy products include an immunologic reaction early after administration which, while not necessarily adverse to the patient's health, could substantially limit the effectiveness of the treatment. In previous clinical trials involving AAV vectors for gene therapy, some subjects experienced the development of a T-cell response, whereby after the vector is within the target cell, the cellular immune response system triggers the removal of transduced cells by activated T-cells. If our vectors demonstrate a similar effect, which we are unable to mitigate with immuno-suppressive regimens, we may decide or be required to halt or delay further clinical development of our product candidates and our commercial efforts could be materially and adversely affected.

In addition to any potential side effects caused by the product candidate, the administration process or related procedures also can cause adverse side effects. If any such adverse events occur, our marketing authorization or clinical trials could be suspended or terminated.

In addition, the FDA could impose a Risk Evaluation and Mitigation Strategy ("REMS"), and other non-US regulatory authorities could impose other specific obligations as a condition of approval to ensure that the benefits of our product candidates outweigh their risks, which could delay approval or commercial acceptance of our product candidates. A REMS may include, among other things, a communication plan to health care practitioners or patients, and elements to assure safe use, such as restricted distribution methods, patient registries, and other risk minimization tools. Similar risk management programs could be imposed by equivalent authorities in foreign jurisdictions, including by the European Commission. Furthermore, if we or others later identify undesirable side effects caused by our product candidate, several potentially significant negative consequences could result, including:

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

Any of these events could prevent us from achieving or maintaining market acceptance of any products for which we receive marketing approval and could significantly harm our business, financial condition, results of operations and prospects.

Orphan Drug Designation and Rare Pediatric Disease Designation, among other designations by the FDA, may not lead to a faster development, regulatory review or approval process and it does not increase the likelihood that any of our gene therapy product candidates will receive marketing approval in the United States. The potential award of a Priority Review Voucher may not result in a financial benefit to us.

We received Orphan Drug Designation in September 2024 and Rare Pediatric Disease Designation in August 2024 for OPGx-LCA5 to treat LCA5, an early-onset retinal degeneration that causes vision loss. We may, in the future, apply for such designations for our other gene therapy product candidates in the United States.

Under the Orphan Drug Act of 1983, the FDA may designate a product candidate as an orphan drug if it is intended to treat a rare disease or condition, which is generally defined as having a patient population of fewer than 200,000 individuals in the United States, or a patient population greater than 200,000 in the United States where there is no reasonable expectation that the cost of developing the drug will be recovered from sales in the United States. Orphan drug status provides incentives that include specialized guidance to help expedite development, exemption from user fees and potential for seven years of market exclusivity following approval. Qualification to maintain orphan drug status is generally monitored by the regulatory authorities during the orphan drug exclusivity period, currently seven years from the date of approval in the United States. It is possible that another company also holding orphan drug designation for the same product candidate will receive marketing approval for the same indication before we do. If that were to happen, our applications for that indication may not be approved until the competing company's period of exclusivity expires. Even if we are the first to obtain marketing authorization for an orphan drug indication, there are circumstances under which a competing product may be approved for the same indication during the seven-year period of marketing exclusivity, such as if the later product is shown to be clinically superior to the orphan product, or if the later product is deemed a different product than ours. Further, the seven-year marketing exclusivity would not prevent competitors from obtaining approval of the same product candidate as ours for indications other than those in which we have been granted orphan drug designation, or for the use of other types of products in the same indications as our orphan products.

Under the Food and Drug Administration Safety and Innovation Act (FDASIA) of 2012 the FDA is authorized to award a priority review voucher ("PRV") to a drug sponsor upon approval of that sponsor's drug to treat a rare pediatric disease. A drug sponsor can later redeem the voucher when submitting another new drug application to treat any disease or condition in adults or children, or it may sell or transfer the voucher to another sponsor. A voucher entitles a sponsor to a 6-month priority review by the FDA rather than the 10-month standard review. In some instances, recipients of PRVs have transferred them to other drug developers in exchange for substantial financial consideration. Even if OPGx-LCA5 is approved, it is not certain that we will be awarded a PRV as it may no longer meet the conditions for such an award at that time. In addition, even if we receive a PRV, there can be no assurance that we will be able to apply it to review of one of our other drug candidates or to transfer it for substantial financial consideration, if at all. The FDA may also revoke any priority review voucher if the rare pediatric disease drug for which the voucher was awarded is not marketed in the U.S. within one year following the date of approval.

For the purposes of this program, a "rare pediatric disease" is a (a) serious or life-threatening disease in which the serious or life-threatening manifestations primarily affect individuals aged from birth to 18 years, including age groups often called neonates, infants, children, and adolescents; and (b) rare disease or conditions within the meaning of the Orphan Drug Act. The FDA may determine that an NDA or BLA for one or more of our product candidates does not meet the eligibility criteria for a priority review voucher upon approval. Moreover, due to the current statutory authority for the RPD and voucher program, the FDA may not award the voucher to sponsors of marketing applications unless either (i) the drug has received rare pediatric disease designation as of December 20, 2024, and is then approved by the FDA no later than September 30, 2026; or (ii) Congress reauthorizes the program. If Congress does not enact legislation reauthorizing the program, additional indications will not be eligible for an RPD designation or priority review voucher. Even if legislation is enacted that extends the date by which approval of the rare pediatric disease-designated drug must obtain approval to receive a priority review voucher, we may not obtain approval by that date, and even if we do, we may not obtain a priority review voucher.

If we request orphan drug designation or rare pediatric disease designation for our other current or future product candidates, there can be no assurances that the FDA will grant any of our product candidates such designation. Accordingly, even if we believe one of our product candidates meets the criteria for designations, the FDA may disagree. In any event, the receipt of a designation, or the redemption of a PRV for a product candidate, may not result in a faster development process, review or approval compared to products considered for approval under conventional FDA procedures and does not assure ultimate approval by the FDA, nor does it limit the ability of the FDA to grant orphan drug designation to product candidates of other companies that treat the same indications as our product candidates prior to our product candidates receiving exclusive marketing approval. Further, there may be changes to the regulatory scheme surrounding these designations, which render them obsolete.

We may encounter substantial delays in our planned clinical trials, or we may fail to demonstrate safety and efficacy to the satisfaction of applicable regulatory authorities.

Before obtaining marketing approval from regulatory authorities for the sale of our product candidates, we must conduct extensive clinical trials to demonstrate the safety and efficacy of the product candidates. Clinical testing is expensive, time-consuming and uncertain as to outcome. A failure of one or more clinical trials can occur at any stage of testing. Events that may prevent successful or timely commencement and completion of preclinical and clinical development include:

- delays in reaching a consensus with regulatory authorities on trial design;
- delays in reaching agreement on acceptable terms with prospective CROs and clinical trial sites;
- delays in opening clinical trial sites or obtaining required institutional review board or independent Ethics Committee approval at each clinical trial site;
- delays in recruiting and enrolling suitable subjects to participate in our clinical trials, due to factors such as the size of the trial or subject population, process for identifying subjects, design or expansion of protocols, eligibility and exclusive criteria, perceived risks and benefits of the relevant product candidate or gene therapy generally, availability of competing therapies and trials, severity of the disease under investigation, need and length of time required to discontinue other potential therapies, availability of genetic testing, availability and proximity of trial sites for prospective subjects, ability to obtain subject consent and referral practices of physicians;
- imposition of a clinical hold by regulatory authorities, including as a result of a serious adverse event or after an inspection of our clinical trial operations or trial sites;
- failure by us, any CROs we engage or any other third parties to adhere to clinical trial requirements;

- failure to perform in accordance with GCP, or applicable regulatory guidelines in the European Union and other countries;
- delays in the testing, validation, manufacturing and delivery of our product candidates to the clinical sites, including delays by third parties with whom we have contracted to perform;
- delays in having subjects complete participation in a trial or return for post-treatment follow-up;
- clinical trial sites or subjects dropping out of a trial;
- selection of clinical endpoints that require prolonged periods of clinical observation or analysis of the resulting data;
- occurrence of serious adverse events associated with the product candidate that are viewed to outweigh its potential benefits;
- occurrence of serious adverse events in trials of the same class of agents conducted by other sponsors; or
- changes in regulatory requirements and guidance that require amending or submitting new clinical protocols.

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

We may be negatively impacted if the results of our planned clinical trials are inconclusive or if there are safety concerns or serious adverse events associated with our product candidates.

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

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

The results of previous clinical trials may not be predictive of future results, and the results of our current and planned clinical trials may not satisfy the requirements of the FDA.

The results from the prior nonclinical studies and clinical trials for our product candidates may not necessarily be predictive of the results of future nonclinical studies or clinical trials. Even if we are able to complete our planned clinical trials of our product candidates according to our current development timeline, the results from our prior clinical trials of our product candidates may not be replicated in these future trials. Many companies in the pharmaceutical and biotechnology industries (including those with greater resources and experience than us) have suffered significant setbacks in late-stage clinical trials after achieving positive results in early-stage development, and we cannot be certain that we will not face similar setbacks. These setbacks have been caused by, among other things, nonclinical findings made while clinical trials were underway or safety or efficacy observations made in clinical trials, including previously unreported adverse events. Moreover, nonclinical and clinical data are often susceptible to varying interpretations and analyses, and many companies that believed their product candidates performed satisfactorily in nonclinical studies and clinical trials nonetheless have failed to obtain FDA approval. If we fail to produce adequate results reflecting adequate efficacy and safety in our clinical trials of any of our product candidates, the development timelines, regulatory approvals, and commercialization prospects for our product candidates, as well as the Company's business and financial prospects, would be adversely affected. Further, our product candidates may not be approved even if they achieve their respective primary endpoints in additional Phase 3 registration trials. The FDA may disagree with our trial designs or our interpretation of data from nonclinical studies and clinical trials. In addition, any of these regulatory authorities may change requirements for the approval of a product candidate even after reviewing and providing comments or advice on a protocol for a clinical registration trial that has the potential to result in approval by the FDA or another regulatory authority. For instance, although we have reached an SPA agreement with the FDA for a Phase 3 study for PS for decreased vision under dim (mesopic or low) light conditions after keratorefractive surgery, the FDA may ultimately require additional studies for approval.

The FDA's SPA process is designed to facilitate the FDA's review and approval of drugs and biologics by allowing the FDA to evaluate the proposed design and size of certain clinical or animal studies, including clinical trials that are intended to form the primary basis for determining a product candidate's efficacy. Although the FDA may agree to an SPA, an SPA agreement does not guarantee approval of a product. Even if the FDA agrees to the design, execution, and analysis proposed in protocols reviewed under the SPA process, the FDA may revoke or alter its agreement in certain circumstances like if public health concerns emerge that were unrecognized at the time of the SPA agreement.

In addition, even after an SPA agreement is finalized, the SPA agreement may be modified, and such modification will be deemed binding on the FDA review division, except under the circumstances described above, if the FDA and the sponsor agree in writing to modify the protocol. Generally, such modification is intended to improve the study. However, if the FDA revokes or alters its agreement under the SPA, or interprets the data collected from the clinical trial differently than we do, the FDA may not deem the data sufficient to support an application for regulatory approval.

Furthermore, regulatory authorities may also approve our product candidates for fewer or more limited indications than we request or may grant approval contingent on the performance of costly post-marketing clinical trials. Before obtaining regulatory approvals for the commercial sale of any product candidate for any target indication, we must demonstrate with substantial evidence gathered in nonclinical studies and adequate and well-controlled clinical studies, and, with respect to approval in the United States, to the satisfaction of the FDA, that the product candidate is safe and effective for use for that target indication. We cannot assure you that the FDA or non-U.S. regulatory authorities would consider our planned clinical trials to be sufficient to serve as the basis for approval of our product candidates for any indication. The FDA and non-U.S. regulatory authorities retain broad discretion in evaluating the results of our clinical trials and in determining whether the results demonstrate that our product candidates are safe and effective. If we are required to conduct clinical trials of our product candidates in addition to those we have planned prior to approval, we may need substantial additional funds, and cannot assure you that the results of any such outcomes trial or other clinical trials will be sufficient for approval. Furthermore, if our current and planned nonclinical and clinical trials do not satisfy the requirements of the FDA or non-U.S. regulatory authorities, our business may be materially harmed.

If we experience delays or difficulties in the enrollment of patients in clinical trials, our ability to conduct and complete those clinical trials, and our ability to seek and receive necessary regulatory approvals, could be delayed or prevented.

We or our future collaborators 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 analogous regulatory authorities outside the United States. Patient enrollment can be affected by many factors, including:

- perceived risks and benefits of gene therapy-based approaches or our product candidate under study;
- availability of genetic testing for potential subjects;
- availability and efficacy of medications already approved for the disease under investigation;
- eligibility criteria and visit schedule for the trial in question;
- competition for eligible patients with other companies conducting clinical trials for product candidates seeking to treat the same indication or patient population;
- our payments for conducting clinical trials;
- perceived risks and benefits of the product candidate under study;
- efforts to facilitate timely enrollment in clinical trials;
- patient referral practices of physicians;
- the ability to monitor patients adequately during and after treatment; and
- proximity and availability of clinical trial sites for prospective patients.

Our inability to enroll a sufficient number of patients for our clinical trials or retain sufficient enrollment through the completion of our 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 and cause our stock price to decline.

Changes in regulatory requirements or FDA guidance, or unanticipated events during our clinical trials, may result in changes to clinical trial protocols or additional clinical trial requirements, which could result in increased costs to us or delays in development timelines.

Changes in regulatory requirements or FDA guidance, or unanticipated events during our clinical trials, may require us to amend clinical trial protocols or the FDA may impose additional clinical trial requirements. Amendments to our clinical trial protocols would require resubmission to the FDA and IRBs for review and approval, and may adversely impact the cost, timing or successful completion of a clinical trial. If we experience delays completing, or if we terminate, any trials, or if we are required to conduct additional clinical trials, the commercial prospects for our product candidates may be harmed and our ability to generate product revenues may be delayed.

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

We are currently internally focusing on developing gene therapy development programs. As a result, we may forego or delay pursuit of opportunities for other indications from our non-gene therapy portfolio or with other potential product candidates that later prove to have greater clinical success or commercial potential. Due to changes or failure to accurately predict the size of the addressable market, among other reasons, 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 for specific indications or future product candidates may not yield any commercially viable product. If we do not accurately evaluate the commercial potential or target market for our product candidates, we may not gain approval or achieve market acceptance of that candidate, and our business and financial results will be harmed.

Risks related to the Commercialization of RYZUMVI and Product Candidates which Obtain Marketing Approval

We depend heavily on the success of our product pipeline. If we fail to find strategic partners or we (including our strategic partner) fail to adequately commercialize our pipeline products, our business will be materially harmed.

Our business depends largely on the successful clinical development, regulatory approval and commercialization of gene therapies and Phentolamine Ophthalmic Solution 0.75% Eye Drops "PS". Viatris is our strategic partner for the commercialization of FDA-approved RYZUMVI and for the further development and commercialization, if FDA-approved, of PS. APX3300 is still in clinical development and we are seeking a strategic partner to continue its development. We (or any future our strategic partners) plan to invest a significant portion of our efforts and financial resources in the development of our products. Further, we have already spent significant efforts in developing our pipeline of products. Our ability to generate product revenues depends heavily on obtaining marketing approval for and commercializing our gene therapy products and PS for additional indications.

The research, testing, manufacturing, labeling, approval, sale, marketing and distribution of a drug product are subject to extensive regulation by the FDA and other regulatory authorities in the United States and other countries, where regulations may differ. We are not permitted to market our product candidates in the United States until we receive approval of an NDA/BLA from the FDA or in any foreign countries until we receive the requisite approval from such countries. Before obtaining regulatory approval for the commercial sale of our product candidates for a particular indication, we must demonstrate through nonclinical testing and clinical trials that the applicable product candidate is safe and effective for use in that target indication. This process can take many years and may be followed by post-marketing studies and surveillance together which will require the expenditure of substantial resources beyond the proceeds raised in our equity and debt financings to date. Of the large number of drugs in development in the United States, only a small percentage of drugs successfully complete the FDA regulatory approval process and are commercialized. Accordingly, even if we are able to complete development and FDA approval of our product candidates, we cannot assure you that our product candidates will be approved or 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 will be limited. The success of our product candidates could be impacted by several factors, including the following:

- delays in, termination, or numerous unforeseen events during, or as a result of, manufacturing or clinical trials;
- obtaining unfavorable results from nonclinical and clinical studies for our product candidates;
- the cost of clinical trials being greater than anticipated;
- the willingness of patients or medical investigators to follow our clinical trial protocols and the number of patients willing to participate;
- delays in applying for and receiving marketing and NDA approvals from applicable regulatory authorities for our product candidates;
- other government or regulatory delays and changes in regulatory requirements, policy and guidelines may require us to perform additional clinical trials or use substantial additional resources to obtain regulatory approval;

- issues with making arrangements with third-party manufacturers for commercial quantities of RYZUMVI and our product candidates and receiving regulatory approval of our manufacturing processes and our third-party manufacturers' facilities from applicable regulatory authorities;
- establishing sales, marketing, and distribution capabilities and launching commercial sales of RYZUMVI and our product candidates, if and when approved, whether alone or in collaboration with others;
- acceptance of RYZUMVI and our product candidates by patients, the medical community, and third-party payors;
- effectively competing with other therapies, including the existing standard-of-care;
- maintaining a continued acceptable safety profile of RYZUMVI and our product candidates following approval;
- obtaining and maintaining coverage and adequate reimbursement from third-party payors;
- obtaining and maintaining patent and trade secret protection and regulatory exclusivity;
- protecting our rights in our intellectual property portfolio related to RYZUMVI and our product candidates; and
- our ability to fulfill requests for additional data regarding our product candidates.

In addition, under the Apexian License Agreement, the Company has rights to certain compounds for use in ophthalmic and diabetic diseases. The Company does not control the development of these compounds in other non-ophthalmic and non-diabetic indications.

Viatris has exclusive global rights to commercialize RYZUMVI and PS in key global markets. Viatris' failure to timely develop or commercialize these products would have a material adverse effect on our business and operating results.

We granted Viatris an exclusive right to commercialize RYZUMVI and PS in key global markets. Additionally, we granted Viatris the exclusive right and license to develop RYZUMVI and PS outside of the United States. The collaboration with Viatris may not be successful due to several factors, including the following:

- Viatris may not be able to manufacture our products in a timely or cost-effective manner;
- Viatris may not timely perform its obligations under the Viatris License Agreement;
- Viatris may fail to effectively commercialize our products;
- Viatris may not be able to sublicense RYZUMVI or PS to one or more suitable parties outside the United States; or
- contractual disputes or other disagreements between us and Viatris, including those regarding the development, manufacture, sub licensure and commercialization of our products, interpretation of the License Agreement, and ownership of proprietary rights. Viatris may select a new development partner for RYZUMVI and PS in the U.S. upon 90 days' notice to the Company.

Any of the foregoing could adversely impact the likelihood and timing of any payments we are eligible to receive under the Viatris License Agreement. The Company will be reliant on Viatris to drive the commercialization and sales of our products. If Viatris does not perform its obligations under the Viatris License Agreement, this could result in a material adverse effect on our business, results of operations and prospects and would likely cause our stock price to decline.

If we fail to receive regulatory approval for gene therapy treatment of IRDs or any of our planned indications for our non-gene therapy product candidates or fail to develop additional product candidates, our commercial opportunity will be limited.

We are focused on the development of our gene therapy candidates for IRDs and our other product candidates for our target indications, DR, the reversal of pharmacologically-induced mydriasis, treatment of presbyopia, and decreased vision under dim (mesopic or low) lighting conditions after keratorefractive surgery. RYZUMVI has been approved for the treatment of pharmacologically-induced mydriasis. However, we cannot assure you that we will be able to obtain regulatory approval of our product candidates for any other indication, or successfully commercialize our product candidates, following approval. If we do not receive regulatory approval for, or successfully commercialize, our product candidates for one or more of our targeted or other indications, our commercial opportunity will be limited.

Even if we do receive regulatory approval for, or successfully commercialize, our product candidates, they will be subject to ongoing regulatory review and critique. This ongoing review and critique may cause the loss of regulatory approval.

We may pursue clinical development of additional acquired or in-licensing product candidates. Developing, obtaining regulatory approval for and commercializing additional product candidates will require substantial additional funding beyond the net proceeds of our completed equity and debt financings, and are prone to the risks of failure inherent in drug product development. We cannot assure you that we will be able to successfully advance any additional product candidates through the development process.

We or others could discover that our product candidates lack sufficient efficacy, or sufficient efficacy compared to competitor products or that they cause undesirable side effects that were not previously identified, which could delay or prevent regulatory approval or commercialization.

Because our products have been tested in relatively small patient populations, at a limited range of daily doses, and for limited durations to date, it is possible that our clinical trials have or will indicate an apparent positive effect that is greater than the actual positive effect, if any, or that additional and unforeseen side effects may be observed as its development progresses. The discovery that product candidates lack sufficient efficacy, or that they cause undesirable side effects (including side effects not previously identified in our completed clinical trials), could cause us or regulatory authorities to interrupt, delay, or discontinue clinical trials, and could result in the denial of regulatory approval by the FDA or other non-U.S. regulatory authorities for any or all targeted indications.

The discovery that our product candidates lack sufficient efficacy or that they cause undesirable side effects that were not previously identified could prevent us from commercializing such product candidates and generating revenues from sales. In addition, if we receive marketing approval for our product candidates:

- we may discover that they are less effective, or identify undesirable side effects caused by our product candidates:
- regulatory authorities may withdraw their approval of the product;
- we may be required to recall the product, change the way this product is administered, conduct additional clinical trials, or change the labeling or distribution of the product (including REMS);
- additional restrictions may be imposed on the marketing of, or the manufacturing processes for, the product;
- we may be subject to fines, injunctions, or the imposition of civil or criminal penalties;

- we could be sued and held liable for harm caused to patients;
- the product may be rendered less competitive and sales may decrease; or
- our reputation may suffer generally among both clinicians and patients.

Any one or a combination of these events could prevent us from achieving or maintaining market acceptance of the affected product candidate or could substantially increase the costs and expenses of commercializing the product candidate, which in turn could delay or prevent us from generating significant, or any, revenues from the sale of the product candidate.

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

The development and commercialization of new drug products, including in the gene therapy field, is highly competitive. We expect to face competition with respect to our product candidates, if approved, and will face competition with respect to any future product candidates that we may seek to develop or commercialize from major pharmaceutical companies, specialty pharmaceutical companies, biotechnology companies, universities and other research institutions, and government agencies worldwide. The ophthalmic therapies market is highly competitive and dynamic. Our success will depend, in part, on our ability to obtain a share of the market for our planned indications. While there are currently no direct competitors for our OPGx-LCA5 gene therapy program, there are various companies developing gene therapies for the treatment of IRDs, which may ultimately directly compete with us in the future. Further, other pharmaceutical companies may develop therapies for the same indications that would compete with or our product candidates, if approved, and that would not infringe the claims of our in-licensed patents, pending patent applications, or other proprietary rights, which could adversely affect our business and results of operations.

Our competitors may develop products that are more effective, safer, more convenient, or less costly than any that we are developing, or that would render our product candidates obsolete or non-competitive. Our competitors may also render our technologies obsolete by advances in existing technological approaches or the development of new or different approaches, such as using artificial intelligence and machine learning, potentially eliminating the advantages in our drug discovery process. Our competitors may also obtain marketing approval from the FDA or other regulatory authorities for their products more rapidly than we obtain approval for our products, which could result in our competitors establishing a strong market position before we are able to enter the market.

Many of our competitors have significantly greater name recognition, financial resources, and expertise in research and development, manufacturing, nonclinical testing, conducting clinical trials, obtaining regulatory approvals, and marketing approved products than we do. Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller and other early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These companies compete with us in recruiting, hiring, and retaining qualified scientific and management personnel, engaging contract service providers, manufacturers and consultants, establishing clinical trial sites, recruiting patients for clinical trials, and entering into strategic transactions, as well as in acquiring technologies complementary to, or necessary for, our programs.

We do not currently have any sales or marketing infrastructure in place and may face difficulties in establishing sales and marketing capabilities or engaging third parties to sell, market and distribute our products.

We do not have any sales or marketing infrastructure and have no capabilities in place at the present time for the sale, marketing, or distribution of our products. To achieve commercial success for any approved product for which we retain sales and marketing responsibilities, we must either develop a sales and marketing organization or outsource part or all of these functions to other third parties.

There are risks involved with us both establishing our own sales and marketing capabilities and entering into arrangements with third parties to perform these services. For example, recruiting and training a sales force is expensive and time-consuming, which could delay any product launch. If the commercial launch of a product candidate for which we recruit a sales force and establish marketing capabilities is delayed or does not occur for any reason, we would have prematurely or unnecessarily incurred the costs of the commercialization expenses. This may be costly, and our investment would be lost if we cannot retain or reposition our sales and marketing personnel.

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

- the inability to recruit and retain adequate numbers of effective sales and marketing personnel or enter into distribution agreements with third parties;
- the inability of sales personnel to obtain access to physicians or educate an adequate number of physicians as to the benefits of our products;
- 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;
- unforeseen costs and expenses associated with creating an independent sales and marketing organization; and
- the inability to obtain sufficient coverage and reimbursement from third-party payors and governmental agencies.

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

Our future commercial success depends upon attaining significant market acceptance of our product candidates, if approved, among physicians, patients, third-party payors, and others in the medical community.

Our product candidates, even if they do receive marketing approval, may nonetheless fail to gain sufficient market acceptance by physicians, patients, healthcare payors, or others in the medical community, particularly in the gene therapy space, which is a growing industry. If our product candidates do not achieve an adequate level of acceptance, we may not generate significant product revenues and may not become profitable. The degree of market acceptance for RYZUMVI and our product candidates, if approved for commercial sale, will depend on a number of factors, including:

- efficacy and potential advantages compared to alternative treatments;
- the 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;
- any restrictions on the use of our product together with other medications;
- interactions of our product with other medicines patients are taking;
- inability of certain types of patients to take our product;

- demonstrated ability to treat patients and, if required by any applicable regulatory authority in connection with the approval for target indications as compared with other available therapies;
- the relative convenience and ease of administration as compared with other treatments available for approved indications;
- the prevalence and severity of any adverse side effects;
- limitations or warnings contained in the labeling approved by the FDA;
- availability of alternative treatments already approved or expected to be commercially launched in the near future;
- the effectiveness of our or our partners' sales and marketing strategies;
- our or our partners' ability to increase awareness through marketing efforts;
- guidelines and recommendations of organizations involved in research, treatment and prevention of various diseases that may advocate for alternative therapies;
- our or our partners' ability to obtain sufficient third-party coverage and adequate reimbursement;
- the willingness of patients to pay out-of-pocket in the absence of third-party coverage; and
- physicians or patients may be reluctant to switch from existing therapies even if potentially more effective, safe or convenient.
- ability of physicians to identify patients with rare genetic diseases (IRDs).
- limited genetic testing conducted on potential patients.

Aside from RYZUMVI, which we launched through the Viatris partnership, we have not yet sold any of our products. Further, our gene therapy products, if approved, may have limited commercial opportunity due to the relatively uncommon genetic conditions targeted by such products. We cannot assure investors that there is a sufficient market demand for our products. Achieving market acceptance for our products will require substantial marketing efforts and expenditure of funds to create awareness and demand by participants in the industry. We have conducted limited independent market research to determine the extent of any demand that exists for the products to be provided by us and there is no guarantee that a sufficient interest in the market will exist for the products and services being produced by, or for, us. Any lack of sufficient demand for the products contemplated to be provided by us will have a material adverse effect on us.

If the FDA or a comparable foreign regulatory authority approves generic versions of our product candidates that receive marketing approval, or if such authorities do not grant our product candidates appropriate periods of exclusivity before approving generic versions of our products, the sales of our products could be adversely affected.

Once an NDA is approved, the product covered thereby becomes a "reference listed drug" in the FDA's publication, "Approved Drug Products with Therapeutic Equivalence Evaluations." Manufacturers may seek approval of generic versions of reference listed drugs through submission of abbreviated new drug applications ("ANDAs") in the United States. In support of an ANDA, a generic manufacturer need not conduct clinical studies. Rather, the applicant generally must show that its product has the same active ingredient(s), dosage form, strength, route of administration, and conditions of use or labeling as the reference listed drug ("RLD") and that the generic version is bioequivalent to the RLD, meaning it is absorbed in the body at the same rate and to the same extent. Generic products may be significantly less costly to bring to market than the RLD, and companies that produce generic products are generally able to offer them at lower prices. Thus, following the introduction of a generic drug, a significant percentage of the sales of any branded product or RLD may be lost to the generic product.

The FDC Act provides a period of five years of non-patent exclusivity for a new drug containing a new chemical entity ("NCE"). Specifically, in cases where such exclusivity has been granted, an ANDA may not be filed with the FDA until the expiration of five years unless the submission is accompanied by a Paragraph IV certification that a patent covering the reference listed drug is either invalid or will not be infringed by the generic product, in which case the applicant may submit its application four years after approval of the RLD. It is unclear whether the FDA will treat the active ingredients in its product candidates as NCEs and, therefore, afford them five years of NCE exclusivity if they are approved. If any product we develop does not receive five years of NCE exclusivity, we may nonetheless be eligible for three years of exclusivity. Competition that our product candidates would face from generic versions could materially and adversely impact our future revenue, profitability, and cash flows and substantially limit our ability to obtain a return on the investments we have made in any such product candidate.

In January 2025, we received notice from Sandoz Inc., a provider of generic and biosimilar medicines ("Sandoz"), that it has filed an ANDA for a generic version of RYZUMVI and submitted a Paragraph IV certification asserting that certain patents for RYZUMVI are invalid or unenforceable or will not be infringed by their generic product. This certification could lead to protracted and costly litigation to defend our patent rights. The potential litigation could divert management's attention and resources away from our core business operations and strategic initiatives, including the development and commercialization of our gene therapy products. Further, the uncertainty surrounding the outcome of the patent challenge could negatively impact investor confidence and our stock price. If Sandoz is successful in their challenge, it could result in the introduction of a generic competitor to the market before the expiration of our patents, thereby reducing our market share and potential future revenue from sales of RYZUMVI. Such result may also undermine the value of our intellectual property portfolio, which could affect our ability to secure partnerships or financing in the future.

In March 2025, in collaboration with our commercialization partner for RYZYMVI®, we filed a complaint for patent infringement with respect to certain RYZYMVI® patents against Sandoz in the District of New Jersey in response to Sandoz's ANDA filing. The complaint seeks, among other relief, equitable relief enjoining Sandoz from infringing the RYZUMVI patents.

If approved, our investigational products regulated as biologics may face competition from biosimilars approved through an abbreviated regulatory pathway.

In March 2010, the U.S. Congress enacted the Patient Protection and Affordable Care Act ("ACA"), including a subtitle called the Biologics Price Competition and Innovation Act of 2009 ("BPCIA") which created an abbreviated approval pathway for biological products that are biosimilar to or interchangeable with an FDA-licensed reference biological product. Under the BPCIA, an application for a biosimilar product may not be submitted to the FDA until four years following the date that the reference product was first licensed by the FDA. In addition, the approval of a biosimilar product may not be made effective by the FDA until twelve years from the date on which the reference product was first licensed. During this twelve-year period of exclusivity, another company may still market a competing version of the reference product if the FDA approves a full BLA for the competing product containing the sponsor's own preclinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity and potency of its product. The law is complex and is still being interpreted and implemented by the FDA. Any processes adopted by the FDA to implement the BPCIA could have a material adverse effect on the future commercial prospects for our biological products.

We believe that our gene therapy product candidates, if approved as a biological product under a BLA, should qualify for the twelve-year period of exclusivity. However, there is a risk that this exclusivity could be shortened due to Congressional action or otherwise, or that the FDA will not consider our product candidates to be reference products for competing products, potentially creating the opportunity for generic competition sooner than anticipated. Other aspects of the BPCIA, some of which may impact the BPCIA exclusivity provisions, have also been the subject of recent litigation. Jurisdictions in addition to the United States have established abbreviated pathways for regulatory approval of biological products that are biosimilar to earlier approved reference products. For example, the EU has had an established regulatory pathway for biosimilars since 2006. Moreover, the extent to which a biosimilar, once approved, could be substituted for any one of our reference products in a way that is similar to traditional generic substitution for non-biological products will depend on a number of marketplace and regulatory factors that are still developing.

Our profitability will likely depend in significant part on third-party reimbursement practices, which, if unfavorable, would harm our business.

Our (or our partners') ability to commercialize our product candidates successfully will depend in part on the extent to which coverage and adequate reimbursement will be available from government health administration authorities, private health insurers and other organizations. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which medications they will pay for and establish reimbursement levels. Government authorities and third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for certain medications. Increasingly, third-party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. We cannot be sure that coverage will be available for any product candidate that we commercialize and, if coverage is available, whether the level of reimbursement will be adequate. Assuming we obtain coverage for our product candidates, if approved, by a third-party payor, the resulting reimbursement payment rates may not be adequate or may require co-payments that patients find unacceptably high. Patients who are prescribed medications for the treatment of their conditions, and their prescribing physicians, generally rely on third-party payors to reimburse all or some of the costs associated with their prescription drugs. Patients are unlikely to use a product candidate, if approved, unless coverage is provided and reimbursement is adequate to cover all or a significant portion of the cost of its products. Therefore, coverage and adequate reimbursement are critical to new product acceptance. If reimbursement is not available or is available only to limited levels, we may not be able to successfully commercialize any product candidate for which we obtain marketing approval. Furthermore, drug pricing and access policies in the United States and internationally may change and negatively impact our product candidates' commercial viability. Proposed policy changes, including the potential for Medicare to negotiate with drug manufacturers, may limit our ability to competitively price our product candidates, if approved. There may be significant delays in obtaining reimbursement for newly approved drugs, and coverage may be more limited than the purposes for which a product candidate is approved by the FDA or similar regulatory authorities outside the United States. Moreover, eligibility for reimbursement does not imply that any product 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 a new product, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Reimbursement rates may vary according to the use of the product and the clinical setting in which it is used, may be based on reimbursement levels already set for lower cost medicines, and may be incorporated into existing payments for other services. Net prices for products may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of medicines from countries where they may be sold at lower prices than in the United States. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement policies. However, there is no uniform policy requirement for coverage and reimbursement for drug products among third-party payors in the United States. Therefore, coverage and reimbursement for drug products can differ significantly from payor to payor. As a result, the coverage determination process is often time-consuming and costly, and it will require us to provide scientific and clinical support for the use of our products to each payor separately. There is no assurance that coverage and adequate reimbursement will be applied consistently or obtained in the first instance. Any inability to promptly obtain coverage and profitable payment rates from government-funded or private payors for any approved products that we develop could have an adverse effect on our operating results, our ability to raise capital needed to commercialize products, and our overall financial condition.

Product liability lawsuits against us, or our suppliers and manufacturers, could cause us to incur substantial liabilities and could limit commercialization of any product candidate that we may develop.

We face an inherent risk of product liability exposure related to the testing of our product candidates in human clinical trials and will face an even greater risk if we commercially sell any products that we may develop. Product liability claims might be brought against us by patients, healthcare providers, or others selling or otherwise coming into contact with our product candidates during product testing, manufacturing, marketing, or sale. For example, we may be sued under allegations that a product candidate caused injury or that the product was otherwise unsuitable. Any such product liability claims may include allegations of manufacturing or design defects, failure to warn of dangers inherent in the product, such as interactions with alcohol or other drugs, negligence, or breach of warranty. Claims could also be asserted under state consumer protection acts. If we cannot successfully defend ourselves against claims that our product candidate caused injuries, we could incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for any product candidate that we are developing;
- injury to our reputation and significant negative media attention;
- withdrawal of clinical trial participants;
- increased FDA warnings on product labels;
- significant costs to defend the related litigation;
- substantial monetary awards to trial participants or patients;
- distraction of management's attention from our primary business;
- loss of revenue;
- the inability to commercialize any product candidate that we may develop;
- the initiation of investigations by regulators; and
- the inability to take advantage of limitations on product liability lawsuits that apply to generic drug products, which could increase our exposure to liability for products deemed to be dangerous or defective.

Our product liability and/or clinical trial insurance coverage may not be adequate to cover all liabilities that we may incur. We may need to increase our insurance coverage as we expand clinical trials and if we successfully commercialize our product candidates. Insurance coverage is increasingly expensive, and we may not be able to obtain product liability insurance on commercially reasonable terms or for a sufficient amount to satisfy liabilities that may arise.

Similarly, we may be a party to, or may be otherwise responsible for, pending or threatened lawsuits or other claims related to products purchased from our manufacturers and suppliers. Although we intend to require our providers to have product liability insurance, the ability to obtain such coverage and the sufficiency thereof is uncertain. Such litigation could result in additional expense and exposure in excess of our anticipated reserves, especially if such matters are not covered by insurance. Upon resolution of any pending legal matters or other claims, we may incur charges in excess of established reserves. Product liability lawsuits and claims, safety alerts or product recalls in the future, regardless of their ultimate outcome, could have a material adverse effect on the business and reputation and on our ability to attract and retain customers and strategic partners. Our business, profitability and growth prospects could suffer if we face such negative publicity.

If we or our third-party manufacturers fail to comply with environmental or health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could have an adverse effect on the success of our business.

Our research and development activities involve the controlled use of potentially hazardous substances, including chemical and biological materials, by ourselves and our third-party manufacturers. Our manufacturers are subject to federal, state, and local laws and regulations in the United States and abroad governing laboratory procedures and the use, manufacture, storage, handling, and disposal of medical and hazardous materials. Although we believe that our manufacturers' procedures for using, handling, storing, and disposing of these materials comply with legally prescribed standards, we cannot eliminate the risk of contamination or injury resulting from medical or hazardous materials. As a result of any such contamination or injury, we may incur liability, or federal, state, city, or local authorities may curtail our use of these materials and interrupt our business operations. In the event of an accident, we could be held liable for damages or fined, and such liability or fines could exceed our resources. We do not have insurance for liabilities arising from medical or hazardous materials. Although we maintain workers' compensation insurance for costs and expenses that 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. Compliance with applicable environmental and health and safety laws and regulations is expensive, and current or future environmental regulations may impair our research, development, and production efforts, which could harm our business, prospects, financial condition, or results of operations.

We have limited drug research and discovery capabilities and may need to acquire or license product candidates from third parties, raise additional capital, or shift capital resources to expand our product candidate pipeline.

We currently have limited drug research and discovery capabilities. Accordingly, if we are to expand our pipeline beyond our product pipeline candidates, we may need to acquire or license product candidates from third parties, or either raise additional capital or shift capital resources to fund such expansion. We would face significant competition in seeking to acquire or license promising product candidates, may not be able to raise additional capital, or may divert capital resources from other areas of the Company that may then face material consequences from less funding. Many of our competitors for such promising product candidates may have significantly greater financial resources and more extensive experience in nonclinical testing and clinical trials, obtaining regulatory approvals, and manufacturing and marketing pharmaceutical products, and thus, may be a more attractive option to a potential licensor than us. If we are unable to acquire or license additional promising product candidates, raise additional capital, or shift capital resources, we may not be able to expand our product candidate pipeline.

If we are able to acquire or license other product candidates, such license agreements will likely impose various obligations upon us, and our licensors may have the right to terminate the license thereunder in the event of a material breach or, in some cases, at will. A termination of a future license could result in our loss of the right to use the licensed intellectual property, which could adversely affect our ability to develop and commercialize a future product candidate, if approved, as well as harm our competitive business position and our business prospects.

Risks Related to Our Financial Position and Need for Additional Capital

We have not generated significant revenue from sales of any products, expect to incur losses for the foreseeable future and may never achieve or maintain profitability.

Our only product approved for commercial sale is RYZUMVI, which launched in April 2024 by Viatris, our commercialization partner. We do not anticipate generating any additional product revenue, unless and until our product candidates receive the regulatory approvals necessary for commercialization in one or more jurisdictions. Our ability to generate revenue depends on a number of factors, including our ability to:

- the successful launch and widespread commercialization of our gene therapy candidates and other product candidates;
- obtain approvals on late-stage drugs in development and the receipt of associated financial payments from our partner;
- obtain favorable results from and complete the nonclinical and clinical development of our product candidates for their planned indications, including successful completion of additional clinical trials for these indications;
- submit applications to regulatory authorities for both product candidates and receive timely marketing approvals in the United States and foreign countries;
- establish and maintain commercially viable supply and manufacturing relationships with third parties that can provide adequate, in both amount and quality, products and services to support clinical development and meet the market demand for our product candidates that we develop, if approved;
- establish sales and marketing capabilities to effectively market and sell our product candidates in the United States or other markets, either alone or with a pharmaceutical partner;

- address any competing products and technological and market developments;
- obtain coverage and adequate reimbursement for customers and patients from government and third-party payors for our product candidates that we develop; and
- achieve market acceptance of our product candidates.

Furthermore, as of December 31, 2024, we had an accumulated deficit of approximately $139 million. We have funded our operations primarily through issuance of promissory notes and convertible notes in private placements, and then common stock and warrants after becoming a publicly-traded company, and more recently, through fees and a milestone payment received under the Viatris License Agreement. We have devoted substantially all of our financial resources and efforts to the clinical development of our product candidates. Even assuming we obtain additional regulatory approval for one or more of our product candidates, we expect it to be several years before products currently in our pipeline are potentially ready for commercialization, and our product candidates may not gain market acceptance or achieve commercial success. We may not achieve profitability soon after generating product revenue, if ever, and may be unable to continue operations without continued funding.

To become and remain profitable from our product candidates, we must develop and eventually commercialize a product with market potential. This will require us to be successful in a range of challenging activities, including completing nonclinical testing and clinical trials, obtaining regulatory approval for a product candidate, manufacturing, marketing, and selling any drug for which it may obtain regulatory approval and satisfying any post-marketing requirements. We anticipate incurring significant costs associated with these activities. We are in the early stages of most of these activities. We may never succeed in these activities and, even if we do, we may never generate revenues that are significant or large enough to achieve profitability.

If we do achieve profitability from our product candidates, we may not be able to sustain or increase profitability on an annual basis. Our failure to become or remain profitable from our product candidates may decrease our value and could impair our ability to raise capital, maintain our research and development efforts, expand our business, or continue our operations.

Our relatively short operating history as a combined company may make it difficult for investors to evaluate the success of our business to date and to assess our future viability.

We are a clinical-stage company, and our operations to date have been limited. We have not yet demonstrated our ability to manufacture a product at commercial scale or conduct sales and marketing activities necessary for successful product commercialization.

Additionally, there is no operating history on which investors may evaluate our business and our prospects. Investment in a clinical stage company such as ours is inherently subject to many risks. These risks and difficulties include challenges in accurate financial planning as a result of: (a) accumulated losses; (b) uncertainties resulting from a relatively limited time period in which to develop and evaluate business strategies as compared to companies with longer operating histories; (c) compliance with regulations required to commence sales on future products; (d) reliance on third parties for clinical, manufacturing, analytical laboratory work, nonclinical, regulatory, commercialization or other activities; (e) financing the business; and (f) meeting the challenges of the other risk factors described herein. We have no operating history upon which investors may base an evaluation of our performance; therefore, we are subject to all risks incident to the creation and development of a new business. There can be no assurance that we can realize our plans on our projected timetable in order to reach sustainable or profitable operations.

Adverse developments affecting the financial services industry could negatively affect our current and projected business operations and our financial condition and results of operations.

Although we assess our banking relationships as we believe necessary or appropriate, our access to funding sources and other credit arrangements in amounts adequate to finance or capitalize our current and projected future business operations could be significantly impaired by factors that affect us, the financial institutions with which we have arrangements directly, or the financial services industry or economy in general. These factors could include, among others, events such as liquidity constraints or failures, the ability to perform obligations under various types of financial, credit or liquidity agreements or arrangements, disruptions or instability in the financial services industry or financial markets, or concerns or negative expectations about the prospects for companies in the financial services industry. These factors could involve financial institutions or financial services industry companies with which we have financial or business relationships, but could also include factors involving financial markets or the financial services industry generally. The results of events or concerns that involve one or more of these factors could include a variety of material and adverse impacts on our current and projected business operations and our financial condition and results of operations. These could include, but may not be limited to, the following:

- Delayed access to deposits or other financial assets or the uninsured loss of deposits or other financial assets;
- Loss of access to revolving existing credit facilities or other working capital sources and/or the inability to refund, roll over or extend the maturity of, or enter into new credit facilities or other working capital resources;
- Potential or actual breach of contractual obligations that require us to maintain letters or credit or other credit support arrangements; or
- Termination of cash management arrangements and/or delays in accessing or actual loss of funds subject to cash management arrangements.

In addition, investor concerns regarding the U.S. or international financial systems could result in less favorable commercial financing terms, including higher interest rates or costs and tighter financial and operating covenants, or systemic limitations on access to credit and liquidity sources, thereby making it more difficult for us to acquire financing on acceptable terms or at all. Any decline in available funding or access to our cash and liquidity resources could, among other risks, adversely impact our ability to meet our operating expenses, financial obligations or fulfill our other obligations, result in breaches of our financial and/or contractual obligations or result in violations of federal or state wage and hour laws. Any of these impacts, or any other impacts resulting from the factors described above or other related or similar factors not described above could have material adverse impacts on our liquidity and our current and/or projected business operations and financial condition and results of operations. In addition, any further deterioration in the macroeconomic economy or financial services industry could lead to losses or defaults by parties with whom we conduct business, which in turn, could have a material adverse effect on our current and/or projected business operations and results of operations and financial condition. For example, a party with whom we conduct business may fail to make payments when due, default under their agreements with us, become insolvent or declare bankruptcy. Any bankruptcy or insolvency, or the failure to make payments when due, of any counterparty of ours, or the loss of any significant relationships, could result in material losses to us and may material adverse impacts on our business.

We will need substantial additional capital in the future. If additional capital is not available, we will have to delay, reduce or cease operations.

We will need to raise additional capital to continue to fund the further development of our product candidates and operations. Our future capital requirements may be substantial and will depend on many factors including:

- the scope, size, rate of progress, results, and costs of researching and developing our product candidates, and initiating and completing our nonclinical studies and clinical trials;
- the cost, timing and outcome of our efforts to obtain further marketing approval for our product candidates in the United States and other countries, including to fund the preparation and filing of NDAs with the FDA for our product candidates and to satisfy related FDA requirements and regulatory requirements in other countries;
- the number and characteristics of any additional product candidates we develop or acquire, if any;

- our ability to establish and maintain collaborations on favorable terms, if at all;
- the amount of revenue, if any, from commercial sales, should our product candidates receive marketing approval;
- the costs associated with commercializing our product candidates, if we receive marketing approval, including the cost and timing of developing sales and marketing capabilities or entering into strategic collaborations to market and sell our product candidates;
- the ability to secure grant funding from government and nongovernment foundations;
- the cost of manufacturing our product candidates or products we successfully commercialize; and
- the costs associated with general corporate activities, such as the cost of filing, prosecuting and enforcing patent claims and making regulatory filings.

Changing circumstances may cause us to consume capital significantly faster than we currently anticipate. Because the outcome of any clinical trial is highly uncertain, we cannot reasonably estimate the actual amounts necessary to successfully complete the development, regulatory approval and commercialization of our product candidates. Additional financing may not be available when we need it or may not be available on terms that are favorable to us. In addition, we may seek additional capital due to favorable market conditions or strategic considerations, even if we believe we have sufficient funds for our current or future operating plans. If adequate funds are unavailable to us on a timely basis, or at all, we may not be able to continue the development of our product candidates, or commercialize our product candidates, if approved, unless we find one or more strategic partners.

Worldwide economic and social instability or adverse global economic conditions could adversely affect our revenue, financial condition, or results of operations.

The health of the global economy, and the equity and credit markets in particular, as well as the stability of the social fabric of our society, affects our business and operating results. For example, the equity and credit markets may be adversely affected by current conflicts in Europe and the Middle East, negative trends in the real estate and other sectors in China, and measures taken in response thereto. If the equity and credit markets are not favorable, we may be unable to raise additional financing when needed or on favorable terms. Our vendors and development partners may experience financial difficulties or be unable to borrow money to fund their operations, which may adversely impact their ability to purchase our products or to pay for our products on a timely basis, if at all. Any weak or declining economy or political disruption, including international trade disputes, could also strain our manufacturers or suppliers, possibly resulting in supply disruption, or cause our customers to delay making payments for our potential products. In addition, adverse economic conditions, such as recent supply chain disruptions and labor shortages and persistent inflation, have affected, and may continue to adversely affect our suppliers' ability to provide our manufacturers with materials and components, which may negatively impact our business. These economic conditions make it more difficult for us to accurately forecast and plan our future business activities.

Furthermore, a general slowdown in the global economy, including a recession, or in a particular region or industry, an increase in trade tensions with U.S. trading partners, inflation or a tightening of the credit markets could negatively impact our business, financial condition and liquidity. Adverse global economic conditions have from time to time caused or exacerbated significant slowdowns in the industries and markets in which we operate, which have adversely affected our business and results of operations. Macroeconomic weakness and uncertainty also make it more difficult for us to accurately forecast revenue, gross margin and expenses, and may make it more difficult to raise capital.

Any of the foregoing could seriously harm our business, and we cannot anticipate all of the ways in which the political or economic climate and financial market conditions could seriously harm our business.

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

Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through a combination of equity financings, structured financings such as royalty monetization, and potential strategic collaborations and licensing arrangements. We do not have any committed external source of funds. Debt financing or preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. Thus, raising additional capital may not be able to be achieved, even if desired, and if possible to raise additional capital, it may not be done so on terms that are desirable. If we raise funds through strategic collaborations or marketing, distribution, 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. 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. This may reduce the value of our common stock.

Risks Related to Government Regulation

Even if we receive marketing approval for our product candidates in the United States, we may never receive regulatory approval to market such product candidates outside of the United States.

In addition to the United States, we intend to seek regulatory approval to market our product candidates in Europe, Japan, Canada, and Australia, and potentially other markets. If we pursue additional product candidates in the future, we may seek regulatory approval of such product candidates outside the United States. In order to market any product outside of the United States, however, we must establish and comply with the numerous and varying safety, efficacy and other regulatory requirements of these other countries. Approval procedures vary among countries and can involve additional product candidate testing and additional administrative review periods. The time required to obtain approvals in other countries might differ from that required to obtain FDA approval. The marketing approval processes in other countries may include all of the risks detailed above regarding FDA approval in the United States as well as other risks. In particular, in many countries outside of the United States, products must receive pricing and reimbursement approval before the product can be commercialized. Obtaining this approval can result in substantial delays in bringing products to market in such countries. Marketing approval in one country does not ensure marketing approval in another, but a failure or delay in obtaining marketing approval in one country may have a negative effect on the regulatory process in others. Failure to obtain marketing approval in other countries or any delay or other setback in obtaining such approval would impair our ability to market our product candidates in such foreign markets. Any such impairment would reduce the size of our potential market, which could have an adverse impact on our business, results of operations and prospects.

Even if we obtain further marketing approval for our product candidates, such product candidates could be subject to post-marketing, obligations, restrictions or withdrawal from the market, and we may be subject to substantial penalties if we fail to comply with regulatory requirements or experience unanticipated problems with a product following approval.

Any product candidate for which we, or our future collaborators, obtain marketing approval in the future, as well as the manufacturing processes, post-approval studies and measures, labeling, advertising, and promotional activities for such drug, among other things, will be subject to continual requirements of and review by the FDA and other regulatory authorities. These requirements include submissions of safety and other post-marketing information and reports, registration and listing requirements, requirements relating to manufacturing, quality control, quality assurance and corresponding maintenance of records and documents, requirements regarding the distribution of samples to physicians and recordkeeping. Additionally, long term follow-up for five years is expected to demonstrate safety in these products. Even if marketing approval of a product candidate is granted, the approval may be subject to limitations on the indicated uses for which the drug may be marketed or to the conditions of approval, including the requirement to implement a REMS, which could include requirements for a restricted distribution system.

The FDA may also impose requirements for costly post-marketing studies or clinical trials and surveillance to monitor the safety or efficacy of a product candidate. The FDA and other agencies, including the Department of Justice, closely regulate and monitor the post-approval marketing and promotion of drugs to ensure that they are manufactured, marketed, and distributed only for the approved indications and in accordance with the provisions of the approved labeling. The FDA imposes stringent restrictions on manufacturers' communications regarding off-label use and if we, or any future collaborator, does not market a product candidate for which it receives marketing approval for only its approved indications, we, or the collaborator, may be subject to warnings or enforcement action for off-label promotion. Violation of the Federal Food, Drug, and Cosmetic Act ("FDC Act") and other federal statutes, including the False Claims Act and the Anti-Kickback Statute, along with analogous state and foreign laws and regulations, relating to the promotion and advertising of prescription drugs, may lead to investigations or allegations of violations of federal or state healthcare fraud and abuse laws and state consumer protection laws.

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

- litigation involving patients taking our drugs;
- restrictions on such drugs, manufacturers, or manufacturing processes;
- restrictions on the labeling or marketing of a drug;
- restrictions on drug distribution or use;
- requirements to conduct post-marketing studies or clinical trials;
- warning letters or untitled letters;
- withdrawal of the drugs from the market;
- refusal to approve pending applications or supplements to approved applications that we submit;
- product recall or public notification or medical product safety alerts to healthcare professionals;
- fines, restitution, or disgorgement of profits or revenues;
- suspension or withdrawal of marketing approvals;
- damage to relationships with any potential collaborators;
- unfavorable press coverage and damage to our reputation;
- refusal to permit the import or export of drugs;
- product seizure; or
- injunctions or the imposition of civil or criminal penalties.

Legislative reform or changes in the regulatory environment affecting our business may increase the difficulty and cost for obtaining marketing approval of our product candidates, or otherwise affect the pricing and commercial viability of our product candidates.

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 a product candidate, restrict or regulate post-approval activities and affect our ability, or the ability of our future collaborators, to profitably sell any drug for which we, or they, 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 cause downward pressure on the price that we, or our future collaborators, may charge for any approved drug.

For example, in March 2010, the United States Congress enacted the ACA and the Health Care and Education Reconciliation Act, or the Healthcare Reform Act, which expanded health care coverage through Medicaid expansion and the implementation of the individual mandate for health insurance coverage and which included changes to the coverage and reimbursement of drug products under government healthcare programs.

There have also been efforts by federal and state government officials or legislators to implement measures to regulate prices or payment for pharmaceutical products, including legislation on drug importation. Recently, there has been considerable public and government scrutiny of pharmaceutical pricing and proposals to address the perceived high cost of pharmaceuticals. There have also been recent state legislative efforts to address drug costs, which generally have focused on increasing transparency around drug costs or limiting drug prices. General legislative cost control measures may also affect reimbursement for our product candidates. The Budget Control Act, as amended, resulted in the imposition of 2% reductions in Medicare (but not Medicaid) payments to providers in 2013 and will remain in effect through 2027 unless additional Congressional action is taken. Any significant spending reductions affecting Medicare, Medicaid or other publicly funded or subsidized health programs that may be implemented and/or any significant taxes or fees that may be imposed on us could have an adverse impact on results of operations. Adoption of new legislation at the federal or state level could affect demand for, or pricing of, our current or future products if approved for sale. We cannot, however, predict the ultimate content, timing or effect of any changes to the Healthcare Reform Act or other federal and state reform efforts. There is no assurance that federal or state health care reform will not adversely affect our future business and financial results.

There have been judicial and congressional challenges and amendments to certain aspects of the ACA, and we expect there will be additional challenges and amendments to the ACA in the future, as well as efforts to repeal and replace it. In addition, other legislative changes have been proposed and adopted since the ACA was enacted. These new laws have resulted in additional reductions in Medicare and other healthcare funding and otherwise may affect the prices we may obtain for any product candidate for which marketing approval is obtained. Any reduction in reimbursement from Medicare or other government-funded programs may result in a similar reduction in payments from private payors. Moreover, recently there has been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability, or commercialize our drugs.

Further, on March 11, 2021, former President Biden signed the American Rescue Plan Act of 2021 into law, which eliminated the statutory Medicaid drug rebate cap for single source and innovator multiple source drugs, beginning January 1, 2024. In addition, Congress is considering additional health reform measures, such as capping the costs for prescription drugs covered by Medicare Part D and by setting the annual out-of-pocket limit at $2,000 beginning in 2025, as part of other health reform initiatives. Legislative and regulatory proposals have been made to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical products. We cannot be sure whether additional legislative changes will be enacted, or whether the FDA regulations, guidance, or interpretations will be changed, or what the impact of such changes on the marketing approvals of a product candidate, if any, may be. In addition, increased scrutiny by the U.S. Congress of the FDA's approval process may significantly delay or prevent marketing approval or subject us or our future collaborators to more stringent drug labeling and post-marketing testing and other requirements. More recently, former President Biden signed the Inflation Reduction Act of 2022 into law in August of 2022, which, among other things, requires manufacturers to pay rebates to Medicare if prices increase faster than inflation for products used by Medicare beneficiaries.

Moreover, there is significant uncertainty regarding the legislative and regulatory changes that will be implemented or proposed by the administration of President Trump and the current U.S. Congress. The development of our product candidates may be delayed by other events beyond our control. For example, action by the new Trump Administration to limit federal agency budgets or personnel may result in reductions to the FDA's budget, employees, and operations, which may lead to slower response times and longer review periods, potentially affecting our ability to progress development of our product candidates or obtain regulatory approval for our product candidates.

The biopharmaceutical and medical device industries are subject to extensive regulatory obligations and policies that may be subject to significant and abrupt change, including due to judicial challenges, election cycles, and resulting regulatory updates and changes in policy priorities.

On June 28, 2024, the U.S. Supreme Court issued an opinion holding that courts reviewing agency action pursuant to the Administrative Procedure Act (APA) "must exercise their independent judgment" and "may not defer to an agency interpretation of the law simply because a statute is ambiguous." The decision may have a significant impact on how lower courts evaluate challenges to agency interpretations of law, including those by the HHS, CMS, FDA and other agencies with significant oversight of the biopharmaceutical and medical device industries. The new framework is likely to increase both the frequency of such challenges and their odds of success by eliminating one way in which the government previously prevailed in such cases. As a result, significant regulatory policies will be subject to increased litigation and judicial scrutiny.

In addition, federal agency priorities, leadership, policies, rulemaking, communications, spending, and staffing may be significantly impacted by election cycles. For example, the current presidential administration's commitment to significantly reduce government spending through cuts to federal healthcare programs and reductions in the workforces of key government agencies, such as the HHS, FDA, and CMS. Efforts by the current administration to limit federal agency budgets or personnel may result in reductions to agency budgets, employees, and operations, which may lead to slower response times and longer review periods, potentially affecting our ability to progress development of our product candidates or obtain regulatory approval for our product candidates.

Any resulting changes in regulation may result in unexpected delays, increased costs, or other negative impacts on our business that are difficult to predict.

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

Healthcare providers and third-party payors will play a primary role in the recommendation and prescription of any product candidate for which we obtain marketing approval. Our current and future arrangements with third-party payors and customers may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we market, sell, and distribute product candidates for which we obtain marketing approval. Restrictions and obligations under applicable federal and state healthcare laws and regulations include the following. For additional detail on potentially applicable laws, see the section titled "Part I, Item 1 - Business - Healthcare Fraud and Abuse and Compliance Laws and Regulations". Certain state and foreign laws also govern the privacy and security of health information in ways that differ from each other and often are not preempted by the Health Insurance Portability and Accountability Act of 1996, thus complicating compliance efforts.

Efforts to ensure that our current and future business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations, or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal, and administrative penalties, damages, fines, exclusion from government funded healthcare programs, such as Medicare and Medicaid, disgorgement, individual imprisonment, contractual damages, reputational harm, diminished profits and future earnings, and the curtailment or restructuring of our operations. If any of the physicians or other providers or entities with whom we expect to do business are found to not be in compliance with applicable laws, they may be subject to criminal, civil, and administrative sanctions, including exclusions from government funded healthcare programs. Defending against any such actions can be costly, time-consuming, and may require significant financial and personnel resources. Therefore, even if we are successful in defending against any such actions that may be brought against us, our business may be impaired.

We are subject to U.S. and certain foreign export and import controls, sanctions, embargoes, anti-corruption laws, and anti-money laundering laws and regulations. Compliance with these legal standards could impair our ability to compete in domestic and international markets. We could face criminal liability and other serious consequences for violations which could harm our business.

We are subject to export control and import laws and regulations, including the U.S. Export Administration Regulations, U.S. Customs regulations, various economic and trade sanctions regulations administered by the U.S. Treasury Department's Office of Foreign Assets Controls, the U.S. Foreign Corrupt Practices Act of 1977, as amended, the U.S. domestic bribery statute contained in 18 U.S.C. § 201, the U.S. Travel Act, the USA PATRIOT Act, and other state and national anti-bribery and anti-money laundering laws in the countries in which we conduct activities. Anti-corruption laws are interpreted broadly and prohibit companies and their employees, agents, contractors, and other partners from authorizing, promising, offering, or providing, directly or indirectly, improper payments or anything else of value to recipients in the public or private sector. We may engage third parties for clinical trials outside of the United States, to sell our products abroad once we enter a commercialization phase, and/or to obtain necessary permits, licenses, patent registrations, and other regulatory approvals. We have direct or indirect interactions with officials and employees of government agencies or government-affiliated hospitals, universities, and other organizations. We can be held liable for the corrupt or other illegal activities of our employees, agents, contractors, and other partners, even if we do not explicitly authorize or have actual knowledge of such activities. Any violations of the laws and regulations described above may result in substantial civil and criminal fines and penalties, imprisonment, the loss of export or import privileges, debarment, tax reassessments, breach of contract and fraud litigation, reputational harm, and other consequences.

Our employees or representatives may engage in misconduct or other improper activities, including violating applicable regulatory standards and requirements, which could significantly harm our business.

We are exposed to the risk of employee fraud or other misconduct. Misconduct by employees could include intentional failures to:

- comply with the regulations of the FDA and applicable non-U.S. regulators;
- provide accurate information to the FDA and applicable non-U.S. regulators;
- comply with healthcare fraud and abuse laws and regulations in the United States and abroad;
- report financial information or data accurately; or
- disclose unauthorized activities to us.

In particular, sales, marketing, and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing, and other abusive practices. These laws and regulations restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs, and other business arrangements. Employee misconduct could also involve the improper use of, including trading on, information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. It is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity, including employee compliance training, may be ineffective 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 comply with these laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant civil, criminal, and administrative penalties, damages, fines, exclusion from government funded healthcare programs such as Medicare and Medicaid, disgorgement, individual imprisonment, contractual damages, reputational harm, diminished profits and future earnings, and the curtailment or restructuring of our operations.

The FDA and other regulatory agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses. If found to have improperly promoted off-label uses, we may become subject to significant liability.

The FDA and other regulatory agencies strictly regulate the promotional claims that may be made about prescription products. In particular, a product may not be promoted for uses that are not approved by the FDA or such other regulatory agencies as reflected in the product's approved labeling. If we or our partners receive marketing approval for our product candidates for a certain indication, physicians may nevertheless prescribe such products to their patients in a manner that is inconsistent with the approved label. If we or our partners are found to have promoted such off-label uses, we or they may become subject to significant liability. The federal government has levied large civil and criminal fines against companies for improper promotion and has enjoined several companies from engaging in off-label promotion. The FDA has also requested that companies enter into consent decrees or permanent injunctions under which specified promotional conduct is changed or curtailed. If we or our partners cannot successfully manage the promotion of our product candidates, if approved, we or they could become subject to significant liability, which would adversely affect our business and financial condition.

Changes to U.S. tax laws and state tax laws, such as those impacting our ability to use our net operating loss carryforwards and certain other tax attributes, may adversely affect our financial condition or results of operations and create the risk that we may need to adjust our accounting for these changes.

We have incurred substantial losses during our history and do not expect to become profitable in the near future, and we may never achieve profitability. Unused federal net operating losses, or NOLs, for taxable years beginning before January 1, 2018 may be carried forward to offset future taxable income, if any, until such unused NOLs expire. Under current law, federal NOLs incurred in taxable years beginning after December 31, 2017, can be carried forward indefinitely, but the deductibility of such federal NOLs is limited to 80% of taxable income. It is uncertain if and to what extent various states will conform to the federal tax laws.

In addition, under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, or the Code, if a corporation undergoes an "ownership change," generally defined as a greater than 50 percentage point change (by value) in its equity ownership by certain stockholders over a three-year period, the corporation's ability to use its pre-change NOLs and other pre-change tax attributes (such as research tax credits) to offset its post-change income or taxes may be limited. We may have experienced ownership changes in the past and may experience ownership changes in the future as a result of subsequent shifts in our stock ownership (some of which shifts are outside our control). As a result, if we earn net taxable income, our ability to use our pre-change NOLs to offset such taxable income will be subject to limitations. Similar provisions of state tax law may also apply to limit our use of accumulated state tax attributes. 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. As a result, even if we attain profitability, we may be unable to use a material portion of our NOLs and other tax attributes, which could adversely affect our future cash flows or results of operations.

The accounting treatment of additional changes in U.S. or state tax law changes is complex, and changes may affect both current and future periods. Consistent with guidance from the SEC, our consolidated financial statements reflect our estimates of the tax effects of the current tax laws and regulation.

Risks Related to Our Reliance on Third Parties

We rely on third parties to conduct our nonclinical and clinical trials and perform other tasks for us. If these third parties do not successfully carry out their contractual duties, meet expected deadlines or comply with regulatory requirements, we may not be able to obtain regulatory approval for or commercialize our product candidates and our business could be harmed.

We rely on third-party CROs and other third parties to assist in managing, monitoring, and otherwise carrying out our nonclinical studies and clinical trials. We expect to continue to rely on third parties, such as CROs, clinical data management organizations, medical institutions, and clinical investigators, to conduct our nonclinical studies and clinical trials in the future. We compete with many other companies for the resources of these third parties.

As a result, we will have limited control over the conduct, timing, and completion of these nonclinical studies and clinical trials and the management of data developed through the nonclinical studies and clinical trials. We have experienced in the past, and may experience in the future, schedule disruptions due to events affecting the performance of third parties on which we rely. Communicating with outside parties can also be challenging, potentially leading to mistakes as well as difficulties in coordinating activities. Additionally, other unexpected natural events and disruptions in the supply chain and operations may affect the ability of third parties to fulfill their obligations to us. Outside parties may have staffing difficulties;

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

These factors may adversely affect the willingness or ability of third parties to conduct our clinical trials and may subject us to unexpected cost increases that are beyond our control.

While our reliance on these third parties for research and development activities will reduce our control over these activities, it will not relieve us of our responsibilities and requirements. For example, the FDA requires us to comply with standards, commonly referred to as good clinical practices ("GCP"), 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 clinical trial participants are protected.

Problems with the timeliness or quality of the work of any CRO may lead us to seek to terminate our relationship with any such CRO and use an alternative service provider. Making this change may be costly or delay our clinical trials, and contractual restrictions may make such a change difficult or impossible. If we must replace any CRO that is conducting our clinical trials, our clinical trials may have to be suspended until we find another CRO that offers comparable services. The time that it would take us to find alternative organizations may cause a delay in the commercialization of our product candidates, or it may cause us to incur significant expenses to replicate any lost data. Although we do not believe that any CRO on which we would rely would offer services that are not available elsewhere, we may be difficult to find a replacement organization that can conduct our clinical trials in an acceptable manner and at an acceptable cost. Any delay in or inability to complete our clinical trials could significantly compromise our ability to secure regulatory approval for our product candidates and preclude our ability to commercialize our product candidates, thereby limiting or preventing our ability to generate sales revenue.

Further, requirements related to clinical trials continue to evolve, which may require additional oversight, greater costs, and/or delay. In 2023, the FDA published guidance documents related to informed consent and GCPs that may present additional requirements to CROs.

In August 2023, the FDA published a guidance document, Informed Consent, Guidance for IRBs, Clinical Investigators, and Sponsors, which supersedes past guidance and finalizes draft guidance on informed consent. Further, in December 2023, the FDA published a final rule, Institutional Review Board Waiver or Alteration of Informed Consent for Minimal Risk Clinical Investigations, which allows exceptions from informed consent requirements when a clinical investigation poses no more than minimal risk to the human subject and includes appropriate safeguards to protect the rights, safety, and welfare of human subjects. These guidance documents present evolving requirements for informed consent which may affect recruitment and retention of patients in clinical trials. Effects on recruitment and retention of patients may hinder or delay a clinical trial, which may increase costs and delay clinical programs.

Additionally, in June 2023, the FDA published a draft guidance, E6(R3) Good Clinical Practice (GCP), which seeks to unify standards for clinical trial data for ICH member countries and regions. Changes to data requirements may cause the FDA or comparable foreign regulatory authorities to disagree with data from preclinical studies or clinical trials, and may require further studies.

We rely completely on third parties to supply and manufacture bulk drug substances and to formulate and package nonclinical and clinical drug supplies of our product candidates as well as to conduct analytical testing of drug substances and products in the manufacturing processes and we intend to rely on third parties to produce and test commercial supplies of our current and any future product candidates.

We do not currently have, nor do we plan to acquire, the infrastructure or capability to internally manufacture our clinical drug supply of product candidates for use in the conduct of our nonclinical studies and clinical trials. We lack the internal resources and the capability to manufacture any product candidates on a clinical or commercial scale. The process of manufacturing drug products is complex, highly regulated, and subject to several risks. For example, the facilities used by our contract manufacturers to manufacture and conduct analytical testing of the active pharmaceutical ingredient (or drug substance) and final drug product for product candidates must be inspected by the FDA and other comparable foreign regulatory agencies in connection with our submission of an NDA or BLA relevant foreign regulatory submission to the applicable regulatory agency. In addition, the manufacturing of drug substance or product is susceptible to product loss due to contamination, equipment failure, improper installation or operation of equipment, or vendor or operator error. Moreover, the manufacturing facilities in which product candidates are made could be adversely affected by equipment failures, labor shortages, natural disasters, power failures, or other factors. Manufacturing timelines may be negatively affected by material shortages, construction delays and supply chain challenges due to, among other factors, global supply chain shortages.

Further, requirements related to the manufacturing of ophthalmic products may evolve, which may require modifications to our current manufacturing processes. In December 2023, the FDA published a revised draft guidance, Quality Considerations for Topical Ophthalmic Drug Products, which focuses on quality considerations for ophthalmic drug products intended for topical delivery in and around the eye. Updated quality considerations may cause delay to adapt to new requirements and may also increase costs associated with manufacturing.

We do not control the manufacturing and testing processes of our contract manufacturers and analytical labs, and are completely dependent on them to comply with current good manufacturing practices ("cGMP") (21 CFR parts 210 and 211) for manufacture of both active drug substances and finished drug products. If our contract manufacturers and analytical labs cannot successfully manufacture and test materials that conform to our specifications and the strict regulatory requirements of the FDA or applicable foreign regulatory agencies, we will not be able to secure and/or maintain regulatory approval for our products. In addition, we have no control over our contract manufacturers' and analytical labs' ability to maintain adequate quality control, quality assurance, and qualified personnel. Failure to satisfy the regulatory requirements for the production and testing of those materials and products may affect the regulatory clearance of our contract manufacturers' and analytical labs' facilities generally and could potentially lead to a recall of commercial product or a shortage of clinical supplies. Additionally, if the FDA or a comparable foreign regulatory agency does not approve these facilities for the manufacture and testing of product candidates, or if it withdraws its approval in the future, we may need to find alternative manufacturing and testing facilities, which would adversely impact our ability to develop, obtain regulatory approval for, or market product candidates. Furthermore, all of our contract manufacturers and analytical labs are engaged with other companies to supply and/or manufacture and/or test materials or products for such companies, which exposes our manufacturers to regulatory and sourcing risks for the production of such materials and products. To the extent practicable, we have attempted to identify more than one supplier. However, some raw materials are available only from a single source or only one supplier has been identified, even in instances where multiple sources exist.

We have relied and will rely upon third-party manufacturers and testing labs in the United States and overseas for the manufacture and testing of our product candidates for nonclinical and clinical testing purposes and intend to continue to do so in the future, including for commercial purposes. If our third-party manufacturers and analytical labs are unable to supply or test drug substance and/or drug product on a commercial basis, we may not be able to successfully produce and market product candidates, if approved, or we could be delayed in doing so. For instance, we presently rely on one supplier in Italy for the drug substance for PS, one supplier in India for raw materials for the drug substance for APPX330, and one manufacturer in the United States for APX3330 drug substance. If there is any delay or problem with the manufacture of these drug substances or if there is a delay in producing finished drug product from these drug substances, the possible approval of our product candidates and potential commercial launch may be delayed or otherwise adversely affected. We will rely on comparison of product specifications (identity, strength, quality, and purity) to demonstrate equivalence of the current drug substance and/or drug product to the drug substance and/or drug product used in previously completed nonclinical and clinical testing. If we are unable to demonstrate such equivalence, we may be required to conduct additional nonclinical and/or clinical testing of our product candidates. Due to other potential problems related to transfers, we have established additional sources of supply for the registered starting materials, with U.S. manufacturers, for the active pharmaceutical ingredients of APX3330, and we are working to obtain a second supplier located in India for the active pharmaceutical ingredient of PS. Establishing these additional sources, including qualifying their manufacturing processes and demonstrating the equivalence of their products, may be costly, time-consuming, and difficult to effectuate, and may delay our research and development activities. Any future transfers of manufacturing to a different third party will likely be expensive and time consuming, particularly since the new facility would need to comply with the necessary regulatory requirements and we would need FDA approval before using or selling any products manufactured at that facility. If we must replace any manufacturer, our research and development activities may have to be suspended until we find another manufacturer that offers comparable services. The time that it takes us to find alternative organizations may cause a delay in the development and commercialization of product candidates.

We have entered and may enter into licensing arrangements for the development or sale of product candidates (such as the Viatris License Agreement) and may form or seek additional strategic alliances or enter into licensing arrangements in the future. If we are unsuccessful in forming or maintaining these alliances on favorable terms, our business could be harmed.

We have entered into and may form or seek additional strategic alliances, create 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 (such as the Viatris License Agreement). Any of these relationships may require us to incur non-recurring and other charges, increase our near- and long-term expenditures, or issue securities that dilute our existing stockholders, which may disrupt our management and business. Our likely collaborators include large, mid-size, regional, or national pharmaceutical companies and biotechnology companies. If we enter into any such arrangements with any third parties, we will likely have limited control over the amount and timing of resources that our collaborators dedicate to the development or commercialization of product candidates. Our ability to generate revenues from these arrangements will depend on our collaborators' abilities to successfully perform the functions assigned to them in these arrangements. We cannot be certain that, following a strategic transaction or license, we will achieve the revenue or specific net income that justifies such transaction. Collaborations involving product candidates pose the following risks to us:

- collaborators have significant discretion in determining the efforts and resources that they will apply to these collaborations;
- collaborators may not perform their obligations as expected;
- collaborators may not pursue development and commercialization or may elect not to continue or renew development or commercialization programs based on clinical trial results, changes in the collaborator's strategic focus or available funding, or external factors such as an acquisition that diverts resources or creates competing priorities;
- collaborators may delay 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 independently develop, or develop with third parties, products that compete directly or indirectly with our product candidate if the collaborators believe that competitive products are more likely to be successfully developed or can be commercialized under terms that are more attractive than ours;
- a collaborator with marketing and distribution rights to one or more product candidates may not commit sufficient resources to the marketing or distribution of any such product candidate;

- 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 proprietary information or expose us to litigation;
- collaborators may infringe the intellectual property rights of third parties, which may expose us to litigation and potential liability;
- disputes may arise between us and collaborators that result in the delay or termination of research, development, or commercialization of our product candidates, or in litigation or arbitration that diverts management attention and resources;
- we may lose certain valuable rights under circumstances identified in our collaborations, including if we undergo a change of control;
- collaborations may be terminated and such terminations may create a need for additional capital to pursue further development or commercialization of the applicable product candidates;
- collaborators may learn about our discoveries and use this knowledge to compete with us in the future;
- the results of collaborators' nonclinical or clinical studies could harm or impair other development programs;
- there may be conflicts between different collaborators that could negatively affect those collaborations and potentially others;
- the number and nature of our collaborations could adversely affect our attractiveness to potential future collaborators or acquirers;
- collaboration agreements may not lead to development or commercialization of our product candidate in the most efficient manner or at all. If a present or future collaborator of us were to be involved in a business combination, the continued pursuit and emphasis on our product development or commercialization program under such collaboration could be delayed, diminished, or terminated;
- collaborators may be unable to obtain the necessary marketing approvals; and
- collaborators may determine, as a part of product life-cycle management, that changes to a product are necessary or required, including regarding such product's formulation, container closure system, packaging, or other characteristics, which could affect the development or commercialization of the applicable product candidate.

If future collaboration partners fail to develop or effectively commercialize product candidates for any of these reasons, such product candidates may not be approved for sale and our sales of such product candidates, if approved, may be limited, which would have an adverse effect on our operating results and financial condition.

If we are not able to establish a new collaboration for APX3330 on commercially reasonable terms, we may have to alter or halt our development, manufacturing, and commercialization plans related to the APX3330 program. We face significant competition in attracting collaborators for development, manufacturing or commercialization plans. We already have a collaboration with Viatris for the development and commercialization of RYZUMVI and PS. Following the Opus Acquisition, we have discontinued our internal development of APX3330 and are pursuing a potential partnership to further advance this program to allow us to focus on our gene therapy programs while extending our cash runway. Whether we reach a definitive agreement for collaboration for APX3330 will depend, among other things, upon our assessment of the proposed collaborator's resources, expertise, and evaluation of a number of factors related to the associated product candidate, as well as the terms and conditions of the proposed collaboration. Those factors may include the design or results of clinical trials, the likelihood of approval by the FDA or similar regulatory authorities outside the United States, the potential market for the product candidate, the costs and complexities of manufacturing and delivering such product candidate to patients, the potential of competing products, the existence of uncertainty with respect to our ownership of technology, which may exist if there is a challenge to such ownership without regard to the merits of the challenge, and industry and market conditions generally. The collaborator may also consider alternative product candidates or technologies for similar indications that may be available for collaborations and whether such a collaboration could be more attractive than one with us. We may not be able to enter into these agreements on commercially reasonable terms, or at all.

If we engage in additional acquisitions, in-licensing 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 continue to engage in various acquisitions and strategic partnerships, including licensing or acquiring complementary products, intellectual property rights, technologies, or businesses. Any acquisition or strategic partnership may entail numerous risks, including:

- increased operating expenses and cash requirements;
- the assumption of indebtedness or contingent liabilities;
- the issuance of our equity securities which would result in dilution to our stockholders;
- assimilation of operations, intellectual property, products and product candidates of an acquired company, including difficulties associated with integrating new personnel;
- the diversion of management's attention from our existing product candidates and initiatives in pursuing such an acquisition or strategic partnership;
- 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 and their existing products or product candidates and regulatory approvals; and
- our inability to generate revenue from acquired intellectual property, technology and/or products sufficient to meet our objectives or even to offset the associated transaction and maintenance costs.

In addition, if we undertake such a transaction, we may incur large one-time expenses and acquire intangible assets that could result in significant future amortization expense.

Our strategy of focusing on the cash-pay utilization for future sales of RYZUMVI may limit our ability to increase sales or achieve profitability with this product.

With regard to the commercialization of RYZUMVI, our strategy is to focus on cash-pay utilization. This focus may limit the potential pricing and profitability of this product. We believe pursuing a non-insurance reimbursed product strategy in connection with RYZUMVI allows for meaningful strategic advantages in the United States, including pricing and marketing flexibility. However, companies offering products competitive to RYZUMVI may nonetheless try to compete on price, both directly through rebates, promotional programs, and coupons, as well as indirectly through product bundling and customer loyalty programs. In addition, we cannot predict how the market, including customers, doctors, patients, and governmental agencies, will react to this strategy. If RYZUMVI does not achieve sufficient success and market acceptance, if we face retaliation from third parties as a result of this arrangement and program (for example, in the form of non-coverage determinations, limitations on coverage, or unfavorable reimbursement with respect to our other products) or if any part of this arrangement is found to be non-compliant with applicable law or regulations, this could have a material adverse effect on our business, financial condition, cash flows, and results of operations and could cause the market value of our common shares to decline. Our business, financial results, and future prospects will be materially harmed if we cannot generate sufficient consumer demand for RYZUMVI with this strategy.

Risks Related to Our Intellectual Property

If we are unable to obtain and maintain sufficient patent protection for our product candidates, our competitors could develop and commercialize products or technology similar or identical to those of us, which would adversely affect our ability to successfully commercialize any product candidates we may develop, our business, results of operations, financial condition and prospects.

We and our licensors have sought to protect our proprietary position by filing patent applications in the U.S. and abroad related to our novel technologies and product candidates.

Our pending and future patent applications may not result in patents being issued which protect our technology or products, in whole or in part, or which effectively prevent others from commercializing competitive technologies and products. In particular, during prosecution of any patent application, the issuance of any patents based on the application may depend upon our ability to generate additional pre-clinical or clinical data that support the patentability of our proposed claims. We may not be able to generate sufficient additional data on a timely basis, or at all.

The patent prosecution process is expensive and time-consuming, and we and our future licensors, licensees, or collaboration partners may not be able to prepare, file, and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. It is also possible that we or any future licensors, licensees, or collaboration partners may fail to identify patentable aspects of inventions made in the course of development and commercialization activities before it is too late to obtain patent protection on them. We and our licensors' patent applications cannot be enforced against third parties practicing the technology claimed in such applications unless and until a patent is issued from such applications, and then only to the extent the issued claims cover the technology.

We cannot assure you that any of our patents have matured, or that any of our pending patent applications will mature, into issued patents that will include claims with a scope sufficient to protect our product candidates. Others have developed technologies that may be related or competitive to our approach, and may have filed or may file patent applications and may have received or may receive patents that overlap or conflict with our patent applications, for example by claiming the same compounds, methods or formulations or by claiming subject matter that could dominate the patents that we owns or in-licenses. The patent positions of biotechnology and pharmaceutical companies, including our patent position, involve complex legal and factual questions, and, therefore, the issuance, scope, validity, and enforceability of any patent claims that we may obtain cannot be predicted with certainty. Patents, if issued, may be challenged, deemed unenforceable, invalidated, or circumvented. U.S. patents and patent applications may also be subject to interference proceedings, *ex parte* reexamination, or *inter partes* review proceedings, supplemental examination and challenges in district court. Patents may be subjected to opposition, post-grant review, or comparable proceedings in various national and regional patent offices. These proceedings could result in either loss of the patent or denial of the patent application or loss or reduction in the scope of one or more of the claims of the patent or patent application. In addition, such interference, re-examination, opposition, post-grant review, *inter partes* review, supplemental examination, or revocation proceedings may be costly or time-consuming. Thus, any patents that we may own or exclusively license may not provide any protection against competitors. Furthermore, an adverse decision in an interference proceeding can result in a third party receiving the patent right sought by us, which in turn could affect our ability to develop, market or otherwise commercialize our product candidates.

Furthermore, the issuance of a patent, while presumed valid, is not conclusive as to its validity or its enforceability and it may not provide us with adequate proprietary protection or competitive advantages against competitors with similar products. Competitors may also be able to design around our patents. Other parties may develop and obtain patent protection for more effective technologies, designs, or methods. We may not be able to prevent the unauthorized disclosure or use of any technical knowledge or trade secrets by consultants, vendors, former employees, or current employees. The laws of some foreign countries do not protect proprietary rights to the same extent as do the laws of the United States, and we may encounter significant problems in protecting our proprietary rights in these countries. If these developments were to occur, they could have a material adverse effect on our sales.

Our ability to enforce our patent rights depends on our ability to detect infringement. It is difficult to detect infringers who do not advertise the components that are used in their products. Moreover, it may be difficult or impossible to obtain evidence of infringement in a competitor's or potential competitor's product. Any litigation to enforce or defend our patent rights, if any, even if we were to prevail, could be costly and time-consuming and would divert the attention of management and key personnel from our business operations. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded if we were to prevail may not be commercially meaningful.

In addition, proceedings to enforce or defend our patents could put our patents at risk of being invalidated, held unenforceable, or interpreted narrowly. Such proceedings could also provoke third parties to assert claims against us, including that some or all of the claims in one or more of our patents are invalid or otherwise unenforceable. If, in any proceeding, a court invalidated or found unenforceable our patents covering our product candidates, our financial position and results of operations would be adversely impacted. In addition, if a court found that valid, enforceable patents held by third parties covered our product candidates, our financial position and results of operations would also be adversely impacted.

The degree of future protection for our proprietary rights is uncertain, and we cannot ensure that:

- any of our patents, or any of our pending patent applications, if issued, will include claims having a scope sufficient to protect our product candidates;
- any of our pending patent applications will result in issued patents;
- we will be able to successfully commercialize our product candidates, if approved, before our relevant patents expire;
- we were the first to make the inventions covered by each of our patents and pending patent applications;
- we were the first to file patent applications for these inventions;
- others will not develop similar or alternative technologies that do not infringe our patents;
- any of our patents will be valid and enforceable;
- any patents issued to us will provide a basis for an exclusive market for our commercially viable products, will provide us with any competitive advantages or will not be challenged by third parties;
- we will develop additional proprietary technologies or product candidates that are separately patentable; or
- our commercial activities or products will not infringe upon the patents of others.

Patents have a limited lifespan. The natural expiration of a patent is generally 20 years after its effective filing date. Various extensions may be available; however, the life of a patent, and the protection it affords, is limited. Given the extensive period of time between patent filing and regulatory approval for a product candidate, the time during which we can market a product candidate under patent protection is listed, and our patent may expire before we obtain such approval. Without patent protection for our product candidates, we may be vulnerable to competition from generic versions of our product candidates, which may affect the profitability of our product candidates.

Furthermore, obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment, and other requirements imposed by governmental agencies, and our patent protection could be reduced or eliminated for noncompliance with these requirements. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment or other provisions during the patent application process. In addition, periodic maintenance and annuity fees on any issued patent are due to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of the patent. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, our competitors might be able to enter the market, which would have an adverse effect on our business.

It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. Maintaining patents in the U.S. is an expensive process and it is even more expensive to maintain patents and patent applications in foreign countries. As a result, it is possible that we and our licensors will fail to maintain such patents thereby reducing the rights of our portfolio. The patent position of pharmaceutical, biotechnology, and medical device companies generally is highly uncertain, involves complex legal and factual questions, and has in recent years been the subject of much litigation. As a result, the issuance, scope, validity, enforceability, and commercial value of our and our licensors' patent rights are highly uncertain. Our and our licensors' pending and future patent applications may not result in patents being issued which protect our technology or products, or which effectively prevent others from commercializing competitive technologies and products.

If we do not obtain protection under the Hatch-Waxman Act and similar foreign legislation by extending the patent terms and obtaining data exclusivity for our product candidate, our business may be materially harmed.

Depending upon the timing, duration of regulatory review, and date of FDA marketing approval of our or other product candidates, if any, one of such U.S. patents may be eligible for patent term restoration under the Drug Price Competition and Patent Term Restoration Act of 1984, referred to as the Hatch-Waxman Act. Under certain conditions, the Hatch-Waxman Act provides for a patent restoration term, or patent term extension, of up to five years as compensation for the time the product is under FDA regulatory review. The duration of patent term extension is calculated based on the time spent in the regulatory review process. In the future, we may plan to seek patent term extension for patents related to our product candidates. However, we may not be granted an extension because of, for example, failing to apply within the applicable deadline, expiration of relevant patents prior to obtaining approval, or otherwise failing to satisfy applicable requirements. Moreover, the applicable time period or the scope of patent protection afforded could be shorter or less than what we request. If we are unable to obtain patent term extension or the term of any such extension is less than we request, our revenue could be reduced, possibly materially.

Changes in U.S. patent law could diminish the value of patents in general, thereby impairing our ability to protect our product candidates.

In 2011, the United States enacted wide-ranging patent reform legislation with the America Invents Act ("AIA"). An important change introduced by the AIA is that, as of March 16, 2013, the United States transitioned to a "first-to-file" system for deciding which party should be granted a patent when two or more patent applications are filed by different parties claiming the same invention. A third party that files a patent application in the USPTO after that date but before we could therefore be awarded a patent covering an invention of ours even if we had made the invention before it was made by the third party. This will require us to be cognizant going forward of the time from invention to filing of a patent application, but circumstances could prevent us from promptly filing patent applications on our inventions. Among some of the other changes introduced by the AIA are changes that limit where a patentee may file a patent infringement suit and providing opportunities for third parties to challenge any issued patent in the USPTO. This applies to all of our U.S. patents, even those issued before March 16, 2013. Because of a lower evidentiary standard in USPTO proceedings compared to the evidentiary standard in U.S. federal courts necessary to invalidate a patent claim, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a district court action. Accordingly, a third party may attempt to use the USPTO procedures to invalidate our patent claims that would not have been invalidated if first challenged by the third party as a defendant in a district court action. The AIA and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents. Additionally, the U.S. Supreme Court's holdings in several patent cases in recent years, such as Association for Molecular Pathology v. Myriad Genetics, Inc. (Myriad I), Mayo Collaborative Services v. Prometheus Laboratories, Inc., and Alice Corporation Pty. Ltd. v. CLS Bank International, have narrowed the scope of patent protection available in certain circumstances or weakened the rights of patent owners in certain situations. In addition to increasing uncertainty about our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents, once obtained. Depending on decisions by the U.S. Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that 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 not be able to protect or practice our intellectual property rights throughout the world.

In jurisdictions where we have not obtained patent protection, competitors may use our intellectual property to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, but where it is more difficult to enforce a patent as compared to the United States. Competitor products may compete with our product candidates in jurisdictions where we do not have issued or granted patents or where our issued or granted patent claims or other intellectual property rights are not sufficient to prevent competitor activities in these jurisdictions. The legal systems of certain countries, particularly certain developing countries, make it difficult to enforce patents and such countries may not recognize other types of intellectual property protection, particularly that relating to pharmaceuticals. This could make it difficult for us to prevent the infringement of our patents or marketing of competing products in violation of our proprietary rights generally in certain jurisdictions. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial cost and divert our efforts and attention from other aspects of our business. The laws of some jurisdictions do not protect intellectual property rights to the same extent as the laws in the United States, and many companies have encountered significant difficulties in protecting and defending such rights in such jurisdictions. If we, or any future licensor, encounters difficulties in protecting, or is otherwise precluded from effectively protecting, the intellectual property rights important for our business in such jurisdictions, the value of these rights may be diminished and we may face additional competition from others in those jurisdictions. Many countries have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. In addition, many countries limit the enforceability of patents against government agencies or government contractors. In these countries, the patent owner may have limited remedies, which could materially diminish the value of such patent. If we, or any licensor, is forced to grant a license to third parties with respect to any patents relevant to our business, our competitive position in the relevant jurisdiction may be impaired and our business and results of operations may be adversely affected.

We are involved in a patent litigation lawsuit with a competitor with respect to RYZUMVI® and we may become involved in additional lawsuits to protect or enforce our patents and other intellectual property rights, which could be expensive, time consuming, and unsuccessful.

Competitors may infringe on our patents, the patents of our licensing partners, or other intellectual property rights. For example, in March 2025, in collaboration with our commercialization partner for RYZYMVI®, we filed a complaint for patent infringement of certain RYZYMVI® patents against Sandoz in the District of New Jersey in response to Sandoz's ANDA filing. The complaint seeks, among other relief, equitable relief enjoining Sandoz from infringing the RYZUMVI patents.

To counter infringement or unauthorized use of our patents and other intellectual property rights, we may be required to file additional infringement claims against Sandoz and/or infringement claims against other parties, which can be expensive and time consuming. In addition, in an infringement proceeding, a court may decide that one or more of our patents is invalid or unenforceable, or may refuse to stop the other party from using the technology on the grounds that our patents do not cover the technology in question. An adverse result in any litigation proceeding could put one or more of our patents at risk of being invalidated or interpreted narrowly. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. Moreover, there can be no assurance that we will have sufficient financial or other resources to file and pursue such infringement claims, which typically last for years before they are concluded.

Litigation proceedings may fail and, even if successful, may be costly and a distraction to our management and other employees. We may not be able to prevent, alone or with our collaborators, misappropriation of our proprietary rights, particularly in countries where the laws may not protect those rights as fully as in the United States.

In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, we could have a substantial adverse effect on the price of our common stock.

Third parties may initiate legal proceedings alleging that we are infringing their intellectual property rights, the outcome of which would be uncertain and could have an adverse effect on the success of our business.

Our commercial success depends upon our ability and the ability of our collaborators to develop, manufacture, market and sell our product candidates and use our proprietary technologies without infringing the proprietary rights and intellectual property of third parties. The biotechnology and pharmaceutical industries are characterized by extensive litigation regarding patents and other intellectual property rights. We may in the future become party to, or threatened with, adversarial proceedings or litigation regarding intellectual property rights with respect to our medicines and technology, including interference or derivation proceedings, post-grant reviews, *inter partes* reviews, or other procedures before the USPTO or other similar procedures in foreign jurisdictions. Third parties may assert infringement claims against us based on existing patents or patents that may be granted in the future. If we are found to infringe a third party's intellectual property rights, we could be required to obtain a license from such third party to continue developing and marketing our medicines and technology. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, we could be non-exclusive, thereby giving our competitors and other third parties access to the same technologies licensed to us. We could be forced, including by court order, to cease developing and commercializing the infringing technology or medicine. In addition, we could be held liable for substantial monetary damages, potentially including treble damages and attorneys' fees, if found to have willfully infringed. A finding of infringement could prevent us from commercializing a product candidate or force us to cease some of our business operations, which could harm our business. Alternatively, we may need to redesign our infringing products, which may be impossible or require substantial time and monetary expenditure. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative impact on our business. The cost to us of any litigation or other proceeding relating to patent or other proprietary rights, even if resolved in our favor, could be substantial and may result in substantial costs and distraction to our management and other employees. Some of our competitors may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could delay our research and development efforts and limit our ability to continue our operations.

We may be subject to damages resulting from claims that our employees or consultants have wrongfully misappropriated the intellectual property of their former employers.

Our employees and consultants have been previously employed at other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Although we are not aware of any claims currently pending against us, we may be subject to claims that these employees or we have inadvertently or otherwise used or disclosed trade secrets or other proprietary information or intellectual property of the former employers of our employees. 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 be a distraction to management. If we fail in defending such claims, in addition to paying money claims, we may lose valuable intellectual property rights or personnel. A loss of key personnel or their work product could detract from our ability to develop or commercialize our product candidates.

If we are not able to adequately prevent disclosure of our trade secrets and other proprietary information, the value of any product we may pursue could be significantly diminished.

While it is our policy to require our employees and contractors who may be involved in the development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who in fact develops intellectual property that we regard as our own.

Such assignment agreements may not be self-executing or may be breached, and we may be forced to bring claims against third parties, or defend claims they may bring against us, to determine the ownership of what we regard as our intellectual property. We may rely upon trade secrets, know-how, and continuing technological innovation to develop and maintain our competitive position. However, trade secrets are difficult to protect. We rely in part on confidentiality agreements with our employees, consultants, outside scientific collaborators, sponsored researchers, contract manufacturers, vendors, and other advisors to protect our trade secrets and other proprietary information. These agreements may not effectively prevent disclosure of confidential information and may not provide an adequate remedy in the event of unauthorized disclosure of confidential information. In addition, we cannot guarantee that we have executed these agreements with each party that may have or has had access to trade secrets. If a party breaches an agreement and discloses our proprietary information, including our trade secrets, we may not be able to obtain adequate remedies for such breaches. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive, and time consuming, and the outcome is unpredictable. In addition, some courts 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, we would have no right to prevent them, or those to whom they disclose such trade secrets, from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to, or independently developed by, a competitor or other third party, our competitive position would be harmed.

Obtaining and maintaining our trademark protection depends on approval from the USPTO and other foreign government agencies, and third parties may challenge, infringe, or otherwise weaken our trademark rights.

We have obtained registration of the "RYZUMVI" trademark in the United States. We have not yet registered trademarks for any other product candidates in any jurisdiction (other than "Nyxol", which we are no longer using). If we do not secure and maintain registrations for our trademarks, we may encounter more difficulty in enforcing them against third parties than we otherwise would, which could affect our business. When we file trademark applications for a product candidate, those applications may not be allowed for registration, and registered trademarks may not be obtained, maintained, or enforced. During trademark registration proceedings in the United States and foreign jurisdictions, we may receive rejections. We are given an opportunity to respond to those rejections, but may not be able to overcome such rejections. In addition, the SPTO and comparable agencies in many foreign jurisdictions allow third parties opportunities 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. In addition, any proprietary name we propose to use with a future 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. The FDA typically conducts a review of proposed drug names, including an evaluation of potential for confusion with other drug names. If the FDA objects to any proposed proprietary drug name for any product candidate, we may be required to expend significant additional resources in an effort to identify a suitable substitute proprietary drug name that would qualify under applicable trademark laws, not infringe the existing rights of third parties, and be acceptable to the FDA. If we register any of our trademarks, our trademarks or trade names may be challenged, infringed, circumvented, declared generic, or determined to infringe 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. 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 enter into collaborations, in-licensing arrangements, joint ventures, strategic alliances or partnerships with third parties that may not result in the development of commercially viable products or the generation of significant future revenues.

We may enter into certain license or other collaboration agreements in the future. Such agreements may impose various diligence, milestone payment, royalty, insurance or other obligations on us. If we fail to comply with such obligations, our licensor or collaboration partners may have the right to terminate the relevant agreement, in which event we would not be able to develop or market the products covered by such licensed intellectual property. 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; and
- the priority of invention of patented technology.

In addition, the agreements under which intellectual property or technology is licensed from third parties are complex, and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology, or increase what we believe to be our financial or other obligations under the relevant agreement, either of which could have a material adverse effect on our business, financial condition, results of operations, and prospects. Moreover, if disputes over intellectual property that we have licensed prevent or impair our ability to maintain our 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. In addition, we cannot be certain that the preparation, filing, prosecution and maintenance activities by any future licensors have been or will be conducted in compliance with applicable laws and regulations or will result in valid and enforceable patents and other intellectual property rights.

We depend on intellectual property licensed from third parties for development of our product candidates, and the termination of, or reduction or loss of rights under, these licenses would harm our business.

We exclusively license from the University of Pennsylvania and/or University of Florida certain patents and patent applications for products under development for our gene therapy program. Rights granted under the agreements are subject to various milestone payment, royalty, and other obligations on us, and may be revocable under certain circumstances including if we fail to make the payments due thereunder, commit a material breach of the agreement that is not cured within a certain time period after receiving written notice or fail to meet certain specified development and commercial timelines. Termination of a license agreement may result in us having to negotiate a new or reinstated agreement, which may not be available to us on equally favorable terms, or at all, which may mean we are unable to develop or commercialize one or more of the products under development in our gene therapy program. Also, we do not have total control over the preparation, filing, prosecution and maintenance of patents and patent applications covering the technology that we license under these agreements.

We may, in the future, enter into additional license agreements. The rights granted under license agreements are and may be subject to various milestone payment, royalty, insurance or other obligations on us, and may be revocable under certain circumstances including if we cease to do business, fail to make the payments due thereunder, commit a material breach of the agreement that is not cured within a certain time period after receiving written notice or fail to meet certain specified development and commercial timelines. Termination of a license agreement may result in us having to negotiate a new or reinstated agreement, which may not be available to us on equally favorable terms, or at all, which may mean we are unable to develop or commercialize the drug therapy covered by the license. We do not have total control over the preparation, filing, prosecution and maintenance of patents and patent applications covering the technology that we license.

Expansion through obtaining rights to product candidates and approved products through acquisitions may not be successful.

We may acquire the rights to other products, product candidates, or technologies in the future. The future growth of our business may depend in part on our ability to acquire the rights to approved products, additional product candidates, or technologies. However, we may be unable to acquire the rights to any such products, product candidates, or technologies from third parties. The acquisition of pharmaceutical products is a competitive area, and a number of more established companies are also pursuing strategies to license or acquire products, product candidates, or technologies that we may consider attractive. These established companies may have a competitive advantage over us due to their size, cash resources, and greater clinical development and commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. We also may be unable to acquire the rights to the relevant product, product candidate, or technology on terms that would allow us to make an appropriate return on our investment. Furthermore, we may be unable to identify suitable products, product candidates, or technologies within our area of focus. If we are unable to successfully obtain rights to suitable products, product candidates or technologies, our ability to pursue this element of our strategy could be impaired.

Risks Related to Our Employee Matters and Managing Growth

We are dependent on our key personnel, and if we are not successful in attracting and retaining highly qualified personnel, we may not be able to successfully implement our business strategy.

We are highly dependent on our management, scientific, and medical personnel, including George Magrath, MD,, Chief Executive Officer and Board Director. We have entered into employment agreements with our executive officers, but any employee may terminate his or her employment with us. The loss of the services of any of our executive officers, other key employees or consultants, or other scientific and medical advisors in the foreseeable future might impede the achievement of our research, development, and commercialization objectives. If we fail to retain key personnel and are unable to hire highly qualified replacements, we may not be able to meet key objectives, such as meeting financial goals, and maintaining or expanding our business. We rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our development and commercialization strategy. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us. Recruiting and retaining qualified scientific personnel and business and commercial personnel will also be critical to our success. We may not be able to attract and retain these personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific personnel from universities and research institutions. Failure to succeed in clinical trials may also make it more challenging to recruit and retain qualified scientific personnel.

We expect that we will need to develop and expand a number of corporate functions in our company (including sales, marketing, and distribution teams), and, as a result, we may encounter difficulties in managing this development and expansion, which could disrupt our operations.

We expect to increase our number of employees and the scope of our operations as we further the clinical development of our product candidates. To manage our anticipated development and expansion, we must continue to implement and improve our managerial, operational, and financial systems, expand our facilities, and continue to recruit and train additional qualified personnel. Also, our management may need to divert a disproportionate amount of our attention away from our day-to-day activities and devote a substantial amount of time to managing these development activities. Due to our limited resources, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. This may result in weaknesses in our infrastructure, and give rise to operational mistakes, loss of business opportunities, loss of employees, or reduced productivity among remaining employees. The physical expansion of our operations may lead to significant costs and may divert financial resources from other projects, such as the development of product candidates. If our management is unable to effectively manage our expected development and expansion, our expenses may increase more than expected, our ability to generate or increase our revenue could be reduced and we may not be able to implement our business strategy. Our future financial performance and our ability to commercialize product candidates, if approved, and compete effectively will depend, in part, on our ability to effectively manage our future development and expansion.

A variety of risks associated with operating internationally for us and our collaborators could adversely affect our business.

In addition to our U.S. operations, we may pursue international operations in the future and would face risks associated with such global operations, including possible unfavorable regulatory, pricing and reimbursement, legal, political, tax, and labor conditions, which could harm our business. We plan to conduct clinical trials outside of the United States. We are subject to numerous risks associated with international business activities, including:

- compliance with differing or unexpected regulatory requirements for our product candidates;
- different medical practices and customs affecting acceptance of our product candidates, if approved, or any other approved product in the marketplace;

- language barriers;
- the interpretation of contractual provisions governed by foreign law in the event of a contract dispute;
- difficulties in staffing and managing foreign operations, and an inability to control commercial or other activities where it is relying on third parties;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- potential liability under the Foreign Corrupt Practice Act of 1977 or comparable foreign regulations;
- production shortages resulting from any events affecting raw material supply or manufacturing capability abroad;
- foreign government taxes, regulations, and permit requirements;
- U.S. and foreign government tariffs, trade restrictions, price and exchange controls, and other regulatory requirements, particularly changes that may occur as a result of the recent U.S. presidential election;
- economic weakness, including inflation, natural disasters, war, events of terrorism, or political instability in particular foreign countries;
- fluctuations in currency exchange rates, which could result in increased operating expenses and reduced revenues;
- compliance with tax, employment, immigration, and labor laws, regulations, and restrictions for employees living or traveling abroad;
- changes in diplomatic and trade relationships; and
- challenges in enforcing our contractual and intellectual property rights, especially in those foreign countries that do not respect and protect intellectual property rights to the same extent as the United States.

If we experience any of these risks, our sales in non-U.S. jurisdictions may be harmed, our results of operations would suffer, and our reputation and business prospects would be negatively impacted.

Our business and operations could suffer in the event of system failures or unplanned events, including cyber incidents, network security breaches, service interruptions, or data corruption.

Despite the implementation of security measures, our internal computer systems and those of our current and future contractors and consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war, and telecommunications and electrical failures. We have experienced cyber attacks in the past. While these attacks did not have a significant impact to the Company, we may continue to experience such attacks. For example, the loss of clinical trial data from completed or future clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. Moreover, the rapid evolution and increased adoption of artificial intelligence technologies may intensify our cybersecurity risks. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability and the further development and commercialization of our product candidates could be delayed. We may be required to expend significant resources, fundamentally change our business activities and practices, or modify our operations, including our clinical trial activities, or information technology in an effort to protect against security breaches and to mitigate, detect and remediate actual or potential vulnerabilities. Furthermore, failure to protect our information technology infrastructure against cyber incidents, network security breaches, service interruptions, or data corruption could materially disrupt our operations and adversely affect our business, operating results, or the effectiveness of our internal controls over financial reporting. Furthermore, any unplanned event, such as flood, fire, explosion, tornadoes, earthquake, extreme weather condition, medical epidemics, power shortage, telecommunications failure, cybersecurity incidents, network security breaches, service interruptions, or data corruption other natural or manmade accidents or incidents, or pandemics, that result in us being unable to fully utilize the facilities, may have an adverse effect on our ability to operate our business, particularly on a daily basis, and have significant negative consequences on its financial and operating conditions. Loss of access to these facilities may result in increased costs, delays in the development of our product candidates, or interruption of our business operations.

Risks Related to Ownership of Our Common Stock

The market price of our common stock is expected to be volatile.

The market price of our common stock has been, and may continue to be, subject to significant fluctuations. Some of the factors that may cause the market price of our common stock to fluctuate include:

- the announcement of new products or product enhancements by us or our competitors;
- changes in our relationships with our licensors or other strategic partners;
- developments concerning intellectual property rights and regulatory approvals;
- variations in ours and our competitors' results of operations;
- substantial sales of shares of our common stock due to the release of lock-up agreements;
- the announcement of clinical trial results;
- the announcement of potentially dilutive financings;
- changes in earnings estimates or recommendations by securities analysts;
- changes in the structure of healthcare payment systems;
- developments and market conditions in the pharmaceutical and biotechnology industries;
- any acquisitions or dispositions of products, product candidates or business; and
- the results of clinical trials of our gene therapy products, PS, or any other product candidate that we may develop.

Further, the stock market, in general, and the market for biotechnology companies, in particular, have experienced extreme price and volume fluctuations. As a result of this volatility, investors may not be able to sell their securities at a profit. Continued market fluctuations could result in extreme volatility in the price of our common stock, which may be unrelated or disproportionate to our operating performance and which could cause a decline in the value of our common stock and result in substantial losses for purchasers of our common stock.

We currently have a substantial number of shares of common stock subject to potential issuance associated with our Equity Line of Credit ("ELOC") arrangement. The issuance or sale of shares under our ELOC arrangement would substantially increase the number of shares outstanding and result in dilution to our security holders. This might substantially decrease the market price of our common stock.

We have a substantial number of shares of our common stock that may be issued in the future. In connection with our equity line of credit, or ELOC, arrangement, we have issued Lincoln Park Capital Fund, LLC 246,792 shares of our common stock. Under our ELOC arrangement, we can sell up to $50,000,000 worth of our common stock over the thirty-six-month term of the ELOC arrangement, to Lincoln Park Capital, LLC, beginning only after certain conditions set forth in the Purchase Agreement have been satisfied. To the extent that shares of common stock are issued or sold under our ELOC arrangement, dilution to our security holders may occur. The issuance of these additional securities may have an adverse effect on the market price of our securities.

We do not anticipate paying any cash dividends in the foreseeable future.

The current expectation is that we will retain our future earnings, if any, to fund the development and growth of our business. As a result, capital appreciation, if any, of our common stock will be investors' sole source of gain, if any, for the foreseeable future.

We may be subject to securities litigation, which is expensive and could divert management attention.

The market price of our common stock may be volatile, and in the past companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We may be the target of this type of litigation in the future. It is also possible that potential plaintiffs may file lawsuits relating to the Opus Acquisition, as litigation and related claims frequently follow the announcement and completion of business transactions, including mergers like the one we consummated. Litigation often is expensive and diverts management's attention and resources, which could seriously harm our business. The outcome of any future litigation is uncertain and, we may incur significant costs and damages to our reputation.

Actions of activist stockholders could adversely affect our business and stock price and cause us to incur significant expenses.

We strive to maintain constructive, ongoing communications with all of our stockholders. While our Board and management welcome their views and opinions with the goal of enhancing value for all our stockholders, we may from time to time be subject to proxy solicitations, stockholder proposals, or other attempts to effect changes or acquire control over the Company by activist stockholders that may not align with our business strategies or the best interests of all of our stockholders. We are currently the target of a proxy contest initiated by Mina Sooch, our former Chief Executive Officer, who has nominated six candidates for election to the Board. Responding to proxy contests, proposals, and other actions by activist stockholders requires, and may in the future require, us to incur significant legal and consulting costs, proxy solicitation expenses, and administrative and associated costs. In addition, responding to proxy contests, proposals, and other actions by activist stockholders may divert the attention of our Board, management team and employees and disrupt our business and operations.

Perceived uncertainties as to our future direction, our ability to execute on our strategy, or changes to the composition of our Board or management team could arise due to proposals by activist stockholders or a proxy contest. Such perceived uncertainties could interfere with our ability to execute our strategic plans, be exploited by our competitors and/or other activist stockholders, result in the loss of potential business opportunities, make it more difficult to attract and retain financial professionals and qualified employees, and adversely impact our relationship with existing and potential business partners, any of which could have a material adverse effect on our business. Further, actual or perceived actions of activist stockholders may cause significant fluctuations in our stock price based upon temporary or speculative market perceptions or other factors that do not necessarily reflect the Company's underlying fundamentals and prospects. Additionally, we may in the future become party to litigation as a result of matters arising in connection with a proxy contest or other activist stockholder actions, which could serve as a distraction to our Board and management and could require us to incur significant additional costs.

ITEM 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 1C. CYBERSECURITY

Risk Management and Strategy

The Company has adopted a cybersecurity risk management program that includes processes designed to identify, assess, manage, and monitor risks from cybersecurity threats. We have integrated cybersecurity risk management into our broader risk management framework to promote a company-wide culture of cybersecurity awareness and risk management. Those processes include conducting an assessment of internal and external threats to the security, confidentiality, integrity and availability of Company data and systems along with other material risks to Company operations, at least annually and whenever there are material changes to the Company's systems or operations, and responding to risks identified. The Company's cybersecurity and risk management program is based on National Institute of Standards and Technology (NIST) frameworks. As part of our risk management process, the Company also engages outside providers to conduct periodic security assessments. As part of our third-party risk management program, we conduct assessments of vendor cybersecurity risks, including risks associated with our cloud vendors and other third parties.

Cybersecurity Threats

As of the date of this report, we have not identified any risks from a cybersecurity threat or incident that we believe has or is reasonably likely to have a material effect on our business strategy, results of operations, or financial condition. Despite our continuing efforts, we cannot guarantee that our cybersecurity safeguards will prevent breaches or breakdowns of our or our third-party service providers' information technology systems, particularly in the face of continually evolving cybersecurity threats and increasingly sophisticated threat actors. For more information, see Item 1A Risk Factors, "*Our business and operations would suffer in the event of system failures or unplanned events, including cyber incidents, network security breaches, service interruptions, or data corruption*."

Governance

The cybersecurity risk management program, including the prevention, detection, mitigation, and remediation of cybersecurity incidents, is led by the Company's Finance organization, including the Senior Vice President of Finance and the Senior Director of Finance. Both of these individuals have experience in overseeing our cybersecurity and information technology programs and have held similar oversight functions in prior roles. We rely heavily on information technology consultants for advice and expertise on monitoring evolving industry standards and to monitor our compliance with applicable policies. The Senior Vice President of Finance reports on cybersecurity matters to the Company's Audit Committee at least annually, as well as any time there are material changes to the Company's systems or operations and material updates are shared at each regular meeting of the full Board. The Senior Vice President of Finance also reports to the Company's Chief Executive Officer and other members of our senior management as appropriate. These reports may feature an overall assessment of the Company's compliance with the Company's cybersecurity policies and include topics such as risk assessment, risk management and control decisions, service provider arrangements, test results, security incidents and responses, and recommendations for changes and updates to policies and procedures. In addition, the results of any external reviews on our cybersecurity program are reported to senior management and the Audit Committee.

ITEM 2. PROPERTIES

Our headquarters is currently located in Durham, North Carolina, and consists of approximately 84 square feet of office space under a short-term, non-cancellable facility lease that expires on September 30, 2025. We may extend our current space or require additional space and facilities as our business expands, and we believe that suitable additional and alternative spaces will be available in the future on commercially reasonable terms.

ITEM 3. LEGAL PROCEEDINGS

From time to time, we are subject to litigation and claims arising in the ordinary course of business. Although the results of litigation and claims cannot be predicted with certainty, as of the date of this filing, we do not believe we are party to any claim or litigation, the outcome of which, if determined adversely to us, would individually or in the aggregate be reasonably expected to have a material adverse effect on our business or financial condition, except for a complaint for patent infringement that we filed in collaboration with our commercialization partner for RYZUMVI® in March 2025 against Sandoz, Inc. ("Sandoz") in the District of New Jersey in response to Sandoz's submission of an Abbreviated New Drug Application to the U.S. Food and Drug Administration seeking approval to manufacture, use or sell a generic version of RYZUMVI for the reversal of pharmacologically-induced mydriasis in the United States prior to the expiration of six of our patents. The complaint seeks, among other relief, equitable relief enjoining Sandoz from infringing the specified RYZUMVI patents. Regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Market Information

Our shares of common stock trade on the Nasdaq Capital Market under the symbol "IRD".

Holders

As of March 27, 2025, there were approximately 67 holders of record of our common stock, $0.0001 par value per share ("Common Stock"). The number of holders of record is based on the actual number of holders registered on the books of our transfer agent and does not reflect holders of shares in "street name" or persons, partnerships, associations, corporations, or other entities identified in security position listings maintained by depository trust companies.

Issuance of Series A Preferred Stock

On October 22, 2024, we acquired Opus Genetics Inc., a Delaware corporation ("Private Opus"), in accordance with the terms of the Agreement and Plan of Merger, dated October 22, 2024 (the "Merger Agreement"), by and among the Company, Orange Merger Sub I, Inc., a Delaware corporation and a wholly owned subsidiary of the Company, Orange Merger Sub II, LLC, a Delaware limited liability company and wholly owned subsidiary of the Company, and Private Opus. Pursuant to the Merger Agreement. Under the terms of the Merger Agreement, at the closing of the Merger, we issued to the securityholders of Private Opus 5,237,063 shares of our Common Stock and 14,145.374 shares of our preferred stock, par value $0.0001 per share, designated as Series A Non-Voting Convertible Preferred Stock ("Series A Preferred Stock"), each share of which is convertible into 1,000 shares of Common Stock, subject to certain conditions.

Pursuant to the Merger Agreement, Ocuphire will submit the following matters to its stockholders at the next annual meeting of stockholders (the "Stockholders' Meeting") for their consideration: (i) the approval of the conversion of the Series A Preferred Stock into shares of Common Stock in accordance with Nasdaq Listing Rule 5635 and (ii) the approval of one or more adjournments of the Stockholders' Meeting to solicit additional proxies if there are not sufficient votes cast in favor of the foregoing matters.

On October 22, 2024, Ocuphire filed a Certificate of Designation of Preferences, Rights and Limitations of the Series A Non-Voting Convertible Preferred Stock with the Secretary of State of the State of Delaware (the "Certificate of Designation") in connection with the Merger referenced in Item 1.01 above. The Certificate of Designation provides for the issuance of shares of Series A Preferred Stock.

Holders of Series A Preferred Stock are entitled to receive dividends on shares of Series A Preferred Stock (on an as-if-converted-to-Common-Stock basis) equal to and in the same form, and in the same manner, as dividends (other than dividends on shares of the Common Stock payable in the form of Common Stock) actually paid on shares of the Common Stock when, as and if such dividends (other than dividends payable in the form of Common Stock) are paid on shares of the Common Stock. In addition to any dividends payable as described above, commencing on October 15, 2025, holders of Series A Preferred Stock will be entitled to receive when, as and if declared by our board of directors (the "Board") or a duly authorized committee of the Board, and we will pay, out of funds legally available therefor, cumulative quarterly cash dividends of $26.00 per share of Series A Preferred Stock; provided that for the Series A Dividend Payment Date occurring on October 15, 2025, the amount of such quarterly cash dividend shall be $15.26. Any such dividends will be payable quarterly in arrears on January 15, April 15, July 15 and October 15 of each year, commencing with the first payment on October 15, 2025.

The issuances of Common Stock and Series A Preferred Stock pursuant to the Merger Agreement were exempt from registration pursuant to Section 4(a)(2) of the Securities Exchange Act of 1933, as amended, and Regulation D promulgated thereunder.

There were 14,145.374 shares of Series A preferred stock as of March 31, 2025.

Dividend Policy

We have not paid any cash dividends on our Common Stock since our inception and do not anticipate paying any cash dividends in the foreseeable future. We currently plan to retain our earnings, if any, to provide funds for the expansion of our business.

Recent Sales of Unregistered Securities

None.

ITEM 6. [RESERVED]

Not applicable.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with our consolidated financial statements and the related notes included elsewhere in this Annual Report. Some of the information contained in this discussion and analysis or set forth elsewhere in this Annual Report, including information with respect to our plans and strategy for our business and related financing, includes forward-looking statements that involve risks and uncertainties. As a result of many factors, including those factors set forth in the "Risk Factors" section of this Annual Report, our actual results could differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

Opus Genetics, Inc. (the "Company," "Opus," "we," "us," or "our") is a clinical-stage ophthalmic biotechnology company developing gene therapies for the treatment of inherited retinal diseases ("IRDs") and other types of therapies for additional ophthalmic disorders.

On October 22, 2024, Opus Genetics, Inc., a Delaware corporation formerly known as Ocuphire Pharma, Inc. (the "Company," "Opus," "we," "us" or "our"), acquired a private corporation then operating under the name of "Opus Genetics Inc." ("Private Opus") pursuant to the terms of an Agreement and Plan of Merger, dated as of October 22, 2024 (such agreement, the "Merger Agreement" and the transaction consummated via the Merger Agreement, the "Opus Acquisition"), by and among the Company, Private Opus, and certain merger subsidiaries party thereto. As consideration for the Opus Acquisition, the Company issued 5,237,063 shares of its common stock and 14,145.374 shares of Series A Preferred Stock, each of which is convertible into 1,000 shares of common stock. Further information about the Opus Acquisition can be found in Note 2 – Mergers, included in "Part II, Item 8– Financial Statements and Supplementary Data" of this Annual Report.

Our expanded pipeline following the Opus Acquisition includes assets from the adeno-associated virus ("AAV") based gene therapy portfolio of Private Opus that address mutations in genes that cause different forms of Leber congenital amaurosis ("LCA"), bestrophinopathy, and retinitis pigmentosa. Apart from gene therapies, our pipeline also includes Phentolamine Ophthalmic Solution 0.75%, a non-selective alpha-1 and alpha-2 adrenergic antagonist to reduce pupil size, as well as APX3330, a novel small-molecule inhibitor of Ref-1 designed to slow the progression of non-proliferative diabetic retinopathy.

Our most advanced gene therapy program is designed to address mutations in the LCA5 gene ("LCA5"), which encodes the lebercilin protein. More specifically, we are developing OPGx-LCA5 to treat LCA5-associated IRD, an early-onset retinal degeneration, and an open-label, dose-escalation Phase 1/2 clinical trial is ongoing. The trial has shown clinical proof-of-concept—one-year data has provided evidence that the therapy supported visual improvement in three out of three adult patients participating in the trial, each of whom has late-stage disease. Enrollment of the first pediatric patient in the LCA5 Phase 1/2 trial occurred in the first quarter of 2025, with the first data anticipated in the third quarter of 2025. The program has received Rare Pediatric Disease Designation and Orphan Drug Designation from the U.S. Food and Drug Administration ("FDA"). OPGx-BEST1 is another gene therapy candidate in our portfolio, which Private Opus acquired from Iveric Bio, a biopharmaceutical company focused on the discovery and development of novel treatments for retinal diseases, in late 2022. This asset is being developed for the treatment of IRDs associated with mutations in the BEST1 gene ("Best Disease"), which can lead to legal blindness. In preclinical studies conducted in a naturally occurring canine model of Best Disease, OPGx-BEST1 provided evidence in support of a first-in-man clinical trial. We aim to obtain preliminary data from a Phase 1/2study by the first quarter of 2026.

RYZUMVI and Phentolamine Ophthalmic Solution 0.75% (PS)

In November 2022, we entered into a license and collaboration agreement (the "Viatris License Agreement") with a company now known as Viatris, Inc. ("Viatris"), pursuant to which we granted Viatris an exclusive license to develop, manufacture, import, export and commercialize its refractive product candidate Phentolamine Ophthalmic Solution 0.75% (initially known as Nyxol) ("PS"), for treating (a) reversal of pharmacologically-induced mydriasis, (b) decreased vision under mesopic (low) light conditions after keratorefractive surgery, and (c) presbyopia; and (ii) PS and low dose pilocarpine for treating presbyopia (together, the "PS Products") worldwide except for certain countries and jurisdictions in Asia (the "Viatris Territory"). PS was approved by the FDA for the treatment for pharmacologically-induced mydriasis under the brand name RYZUMVI® in September 2023, which triggered a $10 million milestone payment under the Viatris License Agreement. RYZUMVI was commercialized by Viatris in April 2024. For more information on the Viatris License Agreement, please refer to Note 10 – License and Collaboration Agreements included in "Part I, Item 1– Financial Statements and Supplementary Data" of this Annual Report.

PS is a once-daily eye drop formulation of phentolamine mesylate designed to reduce pupil diameter and improve visual acuity. The VEGA-3 Phase 3 clinical trial evaluating PS for the treatment of presbyopia (age-related blurry near vision) completed enrollment and topline results are expected in the first half of 2025. Additionally, for the treatment of decreased vision under mesopic (low) light conditions following keratorefractive surgery, we received FDA agreement under Special Protocol Assessment ("SPA") for LYNX-2, a Phase 3 Trial of PS. LYNX-2 completed enrollment and topline results are expected mid-year 2025. We expect that an additional Phase 3 study of LYNX-3 for the treatment of decreased vision under mesopic (low) light conditions following keratorefractive surgery will commence in the second half of 2025.

APX3330

APX3330 is a selective small molecule that is designed to act on the dual-functioning Apurinic/Apyrimidinic Endonuclease 1/Redox Effector Factor-1 (APE1/Ref-1) protein, referred to as Ref-1. APX3330 has completed a Phase 2 clinical study in 103 patients and FDA agreement under SPA was reached for a Phase 3 program. However, due to the capital requirements and developmental timelines associated with APX3330, we are currently seeking a strategic partner to advance the clinical development of this diabetic retinopathy program and redirecting existing resources toward the acquired gene therapy programs.

Strategic Outlook

We intend to advance our current active pipeline and may explore opportunities to out-license from our portfolio or in-license other drug candidates. To date, our primary activities have been conducting research and development activities, performing business and financial planning, recruiting personnel and raising capital. We have one product, RYZUMVI, approved for sale that is generating royalties based on sales by Viatris, and we do not expect to consistently generate significant revenues, other than license and collaborations revenue, unless and until the FDA or other regulatory authorities approve, and we successfully commercialize, LCA5, BEST1, other internally-developed assets or PS for other indications. Until such time, if ever, as we can consistently generate substantial product revenue, we expect to finance our cash needs through a combination of equity, debt and alternative financings as well as through collaborations, strategic alliances and licensing arrangements.

Through December 31, 2024, we have funded our operations primarily through equity financings, the issuance of convertible notes in private placements, and license fee and milestone payments in connection with the Viatris License Agreement.

Our net loss was $57.5 million for the year ended December 31, 2024, as compared to a net loss of $10.0 million for the year ended December 31, 2023. As of December 31, 2024, we had an accumulated deficit of $139.0 million. Furthermore, we anticipate that our expenses will increase as we:

- continue clinical trials for LCA5, BEST1, PS and for any other product candidate in our future pipeline;
- continue nonclinical studies for our pipeline of gene therapies;
- develop additional product candidates that we identify, in-license or acquire;
- seek regulatory approvals for any product candidates that successfully complete clinical trials;
- contract to manufacture our product candidates;
- maintain, expand and protect our intellectual property portfolio;
- hire additional staff, including clinical, scientific, operational and financial personnel, to execute our business plan;
- add operational, financial and management information systems and personnel to support our product development and potential future commercialization efforts;
- continue to operate as a public company; and
- establish on our own or with partners, a sales, marketing and distribution infrastructure to commercialize any products for which we may obtain regulatory approval.

Our net loss will likely continue to fluctuate significantly from quarter to quarter and year to year, depending on the timing of our nonclinical studies, clinical trials, expenditures on other research and development activities (and reimbursement thereof), and from potential milestone payments received from and revenue earned under the Viatris License Agreement or any other license and collaboration agreements that we enter into, and potential payments that may become payable from time to time under the Apexian Sublicense Agreement.

Financial Operations Overview

License and Collaborations Revenue

License and collaborations revenue to date was derived from a one-time non-refundable payment related to a license transfer, an additional milestone payment and reimbursement of expenses earned under the Viatris License Agreement, and to a much lesser degree, from license agreements with BioSense Global LLC (“BioSense”) and Processa Pharmaceuticals, Inc. (“Processa”). We anticipate that we will recognize revenue as we earn reimbursement for research and development services in connection with the Viatris License Agreement and we may earn additional revenues from potential milestone and royalty payments from the agreements with Viatris, BioSense, or Processa, or from other license agreements entered into the future; however, the attainment of milestones or level of sales required to earn significant royalty payments is highly uncertain for the reasons explained below. Until further notice, we will report earned RYZUMVI royalties as a component of license and collaboration revenue listed in the consolidated statements of comprehensive loss.

To date, outside of the license and collaborations revenue referenced above, we do not expect to generate significant revenue unless or until RYZUMVI sales become material, or regulatory approval is obtained, and commercialization begins for LCA5, BEST1, other internally-developed assets or PS for additional indications. If we fail to complete the development of LCA5, BEST1, PS, or any other product candidate we may pursue in the future in a timely manner or fail to obtain regulatory approval, our ability to generate significant revenue will be compromised.

Operating Expenses

The Company's operating expenses are classified into two categories: general and administrative and research and development.

General and Administrative Expenses

General and administrative expenses consist primarily of personnel-related costs, including salaries, benefits and stock-based compensation costs, for personnel in functions not directly associated with research and development activities. Other significant costs include insurance coverage for directors and officers and other property and liability exposures, legal fees relating to intellectual property and corporate matters, business development costs, professional fees for accounting and tax services, other services provided by business consultants and legal settlements.

Research and Development Expenses

To date, our research and development expenses have related primarily to the clinical stage development of APX3330 and PS. Research and development expenses consist of costs incurred in performing research and development activities, including compensation, benefits and stock-based compensation costs for research and development employees and costs for consultants, costs associated with nonclinical studies and clinical trials, regulatory activities, manufacturing activities to support clinical activities, license fees, nonlegal patent costs, fees paid to external service providers that conduct certain research and development, and an allocation of overhead expenses. We do not expect to incur meaningful research and development expenses in the future for APX3330, and we announced plans to seek a partner for the program to advance development.

Pursuant to the Viatris License Agreement, our budgeted research and development expenses related to the development of PS to date have been fully reimbursed by Viatris. However, all research and development costs, including those related to PS, are expensed as incurred, and costs incurred by third parties are expensed as the contracted work is performed. We accrue for costs incurred as the services are being provided by monitoring the status of the study or project, and as the invoices are received from our external service providers. We adjust our accrual as actual costs become known. Research and development activities are central to our business model.

We expect that LCA5, BEST1, PS and other internally-developed assets will have higher development costs during the later stages of clinical development, as compared to costs incurred during their earlier stages of development, primarily due to the increased size and duration of the later-stage clinical trials and associated nonclinical studies. We expect our research and development expenses to increase over the next several years. However, it is difficult for us to determine with certainty the duration, costs and timing to complete our current or future nonclinical programs and clinical trials of LCA5, BEST1, PS and other internally-developed assets.

Acquired In-Process Research and Development Expenses

We include costs to acquire or in-license product candidates as acquired in-process research and development expenses. These costs are immediately expensed provided that the payments do not also represent processes or activities that would constitute a "business" as defined under accounting standards generally accepted in the United States of America (U.S. GAAP) or provided that the product candidate has not achieved regulatory approval for marketing and, absent obtaining such approval, has no alternative future use. Royalties owed on future sales of any licensed product will be expensed in the period the related revenues are recognized. The costs associated with the Merger were recorded as acquired in-process research and development expenses ("IPR&D").

Financing costs

Financing costs consist of issuance costs attributed to an equity line financing with Lincoln Park discussed further below.

Fair value change in derivative liabilities

The fair value change in derivative liabilities consists of the fair value change of the derivative liability associated with our equity line financing during the periods the equity line financing is outstanding. In addition, the fair value change of the warrant liabilities associated with the Rexahn warrants, while outstanding, were also included in this line item.

Other Income, net

Other income, net includes interest earned from cash and cash equivalent investments, realized and unrealized gains (losses) from equity investments, gain in connection with Opus Acquisition and reimbursements in connection with grants and other sources when they occur. In addition, this line item includes payments made by the Company in connection with the Contingent Value Rights Agreement (the "CVR Agreement") discussed further below with former shareholders Rexahn.

Provision for Income Taxes

Provision for income taxes consists of federal and state income taxes in the United States, as well as deferred income taxes and changes in related valuation allowance reflecting the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Currently, a full valuation allowance has been provided on the net deferred tax assets as of December 31, 2024 and 2023 given the uncertainty of future taxable income and other related factors impacting the realizability or our remaining net deferred tax assets.

Results of Operations

The following table summarizes our operating results for the periods indicated (in thousands):

	For the Year Ended December 31,		
	2024	**2023**	**Change**
License and collaborations revenue	$ 10,992	$ 19,049	$ (8,057)
Operating expenses:			
General and administrative	18,215	11,959	6,256
Research and development	26,851	17,653	9,198
Acquired in-process research and development expenses	28,000	—	28,000
Total operating expenses	73,066	29,612	43,454
Loss from operations	(62,074)	(10,563)	(51,511)
Financing costs	—	(1,328)	1,328
Fair value change in derivative liabilities	72	80	(8)
Other income, net	4,470	1,837	2.633
Loss before income taxes	(57,532)	(9,974)	(47,558)
Provision for income taxes	—	(12)	12
Net loss	$ (57,532)	$ (9,986)	$ (47,546)

Comparison of Years Ended December 31, 2024 and 2023

License and Collaborations Revenue

License and collaborations revenue was $11.0 million for the year ended December 31, 2024 compared to $19.0 million for the year ended December 31, 2023.

Revenue during 2024 was derived from the output of research and development services in connection with the Viatris License Agreement.

Revenue during 2023 was derived in part from a milestone payment of $10.0 attributed to the FDA's approval of PS, under brand name RYZUMVI for the treatment of pharmacologically induced mydriasis. The $10 million milestone payment was previously constrained by the Company with regard to its inclusion in the initial aggregate transaction price associated with the Viatris License Agreement. Lastly, the balance of the revenue recognized during calendar year 2023 related to the output of research and development services in connection with the Viatris License Agreement.

General and Administrative

General and administrative expenses for the year ended December 31, 2024 were $18.2 million compared to $12.0 million for the year ended December 31, 2023. The $6.3 million increase was attributed to transaction costs in connection with the Opus Acquisition of $2.8 million, payroll related costs of $0.8 million primarily attributable to new headcount supporting business development initiatives, legal support of $2.0 million, and business development activities and other costs of $0.7 million on a net basis. General and administrative expenses included $2.4 million in stock-based compensation expense during each of the years ended December 31, 2024 and 2023.

Research and Development

The following table illustrates the components of our research and development expenses for the periods presented (in thousands):

	For the Year Ended December 31,		
	2024	**2023**	**Change**
External costs:			
Phentolamine Ophthalmic Solution 0.75% ("PS")	$ 9,680	$ 9,983	$ (303)
APX 3330	11,466	4,818	6,648
IRD programs	902	—	902
Unallocated	414	678	(264)
Total external cost	22,462	15,479	6,983
Internal costs:			
Employee related expenses	4,216	2,148	2,068
Facilities, supplies and other	173	26	147
Total internal costs	4,389	2,174	2,215
Total research and development expenses	$ 26,851	$ 17,653	$ 9,198

Research and development expenses for the year ended December 31, 2024 were $26.9 million compared to $17.7 million for the year ended December 31, 2023. The $9.2 million increase was primarily attributable to clinical costs of $3.4 million for the Lynx-2 and Vega-3 trials and other research and development activities period over period, drug manufacturing costs of $1.1 million and toxicology service costs of $2.2 million related to APX3330 and $0.2 million related to IRD programs, payroll related costs of $1.7 million, and regulatory and operating related expenses of $0.6 million on a net basis. Pursuant to the Viatris License Agreement, our budgeted research and development expenses related to the development of PS are fully reimbursed by Viatris. Research and development expenses included $1.0 million and $1.1 million in stock-based compensation expense during the years ended December 31, 2024 and 2023, respectively.

Acquired In-Process Research and Development Expenses

On October 22, 2024, Opus acquired Private Opus. Research and development projects of Private Opus which were in-process at the Opus Acquisition date were expensed as IPR&D and amounted to $28.0 million. Current accounting standards require that the fair value of IPR&D with no alternative future use be charged to expense on the acquisition date. There were no IPR&D costs in the comparable prior year period.

Financing costs

Financing costs for the year ended December 31, 2023 of $1.3 million was comprised of issuance costs attributed to the equity line financing with Lincoln Park described further below. We did not have any financing costs during the year ended December 31, 2024.

Fair value change in derivative liabilities

The fair value change in derivative liabilities was attributed to the equity line financing, described further below, was a gain of $72,000 and $80,000 for the years ended December 31, 2024 and 2023, respectively, attributed to the fluctuations in our common stock fair value and the number of potential shares of common stock issuable at the various discount tiers under the equity line financing.

Other Income, net

During the year ended December 31, 2024, Opus had other income, net of $4.5 million related primarily to the non-cash gain in connection with the Opus Acquisition of approximately $2.4 million and interest income in connection with our cash and cash equivalents on-hand of $2.0 million.

During the year ended December 31, 2023, Opus had other income, net of $1.8 million related primarily to interest income in connection with our cash and cash equivalents on-hand.

Provision for Income Taxes

Provision for income taxes consisted of federal and state income taxes in the United States in the amount of $12,000 for the year ended December 31, 2023, resulting from our net taxable income after the application of net operating loss carryforwards and research credits. We did not have any taxable income during the year ended December 31, 2024.

Liquidity and Capital Resources

Capital Resources

As of December 31, 2024, our principal sources of liquidity consisted of cash and cash equivalents of $30.3 million. We believe that our cash on hand at the end of 2024 will be sufficient to fund our operations for at least twelve months beyond the date of this filing. As of December 31, 2024, our cash and cash equivalents were invested primarily in cash deposits and cash equivalent investments at three large financial institutions.

Historical Capital Resources

Our primary source of cash to fund our operations has been various equity offerings in the amount of $89.7 million and the issuance of convertible notes in the amount of $8.5 million, inclusive of the promissory notes exchanged for Opus convertible notes (the “Opus Convertible Notes”). In addition, we received a one-time non-refundable cash payment of $35.0 million during the fourth quarter of 2023, a $10.0 million milestone payment during the fourth quarter of 2023, and have received reimbursement for costs related to development since the fourth quarter of 2022, all in connection with the Viatris License Agreement.

March 2025 Financings

On March 21, 2025, we entered into an underwriting agreement (the "Underwriting Agreement") with Craig-Hallum Capital Group, LLC, as the sole underwriter (the "Underwriter"). Pursuant to the Underwriting Agreement, we agreed to issue and sell, in an underwritten public offering (the "Offering"), 12,219,736 shares of common stock and warrants to purchase up to 21,052,631 shares of common stock (the "March 2025 Warrants"). Each share of common stock was sold together with one March 2025 Warrant to purchase one share of common stock, at a price to the public of $0.95 per share and related March 2025 Warrant. We also agreed to issue 8,832,895 pre-funded warrants ("Pre-Funded Warrants") at a price to the public of $0.9499 per Pre-funded Warrant.

Also on March 21, 2025, we entered into a subscription agreement with Dr. George Magrath, the Company's Chief Executive Officer, and Cam Gallagher, the chairman of the Company's board of directors, (the "Subscription Agreement") for the issuance and sale by the Company of 1,176,471 shares of the Company's common stock, par value $0.0001 per share ("Common Stock"), and warrants to purchase 1,176,471 shares of Common Stock (the "Private Placement Warrants"), at an offering price of $1.275 per share and related warrant (the "Private Placement"). Each Private Placement Warrant has an initial exercise price of $1.15, expires on the five-year anniversary of the original issuance date and may be called by the Company 30 days following the release of the Company's OPGx-BEST1 DUO-1001 Cohort 1 data upon achievement of a volume weighted average price of our common stock for 30 consecutive trading days of over $1.725 per share and the trading average daily volume for such 30 day period exceeds $150,000 per trading day.

The combined gross proceeds from the Offering and the Private Offering, which closed on March 24, 2025, were approximately $21.5 million, before deducting underwriting discounts and commissions and offering expenses payable by us.

March 2025 Warrants

The March 2025 Warrants have an initial exercise price equal to $0.95 per share of common stock and are exercisable for five years from the date of issuance. The exercise prices and numbers of shares of common stock issuable upon exercise are subject to appropriate adjustment in the event of stock dividends, stock splits, reorganizations or similar events affecting the common stock and also upon any distributions of assets, including cash, stock or other property to our stockholders. A holder may not exercise the march 2025 Warrant if, after giving effect to such exercise, the holder (together with its affiliates) would beneficially own (as determined in accordance with the terms of the March 2025 Warrants) more than 4.99% (or, at the election of the holder, 9.99%) of the outstanding common stock immediately after giving effect to the exercise.

The March 2025 Warrants are callable by us in certain circumstances. Subject to certain exceptions, in the event that the March 2025 Warrants are outstanding, if, after the closing date, (i) we have announced OPGx-BEST1 DUO-1001 Cohort 1 data, (ii) the volume weighted average price of the common stock for 30 consecutive trading days (the "Measurement Period", which 30 consecutive trading day period shall not have commenced until after the initial exercise date) exceeds $1.43 (subject to adjustment), (iii) the trading average daily volume for such Measurement Period exceeds $150,000 per trading day and (iv) the March 2025 Warrant holder is not in possession of any information that constitutes or might constitute material non-public information which was provided by the Company, its subsidiaries or any of its officers, directors, employees, agents or affiliates, then the Company may, within one trading day of the end of such Measurement Period, upon notice, call for cancellation of all or any portion of the March 2025 Warrants for which a notice of exercise has not yet been delivered for consideration equal to $0.001 per March 2025 Warrant share.

In the event of a fundamental transaction, as defined in the Form of Warrant, the holders of the March 2025 Warrants will be entitled to receive upon exercise the kind and amount of securities, cash or other property that the holders would have received had they exercised immediately prior to such fundamental transaction. Additionally, as more fully described in the Form of Warrant, in the event of certain fundamental transactions, the holders of the March 2025 Warrants will be entitled to receive consideration in an amount equal to the Black Scholes Value of the remaining unexercised portion of the March 2025 Warrants on the date of consummation of such fundamental transaction.

Pre-Funded Warrants

The Pre-Funded Warrants have an exercise price of $0.0001 per share of common stock and are immediately exercisable and are exercisable at any time until exercised in full. The exercise prices and numbers of shares of common stock issuable upon exercise are subject to appropriate adjustment in the event of stock dividends, stock splits, reorganizations or similar events affecting the common stock.

A holder may not exercise the Pre-Funded Warrant if, after giving effect to such exercise, the holder (together with its affiliates) would beneficially own (as determined in accordance with the terms of the Pre-Funded Warrants) more than 4.99% (or, at the election of the holder, 9.99%) of the outstanding common stock immediately after giving effect to the exercise.

In the event of a fundamental transaction, as defined in the Form of Pre-Funded Warrant, the holders of the Pre-Funded Warrants will be entitled to receive upon exercise of the Pre-Funded Warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the Pre-Funded Warrants immediately prior to such fundamental transaction.

The Offering (including the shares of common stock issuable from time to time upon exercise of the March 2025 Warrants and the Pre-Funded Warrants) was made pursuant to our Registration Statement on Form S-3 (File No. 333-276462) filed with the Securities and Exchange Commission on January 10, 2024, including the prospectus dated January 23, 2024 contained therein, as the same has been supplemented.

Lincoln Park Purchase Agreement

On August 10, 2023, we entered into a common stock purchase agreement with Lincoln Park Capital Fund, LLC ("Lincoln Park") for an equity line financing (the "Purchase Agreement"). The Purchase Agreement provides that, subject to the terms and conditions set forth therein, we have the sole right, but not the obligation, to direct Lincoln Park to purchase up to $50 million of shares of the Company's common stock from time to time over the 30-month term of the Purchase Agreement. Concurrently with entering into the Purchase Agreement, we also entered into a Registration Rights Agreement, pursuant to which we agreed to register the resale of the shares of our common stock that have been and may be issued to Lincoln Park under the Purchase Agreement pursuant to a registration statement. Upon the execution of the Purchase Agreement, we issued 246,792 shares of the Company's common stock to Lincoln Park as consideration for its commitment to purchase shares of our common stock under the Purchase Agreement. Lincoln Park has agreed not to cause or engage in any manner whatsoever in any direct or indirect short selling or hedging of our common stock. In addition to the commitment shares referenced above, a total of 1,700,000 shares of common stock were sold under the Purchase Agreement for gross proceeds through December 31, 2024 in the amount of $5.2 million.

At-The-Market Program

On January 10, 2024, we filed a Form S-3 shelf registration under the Securities Act which was declared effective by the SEC on January 23, 2024 under which the Company may offer and sell, from time to time in our sole discretion, securities having an aggregate offering price up to $175 million. On March 11, 2021, we entered into a sales agreement with JonesTrading Institutional Services LLC ("JonesTrading") under which we may offer and sell, from time to time at our sole discretion, to or through JonesTrading, acting as agent and/or principal, shares of our common stock having an aggregate offering price of up to $40 million (the "ATM"). A total of 8,006,791 shares of common stock were sold under the ATM since its inception for gross proceeds through the filing of this Annual Report in the amount of $26.8 million.

On January 13, 2025, the Company filed a new prospectus supplement with the U.S. Securities and Exchange Commission with respect to the offer and sale of shares of its common stock, with an aggregate offering price of up to $40,000,000, establishing an at-the-market equity issuance program. On January 13, 2025, the Company also entered into a sales agreement (the "Sales Agreement") by and between the Company and Leerink Partners LLC ("Leerink") through or to which the Company will sell shares of common stock via an ATM program. Upon entry into the Sales Agreement, the Company terminated its prior ATM program pursuant to the Capital on Demand™ Sales Agreement dated March 11, 2021, by and between the Company and JonesTrading.

Registered Direct Offering

On June 4, 2021, we entered into a placement agency agreement with A.G.P./Alliance Global Partners ("AGP"). Pursuant to the terms of the placement agency agreement, AGP on June 8, 2021, sold an aggregate of 3,076,923 shares of our common stock and warrants to purchase 1,538,461 shares of our common stock (the "RDO Warrants") at an offering price of $4.875 per share and 0.50 RDO Warrants, for gross proceeds of $15.0 million, before deducting AGP's fees and related offering expenses in the amount of $1.1 million. The purchase agreement contains customary representations, warranties and agreements by the Company, customary conditions to closing, indemnification obligations of the Company, other obligations of the parties and termination provisions.

The RDO Warrants have an exercise price of $6.09 per share, are exercisable upon the initial issuance date of June 8, 2021, and will expire five years following the initial exercise date. Subject to limited exceptions, a holder of a RDO Warrant will not have the right to exercise any portion of its RDO Warrants if the holder, together with its affiliates, would beneficially own in excess of 4.99% (or, at the election of a holder prior to the date of issuance, 9.99%) of the number of shares of common stock outstanding immediately after giving effect to such exercise; provided, however, that upon prior notice to us, the holder may increase or decrease the beneficial ownership limitation, provided further that in no event shall the beneficial ownership limitation exceed 9.99%. As of December 31, 2024, 1,538,461 RDO Warrants were still outstanding. The offering of the securities was made pursuant to our effective shelf registration statement on Form S-3.

Pre-Rexahn Merger Financing

Securities Purchase Agreement

On June 17, 2020, the Company, Rexahn and certain investors entered into a Securities Purchase Agreement, which was amended and restated in its entirety on June 29, 2020 (as amended and restated, the "Securities Purchase Agreement"). Pursuant to the Securities Purchase Agreement, the investors invested a total of $21.15 million in cash, including $300,000 invested by directors of the Company, and one director of Rexahn, upon closing of the Rexahn Merger. For more information, please refer to Note 7 - Stockholders' Equity - Pre-Merger Financing included in Part II, Item 8 – Financial Statements and Supplementary Data" of this Annual Report.

Waiver Agreements

Effective February 3, 2021, each investor that invested in the Pre-Merger Financing (each, a "Holder") entered into a Waiver Agreement with the Company (collectively, the "Waiver Agreements"). Pursuant to the Waiver Agreements, the Holders and the Company agreed to waive certain rights, finalize the exercise price and number of Series A Warrants and Series B Warrants, eliminate certain financing restrictions, extend the term of certain leak-out agreements, and, in the case of certain Holders, grant certain registration rights for the shares underlying the warrants.

The Waiver Agreements provide for the permanent waiver of the full ratchet anti-dilution provisions, contained in the Series A Warrants (as certain of the anti-dilution provisions had previously caused liability accounting treatment for the Series A Warrants). Upon the effective date of the Waiver Agreement, the Series A Warrants were reclassified to equity.

Pursuant to the Waiver Agreements, the number of shares underlying all of the Series B Warrants was fixed at 1,708,335 in the aggregate with respect to all Holders.

Series A Warrants

The Series A Warrants were issued on November 19, 2020 at an initial exercise price of $4.4795 per share, were immediately exercisable upon issuance and have a term of five years from the date of issuance. The Series A Warrants are exercisable for 5,665,838 shares of common stock in the aggregate (without giving effect to any limitation on exercise contained therein). As of December 31, 2024, 5,665,838 Series A Warrants were still outstanding.

At issuance, the Series A Warrants contained certain provisions that could have resulted in a downward adjustment of the initial exercise price and an upward adjustment in the number of shares underlying the warrants if the Company were to have issued or sold, or made an agreement to issue or sell, any shares of common stock for a price lower than the exercise price then in effect. Pursuant to the terms of the Waiver Agreements, these provisions are no longer in effect.

Series B Warrants

The Series B Warrants had an exercise price of $0.0001 and ultimately became exercisable for 1,708,335 shares of common stock upon execution of the Waiver Agreements. As of December 31, 2024, none of the Series B Warrants remained outstanding.

Company Convertible Notes

From May 2018 through March 2020, we issued the Company Convertible Notes for aggregate gross proceeds of $8.5 million, inclusive of the promissory notes exchanged for Company Convertible Notes. The final closing of the Company Convertible Notes occurred on March 10, 2020. The Company Convertible Notes had an interest rate of 8% per annum. On November 4, 2020, all of the Company's outstanding notes were converted into 977,128 shares of the Company's common stock in connection with the completion of the Rexahn Merger.

Cash Flows

The following table summarizes our cash flows for the periods indicated (in thousands):

	For the Year Ended December 31,	
	2024	2023
Net cash used in by operating activities	$ (25,576)	$ (1,112)
Net cash provided by investing activities	1,210	—
Net cash provided by financing activities	4,186	8,979
Net (decrease) increase in cash and cash equivalents	$ (20,180)	$ 7,867

Cash Flow from Operating Activities

For the year ended December 31, 2024, cash used by operating activities of $25.6 million was attributable to net loss of $57.5 million, partially offset by approximately $28.9 million in non-cash operating expenses and offset by a net cash source of approximately $3.1 million resulting from the change in Opus's operating assets and liabilities. The non-cash expenses consisted principally of stock-based compensation of $3.4 million, non-cash IPR&D of $28.0 million in connection with the Opus Acquisition, offset by both a gain on the Opus Acquisition of $2.4 million and by a fair value gain attributed to the derivative liability of $0.1 million. The change in operating assets and liabilities was primarily attributable to an increase in accounts payable and accrued expenses, and by a decrease in prepaid expenses of $6.5 million in the aggregate, offset in part an increase in our accounts receivable and contract asset associated with the Viatris License Agreement of approximately $3.4 million associated with the fluctuations of Opus's operations.

For the year ended December 31, 2023, cash used by operating activities of $1.1 million was attributable to net loss of $10.0 million, partially offset by $4.8 million in non-cash operating expenses and offset by a net cash source of approximately $4.1 million resulting from the change in Opus's operating assets and liabilities. The non-cash expenses consisted principally of stock-based compensation of $3.5 million, non-cash financing costs of $1.2 million in connection with the equity line financing and $0.2 million of issuance costs reclassified to financing activities, offset by a fair value gain attributed to the derivative liability of $ 0.1 million. The change in operating assets and liabilities was primarily attributable to our decrease in our accounts receivable and contract asset associated with the Viatris License Agreement of $2.5 million and to a lesser extent from the increase in our accounts payable and accrued expenses of $1.2 million and a decrease in our prepaid expenses of $0.4 million associated with the fluctuations of Opus's operating expenses.

Cash Flow from Investing Activities

During the year ended December 31, 2024, net cash provided by investing activities was $1.2 million. Investing activities during the period consisted of cash acquired in the amount $1.2 million in connection with the Opus Acquisition.

There were no investing activities during the year ended December 31, 2023.

Cash Flow from Financing Activities

Net cash provided by financing activities during the year ended December 31, 2024 was $4.2 million that consisted principally of proceeds received from the Purchase Agreement and ATM, net of issuance costs, in the amount of $4.3 million, offset in part of by the repurchase of common stock for employee withholding taxes of $0.1 million.

Net cash provided by financing activities during the year ended December 31, 2023 was $9.0 million that consisted principally of proceeds received from the Purchase Agreement and ATM, net of issuance costs, in the amount of $4.3 million and $4.6 million, respectively.

Liquidity and Capital Resource Requirements

As of December 31, 2024 we had cash and cash equivalents of $30.3 million. License and collaborations revenue inception to date was derived from a one-time non-refundable payment of $35 million, a milestone payment of $10 million, reimbursement and expected reimbursement of expenses and royalties earned under the Viatris License Agreement and, to a much lesser degree, from license agreements with BioSense Global LLC ("BioSense") and Processa Pharmaceuticals, Inc. ("Processa") in connection with the Rexahn RX-3117 drug compound. We anticipate that we will recognize revenue as we earn reimbursement for research and development services in connection with the Viatris License Agreement and we may earn additional revenues from future potential milestone and royalty payments from the agreements with Viatris, BioSense or Processa, or from other license agreements entered into in the future; however, the attainment of milestones or level of sales required to earn royalty payments is highly uncertain for the reasons explained below.

To date, outside of the license and collaborations revenue referenced above, we do not expect to generate significant revenue unless or until RYZUMVI sales become material, or regulatory approval is obtained and commercialization begins for LCA5, BEST1, other internally-developed assets or PS for additional indications. If we fail to complete the development of LCA5, BEST1, other internally-developed assets, PS or any other product candidate we may pursue in the future in a timely manner or fail to obtain regulatory approval for any of such product candidates, our ability to generate significant revenue would be compromised.

Through the ATM, we may offer and sell, from time to time at our sole discretion, to or through Leerink, acting as agent and/or principal, shares of our common stock having an aggregate offering price of up to $40 million. A total of 7,653,838 shares of common stock were sold under the ATM since its inception for gross proceeds through December 31, 2024 in the amount of $26.4 million.

In addition, on August 10, 2023, we entered into the Purchase Agreement with Lincoln Park, which provides that we have the sole right, but not the obligation, to direct Lincoln Park to purchase up to $50 million of shares of our common stock, from time to time over the 30-month term of the Purchase Agreement. The Purchase Agreement was executed to compliment the ATM. Concurrently with entering into the Purchase Agreement, we also entered into a Registration Rights Agreement with Lincoln Park, pursuant to which we agreed to register the resale of the shares of our common stock that have been and may be issued to Lincoln Park under the Purchase Agreement pursuant to a registration statement. We filed a prospectus supplement to our Registration Statement (File No. 333-252715) on August 11, 2023 with the SEC. Per the terms of the Purchase Agreement, we will be unable to sell shares of our common stock to Lincoln Park if the sale price falls below $0.25 per share. Therefore, there is no assurance that we will have full access to the facility during the term of the Purchase Agreement.

To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our stockholders will be diluted, and the terms of these securities may include liquidation, warrants or other preferences that adversely affect your rights as a common stockholder. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through future collaborations, strategic alliances or licensing arrangements with pharmaceutical partners, we may have to relinquish valuable rights to our technologies, future revenue streams or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings or through collaborations, strategic alliances or licensing arrangements when needed, we may be required to delay, limit, reduce or terminate our product development, future commercialization efforts, or grant rights to develop and market our product candidates that we would otherwise prefer to develop and market ourselves.

Future Capital Requirements

Pursuant to the Viatris License Agreement, our budgeted research and development expenses related to the development of PS are fully reimbursed by Viatris. The development of LCA5, BEST1 and other internally-developed assets is subject to numerous uncertainties, and we have based these estimates on assumptions that may prove to be substantially different than what we currently anticipate and could result in cash resources being used sooner than what we currently expect. Additionally, the process of advancing early-stage product candidates and testing product candidates in clinical trials is costly, and the timing of progress in these clinical trials is uncertain. Our ability to successfully transition to profitability will be dependent upon achieving a level of product sales adequate to support our cost structure. We cannot give any assurance that we will ever be profitable or generate positive cash flow from operating activities.

Contractual Obligations and Commitments

Facility Lease

We currently lease a facility under a short-term, non-cancellable agreement that expires on September 30, 2025, for a base rent in the amount of $1,300 per month.

Apexian Sublicense Agreement

On January 21, 2020, we entered into the Apexian Sublicense Agreement, pursuant to which we obtained exclusive worldwide patent and other intellectual property rights that constitute a Ref-1 Inhibitor program relating to therapeutic applications to treat disorders related to ophthalmic and diabetes mellitus conditions.

In connection with the Apexian Sublicense Agreement, we issued 843,751 shares of our common stock to Apexian and certain of Apexian's affiliates.

We agreed to make one-time milestone payments under the Apexian Sublicense Agreement for each of the first ophthalmic indication and the first diabetes mellitus indication. These milestone payments include (i) payments for specified developmental and regulatory milestones totaling up to $11 million in the aggregate and (ii) payments for specified sales milestones of up to $20 million in the aggregate, each of which net sales milestone payments is payable once, upon the first achievement of such milestone.

Additionally, we also agreed to make royalty payments equal to a single-digit percentage of our net sales of products covered by the patents under the Apexian Sublicense Agreement. None of the milestone or royalty payments were triggered or deemed probable as of the date of this Report.

Other Commitments

In the course of normal operations, we enter into cancelable purchase commitments from time to time with our suppliers for various key research, clinical and manufacturing services. The purchase commitments covered by these arrangements are subject to change based on our research and development efforts.

Other Funding Requirements

As noted above, certain of our cash requirements relate to the funding of our ongoing research and development of our gene therapy product candidates, inclusive of any potential milestone and royalty obligations under our intellectual property licenses. See "Part I, Item 1— Business— Pipeline— Sales and Marketing—Manufacturing—Apexian Sublicense Agreement— Review and Approval of Drugs and Biologics in the United States" in this Annual Report for a discussion of design, development, pre-clinical and clinical activities that we may conduct in the future, including expected cash expenditures required for some of those activities, to the extent we are able to estimate such costs.

Our other cash requirements within the next twelve months include accounts payable, accrued expenses, purchase commitments and other current liabilities. Our other cash requirements greater than twelve months from various contractual obligations and commitments may include operating leases and contractual agreements with third-party service providers for clinical research, product development, manufacturing, commercialization, supplies, payroll, equipment maintenance, and audits for periods into calendar year 2026. Refer to Note 3 – Commitments and Contingencies included in Part II, Item 8 – "Financial Statements and Supplementary Data" of this Annual Report for further detail of our lease obligation and license agreements with regard to the timing of expected future payments.

We expect to satisfy our short-term and long-term obligations through cash on hand, from future equity and debt financings, and from reimbursement payments, potential milestone and royalty payments under the Viatris License Agreement and any future collaborations and license agreements, until we generate an adequate level of revenue from commercial sales to cover expenses, if ever.

We expect to satisfy our short-term and long-term obligations through cash on hand, from future equity and debt financings, and from reimbursement payments, potential milestone and royalty payments under the Viatris License Agreement and any future collaborations and license agreements, until we generate an adequate level of revenue from commercial sales to cover expenses, if ever.

Critical Accounting Policies and Estimates

Our consolidated financial statements are prepared in accordance with U.S. GAAP. These accounting principles require us to make estimates and judgments that can affect the reported amounts of assets and liabilities as of the date of the consolidated financial statements as well as the reported amounts of revenue and expense during the periods presented. We believe that the estimates and judgments upon which we rely are reasonably based upon information available to us at the time that we make these estimates and judgments. To the extent that there are material differences between these estimates and actual results, our financial results will be affected. The accounting policies that reflect our more significant estimates and judgments and which we believe are the most critical to aid in fully understanding and evaluating our reported financial results are described below.

Our significant accounting policies are discussed in Note 1 — Company Description and Summary of Significant Accounting Policies, included in "Part II, Item 8 – Financial Statements and Supplementary Data" of this Annual Report. We believe that the following accounting policies and estimates are the most critical to aid in fully understanding and evaluating our reported financial results. These estimates require our most difficult, subjective, or complex judgments because they relate to matters that are inherently uncertain. We have reviewed these critical accounting policies and estimates and related disclosures with the Audit Committee of our Board of Directors. We have not made any material changes to date, nor do we believe there is a reasonable likelihood of a material future change to the accounting methodologies for the areas described below.

License and Collaborations Revenue

We account for license and collaborations revenue in accordance with the provisions of the Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 606, *Revenue from Contracts with Customers*. The guidance provides a unified model to determine how revenue is recognized. We have entered into license and collaboration agreements which have revenue recognition implications. We recognize license and collaborations revenue by first allocating the transaction price of a contract to each performance obligation under the contract based on its stand-alone price. The stand-alone price of each performance obligation is based on its fair value utilizing a discounted cash flow approach, taking into consideration assumptions, including projected worldwide net profit for each of the respective programs based on probability assessments, projections based on internal forecasts, industry data, and information from other guideline companies within the same industry and other relevant factors. We do not expect to have in the future, significant variable consideration adjustments related to our existing license and collaborations revenue recognized. For discussion about the determination of license and collaborations revenue, see Note 10 — License and Collaboration Agreements included in "Part II, Item 8 – Financial Statements and Supplementary Data" of this Annual Report.

Acquired In-Process Research and Development

In association with the Opus Acquisition, we acquired in-process research and development ("IPR&D") that was recorded at fair value under the Multi-Period Excess Earnings Method ("MPEEM") model. Under the MPEEM model, the fair value of IPR&D was calculated based on estimated future cash flows which requires judgement with respect to the assumptions of revenue growth rate, projected EBITDA margin and the selection of an appropriate discount rate. The assumptions surrounding revenue growth rate and projected EBITDA margin factor the future development and commercialization of the associated IRD therapies based upon industry data and external market research. The estimated fair value of the IPR&D is sensitive to changes in these projections and assumptions; therefore, in some instances, changes in these assumptions could materially impact the fair value. These IPR&D costs are immediately expensed provided that the payments do not also represent processes or activities that would constitute a "business" as defined under U.S. GAAP or provided that the product candidate has not achieved regulatory approval for marketing, and absent obtaining such approval, has no alternative future use. Royalties owed on future sales of any licensed product will be expensed in the period the related revenues are recognized. See Note 2 – Mergers included in "Part II, Item 8 – Financial Statements and Supplementary Data" of this Annual Report.

Income Tax Assets and Liabilities

A full valuation allowance has been provided on our net deferred tax assets given the uncertainty of future taxable income and other related factors impacting the realizability of our remaining net deferred tax assets. For additional information, see Note 12 — Income Taxes included in "Part II, Item 8 – Financial Statements and Supplementary Data" of this Annual Report.

Recent Accounting Pronouncements

From time to time the FASB, or other standard-setting bodies, issue new accounting pronouncements. Where applicable, we adopt these new standards according to the specified effective dates. Unless otherwise disclosed in the notes to the consolidated financial statements appearing in this Annual Report, we believe that the impact of any recently issued standard(s) that are not yet effective will not have a material impact on our financial position or results of operations upon adoption. See Note 1, "Company Description and Summary of Significant Accounting Policies," included in "Part II, Item 8 – Financial Statements and Supplementary Data" of this Annual Report for a more in-depth discussion of recently issued accounting standard(s).

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Not applicable.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The information required by this item is included in this Annual Report beginning on page F-1 and is incorporated herein by reference.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

Item 9A CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

As required by Rule 13a-15(b) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, under the direction of the Chief Executive Officer and the Chief Financial Officer, our principal executive officer and principal financial officer, respectively, we have evaluated our disclosure controls and procedures as defined in Rule 13a-15(e) or 15d-15(e) as of the end of the period covered by this Annual Report. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures were effective as of the end of the period covered by this Annual Report.

Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles. Internal control over financial reporting includes those policies and procedures that: (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of our management and Board; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.

Our management, including our Chief Executive Officer and Chief Financial Officer, recognizes that our internal control over financial reporting cannot 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. The design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Further, 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, if any, have been detected. The design of any system of controls is based in part on 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.

Management, with the participation of the Chief Executive Officer and Chief Financial Officer, assessed our internal control over financial reporting as of December 31, 2024, the end of our fiscal year. Management based its assessment on criteria established in Internal Control—Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on that evaluation, management has concluded that the Company's internal control over financial reporting was effective as of December 31, 2024.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the quarter ended December 31, 2024 which have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

During the fiscal quarter ended December 31, 2024, no director or officer of the Company adopted or terminated a "Rule 10b5-1 trading arrangement" or "non-Rule 10b5-1 trading arrangement," as each term is defined in Item 408(a) of Regulation S-K.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

PART III

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. Only those sections of the 2025 Proxy Statement that specifically address the items set forth herein are incorporated by reference.

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by Item 10 is hereby incorporated by reference to the sections of the 2025 Proxy Statement under the captions "Corporate Governance" and "Proposal No. 1 – Election of Directors," "Executive Officers".

We have adopted an Insider Trading Compliance Policy governing the purchase, sale, and/or other dispositions of our securities by our directors, officers and employees, and have implemented processes for the Company that we believe are reasonably designed to promote compliance with insider trading laws, rules and regulations. A copy of our Insider Trading Policy is filed with this Annual Report on Form 10-K as Exhibit 19.

ITEM 11. EXECUTIVE COMPENSATION

The information required by Item 11 is hereby incorporated by reference to the sections of the 2025 Proxy Statement under the captions "Executive Compensation" and "Proposal No. 1 – Election of Directors – Non-Employee Director Compensation."

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by Item 12 is hereby incorporated by reference to the sections of the 2025 Proxy Statement under the captions "Security Ownership of Certain Beneficial Owners and Management" and "Executive Compensation – Securities Authorized for Issuance under Equity Compensation Plans."

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by Item 13 is hereby incorporated by reference to the sections of the 2025 Proxy Statement under the captions "Certain Relationships and Related-Party Transactions" and "Corporate Governance."

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by Item 14 is hereby incorporated by reference to the sections of the 2025 Proxy Statement under the caption "Proposal No. 2 – Ratification of Independent Registered Public Accounting Firm."

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

The following documents are filed as a part of this Annual Report on Form 10-K:

(a) Financial Statements: The financial statements filed as part of this report are listed in Part II, Item 8.

(b) Financial Statement Schedules: The schedules are either not applicable or the required information is presented in the financial statements or notes thereto.

(c) Exhibits: The following exhibits are incorporated by reference or filed as part of this Annual Report on Form 10-K:

Opus Genetics, Inc.
Form 10-K

EXHIBIT NUMBER	DESCRIPTION OF DOCUMENT
2.1	Agreement and Plan of Merger, dated as of October 22, 2024, by and among the Company, Former Opus, Orange Merger Sub I, Inc., and Orange Merger Sub II, LLC (incorporated by reference to Exhibit 2.1 to Registrant's Current Report on Form 8-K, filed on October 22, 2024).
3.1	Restated Certificate of Incorporation of Ocuphire Pharma, Inc., dated as of June 12, 2024 (incorporated by reference to Exhibit 3.1 to the Registrant's Quarterly Report on Form 10-Q, filed on August 13, 2024).
3.2	Certificate of Amendment to the Restated Certificate of Incorporation of the Company, effective as of October 23, 2024 (incorporated by reference to Exhibit 3.2 to Registrant's Current Report on Form 8-K, filed on October 22, 2024).
3.3	Certificate of Designation of Series A Non-Voting Convertible Preferred Stock, effective as of October 22, 2024 (incorporated by reference to Exhibit 3.1 to Registrant's Current Report on Form 8-K, filed on October 22, 2024).
3.4	Amended and Restated Bylaws, dated as of March 19, 2025 (incorporated by reference to Exhibit 3.1 to Registrant's Current Report on Form 8-K, filed on March 20, 2025).
4.1	Form of Common Stock Purchase Warrant (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed on October 13, 2017).
4.2	Form of Common Stock Purchase Warrant (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed on October 19, 2018).
4.3	Form of Common Stock Purchase Warrant (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed on January 25, 2019).
4.4	Form of Series A/B Warrants (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed on July 1, 2020).
4.5	Form of Warrant to purchase shares of common stock (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K/A, filed on June 7, 2021).
4.6	Form of Indenture (incorporated by reference to Exhibit 4.13 to the Registrant's Registration Statement on Form S-3, filed on January 10, 2024).
4.7	Form of Common Stock Warrant Agreement and Warrant Certificate (incorporated by reference to Exhibit 4.15 to the Registrant's Registration Statement on Form S-3, filed on January 10, 2024).
4.8	Form of Preferred Stock Warrant Agreement and Warrant Certificate (incorporated by reference to Exhibit 4.16 to the Registrant's Registration Statement on Form S-3, filed on January 10, 2024).
4.9	Form of Debt Securities Warrant Agreement and Warrant Certificate (incorporated by reference to Exhibit 4.17 to the Registrant's Registration Statement on Form S-3, filed on January 10, 2024).
4.10	Form of Warrant (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed on March 24, 2025).
4.11	Form of Pre-Funded Warrant (incorporated by reference to Exhibit 4.2 to the Registrants' Current Report on Form 8-K, filed on March 24, 2025).
4.12**	Description of Securities.
10.1*	Amended and Restated Employment Agreement by and among the Company and Bernhard Hoffmann, effective as of November 5, 2020 (incorporated by reference to Exhibit 10.29 to the Registrant's Registration Statement on Form S-4, filed on September 30, 2020).

Opus Genetics, Inc.
Form 10-K

10.1.1*	First Amendment to the Amended and Restated Employment Agreement by and among the Company and Bernhard Hoffmann, effective as of March 26, 2023 (incorporated by reference to Exhibit 10.2.1 to the Registrant's Annual Report on Form 10-K, filed on March 30, 2023).
10.2*	Form of Indemnification Agreement (incorporated by reference to Exhibit 10.30 to the Registrant's Registration Statement on Form S-4, filed on September 30, 2020).
10.3++	Sublicense Agreement, dated as of January 21, 2020, by and between Ocuphire Pharma, Inc. and Apexian Pharmaceuticals, Inc (incorporated by reference to Exhibit 10.31 to the Registrant's Registration Statement on Form S-4, filed on September 30, 2020).
10.3.1	First Amendment to Sublicense Agreement, dated as of June 4, 2020, by and between Apexian Pharmaceuticals, Inc. and Ocuphire Pharma, Inc (incorporated by reference to Exhibit 10.32 to the Registrant's Registration Statement on Form S-4, filed on September 30, 2020).
10.4	Lease Agreement, dated as of May 19, 2019, by and between Ocuphire Pharma, Inc. and Duke & Duke, LP (incorporated by reference to Exhibit 10.33 to the Registrant's Registration Statement on Form S-4, filed on September 30, 2020).
10.4.1	First Amendment to Lease Agreement, dated as of October 29, 2019, by and between Ocuphire Pharma, Inc. and Duke & Duke, LP (incorporated by reference to Exhibit 10.34 to the Registrant's Registration Statement on Form S-4, filed on September 30, 2020).
10.4.2	Second Lease Amendment, dated as of November 17, 2020, by and between the Company and Duke & Duke (incorporated by reference to Exhibit 10.43 to the Registrant's Annual Report on Form 10-K, filed on March 11, 2021).
10.4.3	Third Lease Amendment, dated as of September 9, 2021, by and between the Company and Duke & Duke (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q, filed on November 12, 2021).
10.4.4	Fourth Lease Amendment, dated as of October 17, 2022, by and between the Company and Duke & Duke (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q, filed on November 4, 2022).
10.4.5	Fifth Lease Amendment, dated as of November 29, 2023, by and between the Company and Duke & Duke (incorporated by reference to Exhibit 10.5.5 to the Registrant's Annual Report on Form 10-K, filed on March 8, 2024).

Opus Genetics, Inc.
Form 10-K

10.5*	Ocuphire Pharma, Inc. 2018 Equity Incentive Plan, dated as of April 9, 2018 (incorporated by reference to Exhibit 10.35 to the Registrant's Registration Statement on Form S-4, filed on July 6, 2020).
10.5.1*	First Amendment to 2018 Equity Incentive Plan, dated as of December 23, 2019 (incorporated by reference to Exhibit 10.36 to the Registrant's Registration Statement on Form S-4 , filed on July 6, 2020).
10.5.2*	Form of Option Agreement issuable under the Ocuphire Pharma, Inc. 2018 Equity Incentive Plan (incorporated by reference to Exhibit 10.37 to the Registrant's Registration Statement on Form S-4, filed on July 6, 2020).
10.6*	Ocuphire Pharma, Inc. 2020 Equity Incentive Plan (incorporated by reference to Annex D to the Registrant's Registration Statement on Form S-4, filed on July 6, 2020).
10.6.1*	Form of Restricted Stock Unit Grant Notice issued under the Ocuphire Pharma, Inc. 2020 Equity Incentive Plan (incorporated by reference to Exhibit 10.7.1 to the Registrant's Annual Report on Form 10-K, filed on March 30, 2023).
10.6.2*	Form of Stock Option Grant Notice issued under the Ocuphire Pharma, Inc. 2020 Equity Incentive Plan (incorporated by reference to Exhibit 10.7.2 to the Registrant's Annual Report on Form 10-K, filed on March 30, 2023).
10.7++	Contingent Value Rights Agreement, dated as of November 5, 2020, by and among the Company, Shareholder Representative Services LLC and the Olde Monmouth Stock Transfer Co., Inc. (incorporated by reference to Exhibit 10.4 to the Registrant's Current Report on Form 8-K, filed on November 6, 2020).
10.8*	Ocuphire Pharma, Inc. 2021 Inducement Plan (incorporated by reference to Exhibit 10.41 to the Registrant's Annual Report on Form 10-K, filed on March 11, 2021)
10.8.1*	First Amendment to 2021 Inducement Plan (incorporated by reference to Exhibit 10.3 to the Registrant's Current Report on Form 8-K, filed on November 1, 2023).
10.8.2*+	Second Amendment to 2021 Inducement Plan (incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q, filed on November 12, 2024).
10.8.3*	Form of Stock Option Grant Notice issued under the Ocuphire Pharma, Inc. 2021 Inducement Plan (incorporated by reference to Exhibit 10.9.1 to the Registrant's Annual Report on Form 10-K, filed on March 30, 2023).

Opus Genetics, Inc.
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10.9*	Employment Agreement dated November 11, 2020, by and between the Company and Amy Rabourn (incorporated by reference to Exhibit 10.42 to the Registrant's Annual Report on Form 10-K, filed on March 11, 2021).
10.9.1*	First Amendment to the Employment Agreement by and among the Company and Amy Rabourn, effective as of March 26, 2023 (incorporated by reference to Exhibit 10.10.1 to the Registrant's Annual Report on Form 10-K, filed on March 30, 2023).
10.10	Capital on Demand™ Sales Agreement, dated March 11, 2021 between the Company and JonesTrading Institutional Services LLC (incorporated by reference to Exhibit 1.1 to the Registrant's Current Report on Form 8-K, filed on March 11, 2021).
10.11	Sales Agreement, dated January 13, 2025, between the Company and Leerink Partners LLC (incorporated by reference to Exhibit 1.1 to the Registrant's Current Report on Form 8-K, filed on January 14, 2025).
10.12	Form of Purchase Agreement, dated as of June 4, 2021, by and among Ocuphire Pharma, Inc. and the purchasers identified on the signature pages thereto (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K/A, filed on June 7, 2021).
10.13++	Processa License Agreement dated June 16, 2021 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed on June 23, 2021).
10.14++	Viatris (f/k/a Famy Life Sciences) License and Collaboration Agreement dated November 6, 2022 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed on November 7, 2022).
10.15*	Consulting Agreement dated April 8, 2022, by and between the Company and Jay Pepose (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q, filed on May 13, 2022).
10.15.1*	First Amendment to the Consulting Agreement dated September 19, 2022, by and between the Company and Jay Pepose (incorporated by reference to Exhibit 10.15.1 to the Registrant's Annual Report on Form 10-K, filed on March 30, 2023).
10.15.2*	Amendment No. 2 to the Consulting Agreement dated December 1, 2022, by and between the Company and Jay Pepose (incorporated by reference to Exhibit 10.15.2 to the Registrant's Annual Report on Form 10-K, filed on March 30, 2023).
10.15.3*	Third Amendment to the Consulting Agreement, dated January 1, 2024, by and between the Company and Jay Pepose, M.D (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q, filed on May 10, 2024).

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10.16*+	Consulting Agreement, dated April 11, 2024, by and between the Company and Jay Pepose, M.D. (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed on April 17, 2024).
10.17	Amended and Restated Non-Employee Director Compensation Policy dated July 1, 2022 (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q, filed on August 12, 2022).
10.18*	Non-Employee Director Compensation Policy (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q, filed on May 15, 2023).
10.19*	Second Amended and Restated Non-Employee Director Compensation Policy (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q, filed on May 15, 2023).
10.20*+	Third Amended and Restated Non-Employee Director Compensation Plan dated June 11, 2024 (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q, filed on August 13, 2024).
10.21	Purchase Agreement, dated as of August 10, 2023, by and between Ocuphire Pharma, Inc. and Lincoln Park Capital Fund, LLC (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed on August 11, 2023).
10.22	Registration Rights Agreement, dated as of August 10, 2023, by and between Ocuphire Pharma, Inc. and Lincoln Park Capital Fund, LLC (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K, filed on August 11, 2023).
10.23*	Employment Agreement entered into on October 31, 2023 by and between Ocuphire Pharma, Inc. and George Magrath (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed on November 1, 2023).
10.24*	Amended and Restated Employment Agreement, entered into on January 17, 2025, by and between the Company and George Magrath (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed on January 24, 2025).
10.25*	Form of Restricted Stock Unit Award and Form of Award Agreement (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K, filed on November 1, 2023).

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10.26*	Employment Agreement, effective as of February 12, 2024, by and between the Company and Nirav Jhaveri (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed on February 16, 2024).
10.26.1*	First Amendment to Employment Agreement, effective as of February 12, 2024, by and between the Company and Nirav Jhaveri (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K, filed on February 16, 2024).
10.26.2*	Second Amendment to Employment Agreement, effective as of January 17, 2025, by and between the Company and Nirav Jhaveri (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K, filed on January 24, 2025).
10.27*	Offer Letter entered into on November 20, 2023 by and between Ocuphire Pharma, Inc. and Joseph Schachle (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed on November 27, 2023).
10.28*+	Employment Agreement, dated October 22, 2024, by and between the Company and Dr. Benjamin Yerxa (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q, filed on November 12, 2024).
10.29*+	Consulting Agreement, dated as of October 22, 2024, by and between the Company and Dr. Jean Bennett (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q, filed on November 12, 2024).
10.30**++	Exclusive License Agreement with Know-How, dated as of April 10, 2019, by and among The Trustees of the University of Pennsylvania and The University of Florida Research Foundation, Incorporated and the Company.
10.30.1**++	Amendment No. 1 to Exclusive License Agreement with Know-How, dated as of May 1, 2020, by and among The Trustees of the University of Pennsylvania and The University of Florida Research Foundation, Incorporated and the Company.
10.30.2**++	Amendment No. 2 to Exclusive License Agreement with Know-How, dated as of July 1, 2022, by and among The Trustees of the University of Pennsylvania and The University of Florida Research Foundation, Incorporated and the Company.
10.30.3**++	Amendment No. 3 to Exclusive License Agreement with Know-How, dated as of December 23, 2022, by and among The Trustees of the University of Pennsylvania and The University of Florida Research Foundation, Incorporated and the Company.

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10.30.4**++	Amendment No. 4 to Exclusive License Agreement with Know-How, dated as of April 15, 2024, by and among The Trustees of the University of Pennsylvania and The University of Florida Research Foundation, Incorporated and the Company.
10.31**++	Amended and Restated License Agreement, dated as of June 15, 2022, by and between The Trustees of the University of Pennsylvania and the Company.
10.32**++	Asset Purchase Agreement, dated as of December 23, 2022, by and between Iveric Bio Gene Therapy LLC and the Company.
10.33**++	Non-Exclusive License Agreement, dated as of March 2, 2023, by and between The Trustees of the University of Pennsylvania and the Company.
19**	Insider Trading Compliance Policy.
21.1**	Subsidiaries of the Registrant.
23.1	Consent of Ernst & Young, LLP.
31.1	Certification of Principal Executive Officer pursuant to Rules 13a-14(a) and 15d-14(a) promulgated 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) promulgated 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 Rules 13a-14(b) and 15d-14(b) promulgated under the Securities Exchange Act of 1934 and 18 U.S.C. Section 1350, as adopted pursuant to section 906 of The Sarbanes-Oxley Act of 2002.

97	Compensation Recovery Policy (incorporated by reference to Exhibit 97 to the Registrant's Annual Report on Form 10-K, filed on March 8, 2024).
101.INS	Inline XBRL Instance Document (the instance document does not appear in the Interactive Data File because its 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
104	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101)

* Indicates management contract or compensatory plan.

** Indicates exhibits that are being filed herewith.

\+ Certain schedules and exhibits have been omitted pursuant to Item 601(b)(2) of Regulation S-K. A copy of any omitted schedule and/or exhibit will be furnished to the SEC upon request.

++ Portions of this exhibit have been omitted in compliance with Item 601 of Regulation S-K.

ITEM 16. FORM 10-K SUMMARY

None

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OPUS GENETICS, INC

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Opus Genetics, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Opus Genetics, Inc. (the Company) as of December 31, 2024 and 2023, the related consolidated statements of comprehensive loss, changes in series A preferred stock and stockholders' equity and cash flows for each of the two years in the period ended December 31, 2024, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2024 and 2023, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2024, in conformity with U.S. generally accepted accounting principles.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of the critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the account or disclosure to which it relates.

	Acquisition of Opus Genetics
Description of the Matter	As described in Note 2 to the consolidated financial statements, on October 22, 2024, the Company completed the stock purchase of Private Opus for a purchase price of $25.8 million. The Company accounted for this transaction as an asset acquisition. Auditing the Company's accounting for the stock purchase of Private Opus was complex due to the significant estimation used by management to determine the fair value of the acquired in-process research and development ("IPR&D") of $28 million. The significant estimation was primarily due to the complexity of the valuation model used by management to measure the fair value of the IPR&D and the sensitivity of the respective fair value to the significant underlying assumptions. The Company used a multi-period excess earnings method to measure the IPR&D. The significant assumptions used to estimate the fair value of the IPR&D included discount rate, projected EBITA margin, and revenue growth rates. These significant assumptions are forward-looking and could be affected by future economic and market conditions.
How We Addressed the Matter in Our Audit	To test the estimated fair value of the IPR&D, we performed audit procedures that included, among others, evaluating the Company's selection of the valuation methodology, evaluating the methods and significant assumptions used by the Company's valuation specialist, and evaluating the completeness and accuracy of the underlying data supporting the significant assumptions and estimates. For example, we compared the revenue growth rate significant assumption to industry data and external market research. We involved our specialist to assist with our evaluation of the methodologies used by the Company and significant assumptions included in the fair value estimates. We also performed sensitivity analyses to evaluate the changes in the fair value of the IPR&D that would result from changes in the significant assumptions.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2018.

Detroit, Michigan
March 31, 2025

Opus Genetics, Inc.
Consolidated Balance Sheets
(in thousands, except share amounts and par value)

	As of December 31,	
	2024	**2023**
Assets		
Current assets:		
Cash and cash equivalents	$ 30,321	$ 50,501
Accounts receivable	3,563	926
Contract assets and unbilled receivables (Note 10)	2,209	1,407
Prepaids and other current assets	515	1,099
Short-term investments	2	15
Total current assets	36,610	53,948
Property and equipment, net	252	—
Total assets	$ 36,862	$ 53,948
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$ 3,148	$ 2,153
Accrued expenses	8,145	1,815
Derivative liability	2	74
Total current liabilities	11,295	4,042
Total liabilities	11,295	4,042
Commitments and contingencies (Note 3 and Note 9)		
Series A preferred stock, par value $0.0001; 14,146 shares and no shares were designated as of December 31, 2024 and 2023, respectively; 14,145.374 and no shares issued and outstanding at December 31, 2024 and 2023, respectively.	18,843	—
Stockholders' equity:		
Preferred stock, par value $0.0001; 9,985,854 and 10,000,000 shares authorized as of December 31, 2024 and 2023, respectively; no shares issued and outstanding at December 31, 2024 and 2023.	—	—
Common stock, par value $0.0001; 125,000,000 and 75,000,000 shares authorized as of December 31, 2024 and 2023, respectively; 31,574,657 and 23,977,491 shares issued and outstanding at December 31, 2024 and 2023, respectively.	3	2
Additional paid-in capital	145,719	131,370
Accumulated deficit	(138,998)	(81,466)
Total stockholders' equity	6,724	49,906
Total liabilities, series A preferred stock, and stockholders' equity	$ 36,862	$ 53,948

See accompanying notes.

Opus Genetics, Inc.
Consolidated Statements of Comprehensive Loss
(in thousands, except share and per share amounts)

	For the Year Ended December 31,	
	2024	**2023**
License and collaborations revenue	$ 10,992	$ 19,049
Operating expenses:		
General and administrative	18,215	11,959
Research and development	26,851	17,653
Acquired in-process research and development	28,000	—
Total operating expenses	73,066	29,612
Loss from operations	(62,074)	(10,563)
Financing costs (Note 7)	—	(1,328)
Fair value change in derivative liabilities	72	80
Other income, net	4,470	1,837
Loss before income taxes	(57,532)	(9,974)
Provision for income taxes	—	(12)
Net loss	(57,532)	(9,986)
Other comprehensive loss, net of tax	—	—
Comprehensive loss	$ (57,532)	$ (9,986)
Net loss per share (Note 11):		
Basic and diluted	$ (2.15)	$ (0.46)
Number of shares used in per share calculations:		
Basic and diluted	26,715,526	21,589,821

See accompanying notes.

Opus Genetics, Inc.
Consolidated Statements of Changes in Series A Preferred Stock and Stockholders' Equity
(in thousands, except share amounts)

	Series A Preferred Stock		Common Stock		Additional Paid–In Capital	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount	Shares	Amount			
Balance at December 31, 2022	—	$ —	20,861,315	$ 2	$ 117,717	$ (71,480)	$ 46,239
Issuance of common stock in connection with the at-the-market program and purchase agreement	—	—	2,964,238	—	10,249	—	10,249
Issuance costs	—	—	—	—	(136)	—	(136)
Exercise of Series B warrants	—	—	17,869	—	—	—	—
Stock-based compensation	—	—	106,600	—	3,510	—	3,510
Exercise of stock options	—	—	27,469	—	30	—	30
Net and comprehensive loss	—	—	—	—	—	(9,986)	(9,986)
Balance at December 31, 2023	—	—	23,977,491	2	131,370	(81,466)	49,906
Issuance of common stock and Series A preferred stock to former private Opus Genetics Inc. stockholders and effect of asset acquisition.	14,145.374	18,843	5,237,063	1	6,964	—	6,965
Issuance of common stock in connection with the at-the-market program and purchase agreement	—	—	2,008,522	—	4,497	—	4,497
Issuance costs	—	—	—	—	(395)	—	(395)
Stock-based compensation	—	—	395,396	—	3,362	—	3,362
Share repurchases for the payment of employee taxes	—	—	(43,815)	—	(79)	—	(79)
Net and comprehensive loss	—	—	—	—	—	(57,532)	(57,532)
Balance at December 31, 2024	14,145.374	$ 18,843	31,574,657	$ 3	$ 145,719	$ (138,998)	$ 6,724

See accompanying notes.

Opus Genetics, Inc.
Consolidated Statements of Cash Flows
(in thousands)

	For the Year Ended December 31,	
	2024	**2023**
Operating activities		
Net loss	$ (57,532)	$ (9,986)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation	3,362	3,510
Depreciation	10	6
Fair value change in derivative liabilities	(72)	(80)
Financing costs	—	1,328
Unrealized loss from short-term investments	13	34
Acquired in-process research and development	28,000	—
Gain in connection with asset acquisition	(2,447)	—
Change in assets and liabilities:		
Accounts receivable	(2,637)	372
Contract assets and unbilled receivables	(802)	2,145
Prepaid expenses and other assets	634	354
Accounts payable	220	1,082
Accrued expenses	5,675	123
Net cash used in by operating activities	(25,576)	(1,112)
Investing activities		
Cash received in connection with asset acquisition	1,210	—
Net cash provided by investing activities	1,210	—
Financing activities		
Proceeds from issuance of common stock	4,497	9,227
Issuance costs attributed to common stock	(232)	(278)
Share repurchases for the payment of employee taxes	(79)	—
Exercise of stock options and Series B warrants	—	30
Net cash provided by financing activities	4,186	8,979
Net (decrease) increase in cash and cash equivalents	(20,180)	7,867
Cash and cash equivalents at beginning of period	50,501	42,634
Cash and cash equivalents at end of period	$ 30,321	$ 50,501
Supplemental disclosure of cash flow information:		
Cash paid for income taxes	$ —	$ 344
Cash paid for interest	$ —	$ —
Supplemental non-cash financing transactions:		
Common stock and Series A preferred stock issued in connection with the asset acquisition	$ 25,808	$ —
Net liabilities assumed in connection with asset acquisition	$ 955	$ —
Non-cash issuance of common stock in connection with equity purchase agreement	$ —	$ 1,022
Value of derivative established in connection with the equity purchase agreement	$ —	$ 154
Unpaid issuance costs	$ 163	$ 10

See accompanying notes.

Opus Genetics, Inc.
Notes to Consolidated Financial Statements

1. Company Description and Summary of Significant Accounting Policies

Nature of Business

Opus Genetics, Inc. (the "Company" or "Opus"). a Delaware corporation formerly known as Ocuphire Pharma, Inc. (the "Company" or "Opus"), is a clinical-stage ophthalmic biotechnology company developing gene therapies for the treatment of inherited retinal diseases ("IRDs") and other types of therapies for additional ophthalmic disorders. The Company's headquarters was located in Farmington Hills, Michigan through December 31, 2024 (see Note 14 – Subsequent Events).

On October 22, 2024, the Company acquired a private corporation then operating under the name of "Opus Genetics, Inc." ("Private Opus") pursuant to the terms of an Agreement and Plan of Merger, dated as of October 22, 2024 (such agreement, the "Merger Agreement" and the transaction consummated via the Merger Agreement, the "Opus Acquisition"), by and among the Company, Private Opus, and certain merger subsidiaries party thereto.

The Company's pipeline includes assets from the adeno-associated virus ("AAV") based gene therapy portfolio of Private Opus that address mutations in genes that cause different forms of Leber congenital amaurosis ("LCA"), bestrophinopathy, and retinitis pigmentosa. Apart from gene therapies, the Company's pipeline also includes Phentolamine Ophthalmic Solution 0.75%, a non-selective alpha-1 and alpha-2 adrenergic antagonist to reduce pupil size as well as APX3330, a novel small-molecule inhibitor of Ref-1 designed to slow the progression of non-proliferative diabetic retinopathy. The Company's most advanced gene therapy program is designed to address mutations in the LCA5 gene ("LCA5"), which encodes the lebercilin protein. More specifically, we are developing OPGx-LCA5 to treat LCA5-associated IRD, an early-onset retinal degeneration, and an open-label, dose-escalation Phase 1/2 clinical trial is ongoing.OPGx-BEST1 is another gene therapy candidate in the Company's portfolio. This asset is being developed for the treatment of IRDs associated with mutations in the BEST1 gene ("Best Disease"), which can lead to legal blindness.

In November 2022, the Company entered into a license and collaboration agreement (the "Viatris License Agreement") with FamyGen Life Sciences, Inc. (acquired by and now known as Viatris, Inc. ("Viatris")), pursuant to which it granted Viatris an exclusive license to develop, manufacture, import, export and commercialize its refractive product candidate Phentolamine Ophthalmic Solution 0.75% (initially known as Nyxol) ("PS"). PS is a once-daily eye drop formulation of phentolamine mesylate designed to reduce pupil diameter and improve visual acuity. PS was approved by the FDA for the treatment for pharmacologically induced mydriasis produced by adrenergic agonists (e.g., phenylephrine) or parasympatholytic (e.g., tropicamide) agents, or a combination thereof under the brand name RYZUMVI® in September 2023 and was launched commercially in April 2024. For decreased vision under mesopic (low) light conditions following keratorefractive surgery, we received FDA agreement under Special Protocol Assessment ("SPA") for LYNX-2, a Phase 3 Trial of PS.

Basis of Presentation

The accompanying consolidated financial statements have been prepared in accordance with accounting standards generally accepted in the United States of America ("GAAP") and include the accounts of the Company's subsidiary, the former Private Opus entity. All intercompany transactions and balances have been eliminated in consolidation. The Company's fiscal year begins on January 1 and ends on December 31.

Liquidity

The accompanying consolidated financial statements have been prepared on the basis that the Company will continue as a going concern. From its inception, the Company has devoted substantially all of its efforts to drug development and conducting clinical trials.

Opus Genetics, Inc.
Notes to Consolidated Financial Statements

As of December 31, 2024, the Company had $30.3 million in cash and cash equivalents and, as disclosed in Note 14 – Subsequent events, the Company received proceeds of approximately $21.5 million from the March 2025 financings. The Company believes its current available cash and cash equivalents will be sufficient to fund the Company's planned expenditures and meet its obligations for at least twelve months from the date of issuance of these consolidated financial statements.

In the future, the Company may need to raise additional funds until it is able to generate sufficient revenues to fund its development activities. The Company's future operating activities, coupled with its plans to raise capital or issue debt financing, may provide additional liquidity in the future, however these actions are not solely within the control of the Company and the Company is unable to predict the outcome of these actions to generate the liquidity ultimately required.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. Actual results could differ from those estimates.

Segment Information

Operating segments are components of an enterprise for which separate financial information is available and is evaluated regularly by the Company's chief operating decision maker in deciding how to allocate resources and assessing performance. The Company's chief operating decision maker is its Chief Executive Officer. The Company's Chief Executive Officer views the Company's operations and manages its business in one operating segment, which is the business of development of products related to vision performance and health. Accordingly, the consolidated financial statements and accompanying notes contained herein include the measure of profit or loss, categories of expenses and other financial information that is evaluated by the Company's Chief Executive Officer.

Cash and Cash Equivalents

The Company considers all highly liquid investments with an original maturity of 90 days or less at the time of deposit to be cash equivalents.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to a concentration of credit risk consist of cash and cash equivalents. Management follows approved policies established by the Company's Board of Directors (the "Board") to reduce credit risk associated with the Company's cash deposit and investment accounts. Pursuant to these policies, the Company limits its exposure through the kind, quality and concentration of its investments. The Company's cash and cash equivalents are held or managed by two financial institutions in the United States. As of December 31, 2024, the Company had cash equivalents of $29.6 million that were not eligible for coverage by Federal Deposit Insurance Corporation. These balances are invested in funds whose assets consist almost entirely of securities issued by the U.S. Treasury or guaranteed by the U.S. government.

Short-term Investments

The Company determines the appropriate classification of its investments in debt and equity securities at the time of purchase and records them on a settlement date basis. The Company's short-term investments are comprised of equity securities, which in accordance with the fair value hierarchy described below are recorded at fair value using Level l inputs on the balance sheets. Subsequent changes in fair values are recorded in other income, net on the consolidated statements of comprehensive loss. The Company classifies investments available to fund current operations as current assets on its consolidated balance sheets. The Company did not recognize any impairments on its investments to date through December 31, 2024.

Revenue Recognition

The Company follows the provisions of Accounting Standards Codification ("ASC") 606, *Revenue from Contracts with Customers*. The guidance provides a five-step model to determine how revenue is recognized. The Company has entered into license agreements which have revenue recognition implications (See Note 10 – License and Collaboration Agreements).

In determining the appropriate amount of revenue to be recognized, the Company performs the following steps: (i) identification of the contracts with a customer; (ii) determination of the performance obligations in the contract; (iii) measurement of the transaction price, including potential constraints on variable consideration; (iv) allocation of the transaction price to the performance obligations based on estimated stand-alone selling prices; and (v) recognition of revenue when (or as) the Company satisfies a performance obligation.

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer and is the unit of account in ASC 606. Performance obligations may include license rights, development and other services. Significant management judgment is required to determine the level of effort required under an arrangement and the period over which the Company expects to complete its performance obligations under the arrangement. If the Company cannot reasonably estimate when its performance obligations are either completed or become inconsequential, then revenue recognition is deferred until the Company can reasonably make such estimates. Revenue is then recognized over the remaining estimated period of performance using the cumulative catch-up method.

As part of the accounting for these arrangements, the Company must develop assumptions that require judgment to determine the stand-alone selling price of each performance obligation identified in the contract. The Company uses key assumptions to determine the stand-alone selling price, which may include forecasted revenues, development timelines, reimbursement rates for personnel costs, discount rates and probabilities of technical and regulatory success. The Company allocates the total transaction price to each performance obligation based on the relative standalone selling prices of the promised goods or service underlying each performance obligation.

Licenses of intellectual property and research and development services: If the license to the Company's intellectual property is determined to be distinct from the other performance obligations identified in the arrangement, the Company recognizes revenues from non-refundable, up-front fees allocated to the license when the license is transferred to the customer, and the customer can use and benefit from the license. For licenses that are bundled with other obligations, such as research and development services, the Company utilizes judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue from non-refundable, up-front fees. For research and development services that are distinct from a license transfer obligation, the Company determines whether the services are satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue from such services. The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognition.

Milestone payments: At the inception of each arrangement that includes milestone payments, the Company evaluates whether the milestones are considered probable of being achieved and estimates the amount to be included in the transaction price using the most likely amount method. If it is probable that a significant revenue reversal will not occur, the value of the associated milestone (such as a regulatory submission) is included in the transaction price. Milestone payments that are not within the control of the Company, such as approvals from regulators, are not considered probable of being achieved until such contingency occurs (such as receipt of those approvals).

Royalties: For arrangements that include sales-based royalties, including milestone payments based on the level of sales, and the license is deemed to be the predominant item to which the royalties relate, the Company recognizes revenue at the later of (a) when the related sales occur, or (b) when the performance obligation to which some or all of the royalty has been allocated has been satisfied (or partially satisfied).

Contract Assets and Unbilled Receivables

The Company recognizes contract assets and unbilled receivables when goods or services are transferred to the customer before the customer pays or before reimbursement for payment is billed or due, excluding any amounts presented as an account receivable. The Company recorded contract assets and unbilled receivables in connection with a license and collaboration agreement (See Note 10 – License and Collaboration Agreements).

Accounts Receivable and Allowances for Credit Losses

The Company records a provision for credit losses, when appropriate, based on historical experience, current conditions and reasonable supportable forecasts. The Company estimates credit losses over the remaining expected life of an asset by, among other things, primarily using historical experience and current economic conditions that could affect the collectability of the balances in the future. Account balances are charged off against the allowance when the Company believes that it is probable that the receivable will not be recovered. Actual write-offs may be in excess of the Company's estimated allowance. The Company has not incurred any bad debt expense to date and no allowance for credit losses has been recorded during the periods presented.

General and Administrative Expenses

General and administrative expenses consist primarily of personnel-related costs, including salaries, benefits and stock-based compensation costs, for personnel in functions not directly associated with research and development activities. Other significant costs include insurance coverage for directors and officers and other property and liability exposures, legal fees relating to intellectual property and corporate matters, business development costs, professional fees for accounting and tax services, other services provided by business consultants, and legal settlements.

Research and Development

Research and development expenses consist of costs incurred in performing research and development activities, including compensation, benefits and stock-based compensation costs for research and development employees and costs for consultants, costs associated with nonclinical studies and clinical trials, regulatory activities, manufacturing activities to support clinical activities, license fees, nonlegal patent costs, fees paid to external service providers that conduct certain research and development, and an allocation of overhead expenses. Research and development expenses include costs that are reimbursed under the Viatris License Agreement (See Note 10 – License and Collaboration Agreements).

Acquired In-Process Research and Development Expenses

The Company includes costs to acquire or in-license product candidates as acquired in-process research and development expenses ("IPR&D"). These costs are immediately expensed provided that the payments do not also represent processes or activities that would constitute a "business" as defined under GAAP or provided that the product candidate has not achieved regulatory approval for marketing, and absent obtaining such approval, has no alternative future use. Royalties owed on future sales of any licensed product will be expensed in the period the related revenues are recognized (See Note 2 – Mergers).

Other Income, net

Other income, net includes interest earned from cash and cash equivalent investments, realized and unrealized gains (losses) from equity investments, gain in connection with Opus Acquisition, and reimbursements in connection with grants and other sources when they occur. In addition, this line item includes payments made by the Company in connection with the Contingent Value Rights Agreement (the "CVR Agreement") discussed further below with former shareholders of Rexahn Pharmaceuticals, Inc. ("Rexahn").

Stock-Based Compensation

The Company accounts for stock-based compensation in accordance with the provisions of the Financial Accounting Standards Board ("FASB") ASC 718, *Compensation — Stock Compensation*. Accordingly, compensation costs related to equity instruments granted are recognized at the grant date fair value. The Company records forfeitures when they occur. Stock-based compensation arrangements to non-employees are accounted for in accordance with the applicable provisions of ASC 718.

Derivative Liability

The Company evaluates all features contained in financing agreements to determine if there are any embedded derivatives that require separation from the underlying agreement under ASC 815 – *Derivatives and Hedging*. An embedded derivative that requires separation is accounted for as a separate liability from the host agreement. The separated embedded derivative is accounted for separately on a fair market value basis. The Company records the fair value change of a separated embedded derivative at each reporting period in the consolidated statements of comprehensive loss under the fair value change in derivative liability line item. The Company determined that certain features under an equity line financing collectively qualified as an embedded derivative (See Note 7 — Stockholders' Equity). The derivative was accounted for separately from the underlying equity line financing agreement.

Fair Value Measurements

The Company follows accounting guidance that emphasizes that fair value is a market-based measurement, not an entity-specific measurement. Fair value is defined as "the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date." Fair value measurements are defined on a three-level hierarchy:

- Level 1 inputs: Unadjusted quoted prices for identical assets or liabilities in active markets;
- Level 2 inputs: Quoted prices for similar assets and liabilities in active markets, quoted prices in markets that are not active, or inputs which are observable, whether directly or indirectly, for substantially the full term of the asset or liability; and
- Level 3 inputs: Unobservable inputs in which there is little or no market data available, which requires management to develop its own assumptions in pricing the asset or liability.

As of December 31, 2024 and 2023, the fair values of cash and cash equivalents, accounts receivable, contract assets and unbilled receivables, prepaid and other assets, accounts payable, and accrued expenses approximated their carrying values because of the short-term nature of these assets or liabilities. The fair value of the short-term investments, while outstanding, were based on observable Level 1 inputs in the form of quoted market prices from a major stock exchange (See Note 7 – Stockholders' Equity). The fair value of the derivative liability associated with the equity line financing facility was based on cash flow models discounted at current implied market rates representing expected returns by market participants for similar instruments and are based on Level 3 inputs as well the Company's underlying stock price and associated volatility, expected term of the financing and market interest rates. There were no transfers between fair value hierarchy levels during the years ended December 31, 2024 and 2023.

	As of December 31, 2024			
Description	**Total**	**Level 1**	**Level 2**	**Level 3**
Assets:				
Short-term investments	$ 2	$ 2	$ —	$ —
Total assets at fair value	$ 2	$ 2	$ —	$ —
Liabilities:				
Derivative liability	$ 2	$ —	$ —	$ 2
Total liabilities at fair value	$ 2	$ —	$ —	$ 2

	As of December 31, 2023			
Description	**Total**	**Level 1**	**Level 2**	**Level 3**
Assets:				
Short-term investments	$ 15	$ 15	$ —	$ —
Total assets at fair value	$ 15	$ 15	$ —	$ —
Liabilities:				
Derivative liability	$ 74	$ —	$ —	$ 74
Total liabilities at fair value	$ 74	$ —	$ —	$ 74

The following table provides a roll-forward of short-term investments and derivative liabilities measured at fair value on a recurring basis using observable Level 1 and Level 3 inputs, as applicable, for the years ended December 31, 2024 and 2023 (in thousands):

	2024	2023
Short-term investments		
Balance as of beginning of period	$ 15	$ 49
Unrealized loss	(13)	(34)
Balance as of end of period	$ 2	$ 15

	2024	2023
Derivative liability		
Balance as of beginning of period	$ 74	$ —
Purchase agreement execution	—	154
Unrealized gain	(72)	(80)
Balance as of end of period	$ 2	$ 74

There were no other assets or liabilities measured on a non-recurring basis for any of the periods presented other than those acquired in connection with the Opus Acquisition (See Note 2 – Mergers).

Recent Accounting Pronouncements

In November 2023, the FASB issued ASU 2023-07 - *Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures*, which enhances reportable segment disclosure requirements, primarily through disclosures of significant segment expenses. This ASU is effective for fiscal years beginning after December 15, 2023, and interim periods within fiscal years beginning after December 15, 2024, with early adoption permitted. The guidance must be applied retrospectively to all prior periods presented. The Company adopted the guidance on January 1, 2024. The adoption of this ASU did not have a material impact on the Company's consolidated financial statements.

In December 2023, the FASB issued ASU 2023-09 *Income Taxes (Topic 740): Improvements to Income Tax Disclosures*, which enhances income tax disclosures primarily related to the rate reconciliation and income taxes paid information. This guidance also includes certain other amendments to improve the effectiveness of income tax disclosures. This ASU is effective for fiscal years beginning after December 15, 2024, including interim periods within those fiscal years and should be applied on a prospective basis, with retrospective application permitted. The Company is currently evaluating the impact of adoption of this guidance on its consolidated financial statements.

2. Mergers

Acquisition of Opus Genetics

Summary of Transaction

As described in Note 1, "Nature of Business," on October 22, 2024, the Company completed the stock purchase of Private Opus. Under the terms of the Merger Agreement, at the closing of the Opus Acquisition, the Company issued to the security holders of Private Opus 5,237,063 shares of the Company's common stock, par value $0.0001 per share, and 14,145.374 shares of the Company's preferred stock, par value $0.0001 per share, designated as Series A Non-Voting Convertible Preferred Stock ("Series A Preferred Stock"), each share of which is convertible into 1,000 shares of common stock, subject to stockholder approval. Following the closing of the Opus Acquisition, the Company had 31,435,507 shares of common stock and 14,145.374 shares of Series A preferred stock outstanding. The total consideration in connection with the Opus Acquisition was $25.8 million.

The transaction was accounted for as an asset acquisition in accordance with ASC 805 as one asset, the underlying intellectual property associated with the IRD therapies, comprised more than 90% of Private Opus's assets. Under this method of accounting, the Company was the accounting acquirer for financial reporting purposes. This determination was primarily based on the facts that, immediately following the Opus Acquisition: (i) legacy Ocuphire's stockholders held the majority of the voting rights in the combined company based on their ownership, (ii) Private Opus held only three out of the nine board of director seats of the combined company, and (iii) Private Opus senior management held only one of the five key positions in the senior management of the combined company.

Opus Genetics, Inc.
Notes to Consolidated Financial Statements

Private Opus was determined to be a variable interest entity ("VIE") as it was insufficiently capitalized to fund future operations. As such, the acquisition costs of $2.8 million were expensed and not capitalized as part of the purchase price in accordance with ASC 805. In addition, the fair value of the net assets and IPR&D acquired in excess of the purchase price was recorded as an asset acquisition gain and was included in the other income, net line item in the consolidated statements of comprehensive loss. The reported operating results prior to the Opus Acquisition are those of legacy Ocuphire.

The following summarizes the purchase price paid in the Opus Acquisition (in thousands, except share and per share amounts):

Number of common shares of the combined organization owned by the Company's Pre-acquisition Private Opus stockholders		5,237,063
Multiplied by the fair value per share of the Company's common stock (1)	$	1.33
Fair value of common stock issued to affect the Opus Acquisition	$	6,965
Number of Series A preferred shares of the combined organization owned by the Company's Pre-acquisition Private Opus stockholders		14,145.374
Multiplied by the fair value per share of the Company's Series A preferred stock (2)	$	1.3321
Fair value of preferred stock issued to affect the Opus Acquisition	$	18,843
Purchase price	$	25,808

(1) Based on the last reported sale price of the Company's common stock on the Nasdaq Capital Market on October 22, 2024, the closing date of the Opus Acquisition.

(2) Based on the fair market valuation of the Series A preferred stock that considered the reported sale price of the Company's common stock on the Nasdaq Capital Market on October 22, 2024 on an as converted basis (1,000 shares of common stock for 1 share of preferred stock), the closing date of the Opus Acquisition, as well as the underlying dividend provisions on a discounted cash flow basis.

The fair value of the net assets and IPR&D acquired was as follows (in thousands):

Cash acquired	$	1,210
Net liabilities assumed		(955)
IPR&D (3)		28,000
Net assets and IPR&D acquired	$	28,255

(3) Represents the Private Opus Acquisition research and development projects which were in-process, but not yet completed, and which the Company may advance post the Opus Acquisition. This includes the development of gene therapies for IRDs. Current accounting standards require that the fair value of IPR&D projects acquired in an asset acquisition with no alternative future use be charged to expense on the acquisition date. The acquired IPR&D did not have outputs or employees. The fair value of the IPR&D was recorded at fair value using Level 3 inputs. A Multi-Period Excess Earnings Method ("MPEEM") model was applied which incorporates assumptions such as future earnings and margins in connection with the further development and commercialization of IRD therapies, and a discount rate of 20%.

The gain recorded upon the close of the Opus Acquisition is recapped below (in thousands):

Purchase Price	$	25,808
Net assets and IPR&D acquired		28,255
Gain recorded upon close of Opus Acquisition	$	2,447

Opus Genetics, Inc.
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Merger with Rexahn

On November 5, 2020, the Company completed a merger transaction with Rexahn ("Rexahn Merger"). In connection with the Rexahn Merger, the Company, Shareholder Representatives Services LLC, as representative of the Rexahn stockholders prior to the Merger, and Olde Monmouth Stock Transfer Co., Inc., as the rights agent, entered into a Contingent Value Rights Agreement (the "CVR Agreement").

Pursuant to the terms of the Rexahn Merger and the CVR Agreement, Rexahn stockholders of record as of immediately prior to the effective time of the Rexahn Merger received one contingent value right ("CVR") for each share of Rexahn common stock held.

Each CVR entitles such holders to receive, for each calendar quarter (each, a "CVR Payment Period") during the 15-year period after the closing (the "CVR Term"), an amount equal to the following:

- 90% of all payments received by Rexahn or its affiliates during such CVR Payment Period from or on behalf of BioSense Global LLC ("BioSense") pursuant to that certain License and Assignment Agreement;

- 90% of all payments received by Rexahn or its affiliates during such CVR Payment Period from or on behalf of Zhejiang HaiChang Biotechnology Co., Ltd. ("HaiChang") pursuant to that certain Exclusive License Agreement; and

- 75% of the sum of (i) all cash consideration paid by a third party to Rexahn or its affiliates during the applicable CVR Payment Period in connection with the grant, sale or transfer of rights to Rexahn's pre-closing intellectual property (other than a grant, sale or transfer of rights involving a sale or disposition of the post-Merger combined company) that is entered into during the 10-year period after the closing ("Parent IP Deal"), plus (ii) with respect to any non-cash consideration received by Rexahn or its affiliates from a third party during the applicable CVR Payment Period in connection with any Parent IP Deal, all amounts received by Rexahn or its affiliates for such non-cash consideration at the time such non-cash consideration is monetized by Rexahn or its affiliates, minus (iii) certain permitted deductions.

The CVRs are not transferable, except in certain limited circumstances, will not be certificated or evidenced by any instrument, will not accrue interest and will not be registered with the SEC or listed for trading on any exchange. The CVR Agreement will continue in effect until the later of the end of the CVR Term and the payment of all amounts payable thereunder. As of December 31, 2024, no payments subject to the CVR had been received beyond those previously reported in the second and third quarters of calendar year 2021. In addition, no milestones had been accrued as there were no potential milestones yet considered probable beyond those previously reported.

Former Rexahn Warrants

The remaining warrants in the amount of 58,597 with an exercise price of $38.40 per share expired unexercised in January 2024 and none remained outstanding as of December 31, 2024.

3. Commitments and Contingencies

Apexian Sublicense Agreement

On January 21, 2020, the Company entered into a sublicense agreement with Apexian Pharmaceuticals, Inc., pursuant to which it obtained exclusive worldwide patent and other intellectual property rights. In exchange for the patent and other intellectual rights, the Company agreed to certain milestone payments and royalty payments on future sales (See Note 9 — Apexian Sublicense Agreement). As of December 31, 2024, there was sufficient uncertainty with regard to any future cash milestone payments under the sublicense agreement that no liabilities were recorded related to the sublicense agreement.

University of Pennsylvania LCA5/RDH12 License Agreement

On June 15, 2022, Opus entered into an amended and restated license agreement (the "LCA5/RDH12 Agreement") with the Trustees of the University of Pennsylvania ("Penn") pursuant to which it was granted an exclusive, royalty-bearing license to certain patents and a non-exclusive license to certain information relating to products directed towards treatment or correction of mutation of the LCA5 or RDH12 genes. In return for these rights, the Company is obligated to make certain development, regulatory and commercial milestone payments up to a maximum potential aggregate amount of $2.6 million and royalty payments on future net sales of such products. Until we are required to pay royalties under the LCA5/RDH2 Agreement, we must pay a de minimus annual license maintenance fee to Penn. We are also obligated to make payments on any sublicense income, with such percentage depending on the stage of product development, which there was no sublicense income for the fiscal years 2024 and 2023. As of December 31, 2024, the Company determined that none of the future obligations under the agreement were probable and therefore no liabilities were recorded related to the agreement.

Iveric Asset Purchase Agreement – BEST1 and RHO Programs

On December 23, 2022, Opus entered into an asset purchase agreement with Iveric (the "Iveric Agreement") pursuant to which the Company acquired certain assets, including the BEST1 License (as defined below), relating to the BEST1 and RHO products. In return for these rights, we are obligated to make payments to Iveric upon the achievement of specified development and commercial milestones, the maximum potential aggregate amount of such payments being $111.7 million. As of December 31, 2024, the Company determined that none of the future obligations under the agreement were probable and therefore no liabilities were recorded related to the agreement.

Penn and University of Florida BEST1 License Agreement

On April 10, 2019, Iveric entered into an exclusive patent license agreement (as amended, the "BEST1 License") with Penn and the University of Florida Research Foundation ("UF"), which agreement was assigned to Opus under the terms of the Iveric Agreement. Under the BEST1 License, Opus received exclusive patent rights and non-exclusive knowhow and data rights with regard to products to treat diseases associated with mutations in the BEST1 gene. In return for these rights, we are obligated to make payments to Penn upon the achievement of certain clinical, regulatory and commercial milestones, the maximum potential aggregate amount of such payments being $76.4 million. We are also obligated to make royalty payments on future net sales of licensed BEST1 products. Until we are required to pay royalties under the BEST1 License, we must pay a de minimus annual license maintenance fee to UF and Penn. We must also make payments on any sublicense income, with such percentage depending on the stage of product development, which there was no sublicense income for the fiscal years 2024 and 2023. In consideration for Penn and UF's consent to the assignment of the BEST1 License to us under the Iveric Agreement, we will also pay Penn a percentage of each milestone payment that we are required to pay to Iveric under the Iveric Agreement. As of December 31, 2024, the Company determined that none of the future obligations under the agreement were probable and therefore no liabilities were recorded related to the agreement.

LCA5 VR License

On March 2, 2023, Opus entered into a non-exclusive license agreement (the "LCA5 VR License") with Penn pursuant to which it was granted a non-exclusive license to certain patents and copyrights relating to testing visual function using simulated living situations in individuals with visual disorders, for Opus' use in clinical trials for the evaluation of retinal disorder treatments caused by LCA5 mutations. In return for these rights, we are obligated to make a de minimus payment to Penn for each use of a licensed product in a clinical trial. As of, December 31, 2024 the liability related to use of the licensed product is de minimus.

Penn and UF RHO License Agreement

On June 6, 2018, Iveric entered into an exclusive patent license agreement (the "RHO License") by and between Penn and UF pursuant to which the Company has exclusive patent rights and non-exclusive knowhow and data rights with regard to products to treat rhodopsin-mediated diseases as a result of the Iveric Agreement as defined above. In return for these rights, the Company is obligated to make development milestone payments and royalty payments on future sales of such products. As of December 31, 2024, the Company determined that none of the future obligations under the agreement were probable and therefore no liabilities were recorded related to the agreement.

Massachusetts Eye and Ear Infirmary License Agreement

On November 9, 2021, Opus entered into a license agreement (the "MEEI License") with the Massachusetts Eye and Ear Infirmary ("MEEI"), granting an exclusive worldwide license of MEEI patents for use in the NMNAT1 program for all products and processes including the treatment of retinal disease in humans, and a non-exclusive worldwide license to technological information. In return for these rights, the Company is obligated to make development milestone payments and royalty payments on future sales of such products. As of December 31, 2024, the Company determined that none of the future obligations under the agreement were probable and therefore no liabilities were recorded related to the agreement.

Facility and Other Leases

The Company had a non-cancellable facility lease (the "HQ Lease") for its headquarters. The HQ Lease qualified for the short-term lease exception under ASC 842, *Leases* ("ASC 842"). The monthly base rent for the HQ Lease was approximately $3,000. The Company also leases additional office and laboratory space on a short-term, non-cancellable, and month-to-month basis that have a monthly rent of $10,000 in the aggregate.

The Company, upon the Opus Acquisition, assumed a number of equipment leases (the "Equipment Leases") that qualified for the short-term exception under ASC 842-20-25-2. The Equipment Leases have a monthly rent in the aggregate of approximately $10,000 per month and expire in July 2025. The rent expense associated with all leases amounted to $140,000 and $36,000 during the years ended December 31, 2024 and 2023, respectively. The HQ Lease was not renewed upon the expiration of its term on December 31, 2024 (See Note 14 – Subsequent Events).

Other

In the ordinary course of business, from time to time, the Company may be subject to a broad range of claims and legal proceedings that relate to contractual allegations, patent infringement and other claims. In addition, the Company from time to time may be potentially committed to reimburse third parties for costs incurred associated with business development related transactions upon the achievement of certain milestones. The Company establishes accruals when applicable for matters and commitments which it believes losses are probable and can be reasonably estimated. To date, no loss contingency for such matters and potential commitments have been recorded. Although it is not possible to predict with certainty the outcome of these matters or potential commitments, the Company is of the opinion that the ultimate resolution of these matters and potential commitments will not have a material adverse effect on its results of operations or financial position.

4. Supplemental Balance Sheet Information

Accrued Expenses

Accrued expenses consist of the following (in thousands):

	December 31,	
	2024	2023
Payroll	$ 1,481	$ 753
Professional services	1,608	591
R&D services and supplies	4,452	400
Other	604	71
Total	$ 8,145	$ 1,815

5. Related Party Transactions

Rodgers Letter Agreement

On April 19, 2023, the Company appointed Richard Rodgers, a director of the Company, as interim President and Chief Executive Officer. In connection with his appointment, the Company and Mr. Rodgers entered into a letter agreement, dated as of April 20, 2023, concerning Mr. Rodgers's services (the "Letter Agreement"). The Letter Agreement provided that Mr. Rodgers (i) was to receive a $40,000 monthly salary, and (ii) was eligible for a potential prorated bonus at the discretion of the Board, at the end of his term as interim President and Chief Executive Officer. Pursuant to the bonus clause, a $100,000 bonus was expensed in December 2023 and paid on March 4, 2024. Mr. Rodgers also received 50,000 restricted stock units under the Company's 2020 Equity Incentive Plan which vested 12 months following the grant date. Mr. Rogers's services as interim President and Chief Executive Officer concluded on October 31, 2023 with the appointment of George Magrath to the role, the Letter Agreement has expired, and the Company does not expect to incur further expenses related thereto. The Company incurred zero and $255,000 related consulting expenses during the years ended December 31, 2024 and 2023, respectively. As of December 31, 2023, $100,000 of the related expenses were unpaid related to a prorated bonus and were paid in full on March 4, 2024. As of December 31, 2024, no amounts remained unpaid under these arrangements.

Dr. Pepose Consulting Agreement

On April 8, 2022, the Company entered into a consulting agreement (as amended, the "2022 Consulting Agreement") with Jay Pepose, M.D., a director of the Company. The consulting agreement originally provided for $10,000 a month in cash payments and a stock option grant for 50,000 options, of which 25% vested on March 31, 2023, with the remainder vesting in equal monthly installments over 36 months. The consulting agreement was amended on September 19, 2022 to provide for vesting acceleration for stock-based awards in the event of a change in control. The consulting agreement was also amended effective December 1, 2022 to increase the cash payment to $25,000 per month and amended effective January 1, 2024 to extend the expiration to March 31, 2024 and to increase the retainer for March 2024 to $49,000.

On April 11, 2024, the Company entered into another consulting agreement (the "2024 Consulting Agreement") with Dr. Pepose following the expiration of the 2022 Consulting Agreement. Pursuant to the 2024 Consulting Agreement, Dr. Pepose is paid a monthly consulting fee of $39,583. Additionally, Dr. Pepose received an award of 32,000 RSUs, as well as stock options to purchase 48,000 shares of the Company's common stock. The RSUs will vest on April 11, 2025, subject to Dr. Pepose's continued service over that period. The options vest in 12 equal monthly installments that began on May 11, 2024, subject to Dr. Pepose's continued service over such period. The 2024 Consulting Agreement is scheduled to terminate on April 11, 2025.

For the agreements with Dr. Pepose above, the Company incurred related consulting expenses of $455,247 and $300,000 during the years ended December 31, 2024 and 2023, respectively. As of December 31, 2024 and 2023, $39,583 and $25,000 of the related consulting expenses were unpaid, respectively.

Consulting Agreement with Dr. Jean Bennett

In connection with Dr. Jean Bennett's appointment as a member of the Board, effective October 22, 2024, she and the Company entered into a consulting agreement (the "Bennett Consulting Agreement"), pursuant to which Dr. Bennett will provide consulting services to the Company for a one-year period. Pursuant to the Bennett Consulting Agreement, Dr. Bennett was granted a restricted stock unit award with respect to 100,000 shares of the Company's Common Stock, which award is scheduled to vest on October 22, 2025, subject to her continued service with the Company through such date; provided, that the award will vest in full if the Bennett Consulting Agreement is terminated due to a breach of the Bennett Consulting Agreement by the Company or termination by the Company for cause events. The Company incurred no consulting expenses during the fiscal years ended December 31, 2024 and 2023 related to the Bennett Consulting Agreement.

Letter Agreement and Strategic Partnership—FFB

On August 25, 2022, Private Opus entered into a binding letter of agreement with The Foundation Fighting Blindness ("FFB"), a related party, and the Jaeb Center for Health Research ("JCHR") to collaborate on natural history studies involving individuals with retinal dystrophies associated with mutations in multiple genes of interest. Under the terms of the agreement, FFB and JCHR have the sole responsibility and authority to design and conduct the study, with input from the Company. The agreement requires that the Company provide FFB with a total of $2,000,000 of funding to support the study. Such amount being payable in an initial installment of $400,000 upon submission of the final study protocol to the Institutional Review Board of the JCHR, which occurred in 2022, and remaining annual $400,000 installments contingent upon the Company obtaining $10 million in additional financing. The Company obtained additional financing subsequent to December 31, 2024 (Refer to Note 14 – Subsequent Events) which triggered the additional funding.

6. Series A Preferred Stock

Series A Preferred Stock:

On October 22, 2024, the Company filed a Certificate of Designation of Preferences, Rights and Limitations of the Series A Non-Voting Convertible Preferred Stock with the Secretary of State of the State of Delaware (the "Certificate of Designation") in connection with the Opus Acquisition. The Certificate of Designation provides for the authorization of 14,146 shares of Series A Preferred Stock, of which 14,145.374 Series A Preferred Stock were issued upon close of the Opus Acquisition.

Holders of Series A Preferred Stock are entitled to receive dividends on shares of Series A Preferred Stock (on an as-if-converted-to-Common-Stock basis) equal to and in the same form, and in the same manner, as dividends (other than dividends on shares of our common stock payable in the form of common stock) actually paid on shares of our common stock when, as and if such dividends (other than dividends payable in the form of common stock) are paid on shares of our common stock. In addition to any dividends payable as described above, commencing on October 15, 2025, holders of Series A Preferred Stock will be entitled to receive when, as and if declared by the Board or a duly authorized committee of the Board, and the Company will pay, out of funds legally available therefor, cumulative quarterly cash dividends of $26.00 per share of Series A Preferred Stock; provided that for the Series A Dividend Payment Date occurring on October 15, 2025, the amount of such quarterly cash dividend shall be $15.26. Any such dividends will be payable quarterly in arrears on January 15, April 15, July 15 and October 15 of each year, commencing with the first payment on October 15, 2025 (each such date, a "Series A Dividend Payment Date").

Except as otherwise required by law, the Series A Preferred Stock will have no voting rights. However, as long as any shares of Series A Preferred Stock are outstanding, the Company will not, without the affirmative vote of the holders of a majority of the then outstanding shares of the Series A Preferred Stock: (i) alter or change adversely the powers, preferences or rights given to the Series A Preferred Stock or alter or amend the Certificate of Designation, amend or repeal any provision of, or add any provision to, the Certificate of Incorporation or the Bylaws, or file any articles of amendment, certificate of designations, preferences, limitations and relative rights of any series of Preferred Stock, if such action would adversely alter or change the preferences, rights, privileges or powers of, or restrictions provided for the benefit of the Series A Preferred Stock, regardless of whether any of the foregoing actions will be by means of amendment to the Certificate of Incorporation or by merger, consolidation or otherwise, (ii) issue further shares of Series A Preferred Stock or increase or decrease (other than by conversion) the number of authorized shares of Series A Preferred Stock, (iii) amend, in any manner that would be reasonably likely to prevent, impede or materially delay the stockholder approval of the Conversion Proposal or the Automatic Conversion (as defined in the Certificate of Designation), or terminate any Support Agreements, or agree to any transfer, sale or disposition of such shares subject to the Support Agreements as outlined in the Certificate of Designation.

The holders of the Series A Preferred Stock rank on parity with the holders of common stock as to distributions of assets upon liquidation, dissolution or winding up of the Corporation, whether voluntarily or involuntarily.

Following stockholder approval of the Conversion Proposal, each share of Series A Preferred Stock will be convertible into shares of common stock at any time at the option of the holder thereof, into 1,000 shares of common stock, subject to certain limitations.

Given certain dividend provision exclusive to the Series A Preferred Stock, the Series A Preferred Stock was classified as temporary equity on the consolidated balance sheets.

7. Stockholders' Equity

Amendment to Articles of Incorporation

At the Company's 2024 annual meeting of stockholders held on June 11, 2024, the Company's stockholders voted to approve an amendment to the Company's Amended and Restated Certificate of Incorporation that resulted in an increase in the number of authorized shares of the Company's common stock from 75 million to 125 million shares. The increase in authorized shares became effective on June 12, 2024.

Lincoln Park Purchase Agreement

On August 10, 2023, the Company entered into a common stock purchase agreement with Lincoln Park Capital Fund, LLC ("Lincoln Park") for an equity line financing (the "Purchase Agreement"). The Purchase Agreement provides that, subject to the terms and conditions set forth therein, the Company has the sole right, but not the obligation, to direct Lincoln Park to purchase up to $50 million of shares of the Company's common stock from time to time over the 30-month term of the Purchase Agreement. Concurrently with entering into the Purchase Agreement, the Company also entered into a registration rights agreement with Lincoln Park (the "Registration Rights Agreement"), pursuant to which the Company agreed to register the resale of the shares of the Company's common stock that have been and may be issued to Lincoln Park under the Purchase Agreement pursuant to a registration statement. Lincoln Park has agreed not to cause or engage in any manner whatsoever in any direct or indirect short selling or hedging of the Company's common stock.

A total of 400,000 shares were issued under the Purchase Agreement during the year ended December 31, 2024 for net proceeds of $0.7 million. The Company incurred *de minimis* issuance costs during the year ended December 31, 2024.

Upon the execution of the Purchase Agreement on August 10, 2023, the Company issued 246,792 shares of the Company's common stock to Lincoln Park with a fair value of $1.0 million as consideration for its commitment to purchase shares of the Company's common stock under the Purchase Agreement which was recorded as a component of financing costs in the accompanying consolidated statements of comprehensive loss during the year ended December 31, 2023.

In addition to the commitment shares referenced above, a total of 1,300,000 shares of the Company's common stock were sold under the Purchase Agreement for net proceeds during the year ended December 31, 2023 in the amount of $4.5 million. Lastly, the Company incurred issuance costs of $152,000, consisting of investor expense reimbursement and legal costs, during the year ended December 31, 2023 which were recorded as a component of financing costs in the accompanying consolidated statements of comprehensive loss during the year ended December 31, 2023.

In addition to the initial commitment shares issued upon the execution of the Purchase Agreement of 246,792, a total of 1,700,000 shares of common stock were sold under the Purchase Agreement for gross proceeds through December 31, 2024 in the amount of $5.2 million and with issuance costs in the aggregate of $1.4 million.

Under the Purchase Agreement on any business day selected by the Company, the Company may direct Lincoln Park to purchase up to 50,000 shares of its common stock on such business day (or the purchase date) (a "Regular Purchase"), provided that the closing sale price of the Company's common stock on Nasdaq on the applicable purchase date is not below $0.25 and subject to other adjustments. A Regular Purchase may be increased to up to (i) 60,000 shares if the closing sale price of the Company's common stock on Nasdaq is not below $5.00 on the applicable purchase date and (ii) 70,000 shares if the closing sale price of the Company's common stock on Nasdaq is not below $7.50 on the applicable purchase date. The Company may direct Lincoln Park to purchase shares in Regular Purchases as often as every business day.

In addition, the Company may also direct Lincoln Park, on any business day on which the Company has submitted a Regular Purchase notice for the maximum amount allowed for such Regular Purchase, to purchase an additional amount of the Company's common stock (an "Accelerated Purchase") based on certain market and trading conditions.

The pricing and settlement provisions in the Purchase Agreement result in the recognition of a derivative liability accounted for on a fair value basis under the provisions of ASC 815 - *Derivatives and Hedging*. A Monte Carlo simulation model was used to estimate future stock pricing and purchase activity to determine the fair value of the derivative liability. The fair value change in the derivative liability during the years ended was a benefit of $72,000 and $80,000 during the years ended December 31, 2024 and 2023, respectively. The fair value change in the derivative liability is recorded in the fair value change in derivative liabilities line item in the accompanying consolidated statements of comprehensive loss during periods with valuation changes.

At-The-Market Program

On February 4, 2021, the Company filed a Form S-3 shelf registration under the Securities Act of 1933 which was declared effective by the SEC on February 12, 2021 (the "2021 Shelf") under which the Company may offer and sell, from time to time in its sole discretion, securities having an aggregate offering price of up to $125 million. In connection with the 2021 Shelf, on March 11, 2021, the Company entered into a sales agreement with JonesTrading Institutional Services LLC ("JonesTrading") under which the Company may offer and sell, from time to time at its sole discretion, to or through JonesTrading, acting as agent and/or principal, shares of its common stock having an aggregate offering price of up to $40 million (the "2021 ATM").

During the years ended December 31, 2024 and 2023, 1,608,522 and 1,417,446 shares of common stock were sold under the ATM for aggregate gross proceeds in the amount of $3.8 million and $4.7 million, respectively, before deducting issuance expenses, including the placement agent's fees, legal and accounting expenses, in the amount of $395,000 and $136,000, respectively. (See Note 14 – Subsequent Events).

As of December 31, 2024, 7,653,838 shares of common stock were sold under the ATM since its inception for gross proceeds in the amount of $26.4 million and with issuance costs in the aggregate of $1.1 million.

Registered Direct Offering

On June 4, 2021, the Company entered into a placement agency agreement for a registered direct offering ("RDO") with A.G.P./Alliance Global Partners ("AGP"). Pursuant to the terms of the placement agency agreement, AGP on June 8, 2021 sold an aggregate of 3,076,923 shares of the Company's common stock and warrants to purchase 1,538,461 shares of the Company's common stock (the "RDO Warrants") at an offering price of $4.875 per one share and per one-half of each RDO Warrant. The RDO was made pursuant to the Company's 2021 shelf registration.

The RDO Warrants have an exercise price of $6.09 per share, are exercisable from the initial issuance date of June 8, 2021, and will expire five years following the initial issuance date. As of December 31, 2024, 1,538,461 RDO Warrants were outstanding and none have been exercised since issuance.

Subject to limited exceptions, a holder of a RDO Warrant will not have the right to exercise any portion of its RDO Warrants if the holder, together with its affiliates, would beneficially own in excess of 4.99% (or, at the election of a holder prior to the date of issuance, 9.99%) of the number of shares of the Company's common stock outstanding immediately after giving effect to such exercise; provided that upon prior notice to the Company, the holder may increase or decrease the beneficial ownership limitation, provided further that in no event shall the beneficial ownership limitation exceed 9.99%.

Pre-Merger Financing

On June 17, 2020, the Company, Rexahn and certain investors entered into a Securities Purchase Agreement, which was amended and restated in its entirety on June 29, 2020 (as amended and restated, the "Securities Purchase Agreement"). Pursuant to the Securities Purchase Agreement, the investors invested a total of $21.15 million in cash, including $300,000 invested by five directors of the Company prior to the Rexahn Merger and one director of Rexahn upon closing of the Rexahn Merger (the "Pre-Merger Financing"). The Pre-Merger Financing also included the issuance of Series A Warrants and Series B Warrants discussed further below.

Series A Warrants

The Series A Warrants were issued on November 19, 2020 at an initial exercise price of $4.4795 per share, were immediately exercisable upon issuance and have a term of five years from the date of issuance. The Series A Warrants are exercisable for 5,665,838 shares of common stock in the aggregate (without giving effect to any limitation on exercise contained therein) and were outstanding as of December 31, 2024. The Series A Warrants were accounted for and classified as equity on the accompanying balance sheets.

Series B Warrants

The Series B Warrants had an exercise price of $0.0001, were exercisable upon issuance and would have expired on the day following the later to occur of (i) the Reservation Date (as defined therein) or (ii) the date on which the investor's Series B Warrants would have been exercised in full (without giving effect to any limitation on exercise contained therein). None of the Series B Warrants were outstanding as of December 31, 2024 and 2023.

Opus Genetics, Inc.
Notes to Consolidated Financial Statements

8. Stock-based Compensation

Stock-based compensation expense was included in general and administrative, and research and development costs as follows in the accompanying consolidated statements of comprehensive loss for the year end periods below (in thousands):

	December 31,	
	2024	2023
General and administrative	$ 2,382	$ 2,435
Research and development	980	1,075
Total stock-based compensation	$ 3,362	$ 3,510

Inducement Plan

Effective as of October 20, 2024, the Company amended the Opus Genetics, Inc. 2021 Inducement Plan (the "Inducement Plan") to reserve 2,625,258 shares of its common stock. The Inducement Plan is to be used exclusively for grants of awards to individuals who were not previously employees or directors of the Company, 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.

2020 Equity Incentive Plan

In November 2020, the stockholders of the Company approved the 2020 Equity Incentive Plan (the "2020 Plan") for stock-based awards. Under the 2020 Plan, (i) 1,000,000 new shares of common stock were reserved for issuance and (ii) up to 70,325 additional shares of common stock may be issued, consisting of (A) shares that remain available for the issuance of awards under prior equity plans and (B) shares of common stock subject to outstanding stock options or other awards covered by prior equity plans that have been cancelled or expire on or after the date that the 2020 Plan became effective. Under the 2020 Plan, the shares reserved automatically increase on January 1 of each year, for a period of not more than ten years from the date the 2020 Plan is approved by the stockholders of the Company, commencing on January 1, 2021 and ending on (and including) January 1, 2030, by an amount equal to 5% of the shares of common stock outstanding as of December 31st of the preceding calendar year. The 2020 Plan permits the grant of incentive and nonstatutory stock options, appreciation rights, restricted stock, restricted stock units, performance stock and cash awards, and other stock-based awards.

2018 Equity Incentive Plan

Prior to the 2020 Plan, the Company had adopted a 2018 Equity Incentive Plan (the "2018 Plan") in April 2018 under which 1,175,000 shares of the Company's common stock were reserved for issuance to employees, directors and consultants. Upon the effective date of the 2020 Plan, no additional shares were available for issuance under the 2018 Plan.

Stock Options

During the years ended December 31, 2024 and 2023, 1,366,914 and 1,768,116 stock options were granted to officers, directors, employees and consultants, respectively, generally vesting over a five (5) to forty-eight (48) month period. The Company recognized $1.9 million and $2.5 million in stock-based compensation expense related to stock options during the years ended December 31, 2024 and 2023, respectively. Stock-based compensation expense during the year ended December 31, 2023 included a one-time charge of $0.4 million attributed to the modification of the Company's former Chief Executive Officer's stock options with respect to their exercisability provisions.

During the years ended December 31, 2024 and 2023, zero and 27,469 stock options were exercised, respectively, with an intrinsic value of zero and $70,000, respectively. The following table summarizes the Company's stock option plan activity:

	Number of Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value[(1)] (in thousands)
Outstanding at December 31, 2022	2,936,044	$ 2.87	7.82	$ 3,314
Granted	1,768,116	$ 3.20		
Exercised	(27,469)	$ 1.09		
Forfeited/Cancelled	(266,433)	$ 3.66		
Outstanding at December 31, 2023	4,410,258	$ 2.98	7.81	$ 2,385
Granted	1,366,914	$ 2.17		
Exercised	-			
Forfeited/Cancelled	(703,436)	$ 3.58		
Outstanding at December 31, 2024	5,073,736	$ 2.68	7.37	124
Vested and expected to vest at December 31, 2024	5,073,736	$ 2.68	7.37	124
Vested and exercisable at December 31, 2024	2,887,816	$ 2.80	6.03	124

(1) The aggregate intrinsic value is calculated as the difference between the exercise price of the underlying options and the fair value of our common stock as of December 31, 2024 and 2023 of $1.19 and $3.01 per share, respectively.

The weighted average fair value per share of options granted during the years ended December 31, 2024 and 2023 was $1.73 and $2.53, respectively. The Company measures the fair value of stock options with service-based vesting criteria to employees, directors and consultants on the date of grant using the Black-Scholes option pricing model. The Company does not have adequate history to support an internal calculation of volatility and expected term. As such, the Company has used a weighted average volatility considering the volatilities of several guideline companies.

For purposes of identifying similar entities (guideline companies), the Company considered characteristics such as industry, length of trading history, and stage of life cycle. The average expected life of the options was based on the contractual term for agreements that allow for exercise of vested options through the end of the contractual term upon termination of continuous service, and for all other agreements, was based on the mid-point between the vesting date and the end of the contractual term according to the "simplified method" as described in Staff Accounting Bulletin 110. The risk-free interest rate is determined by reference to implied yields available from U.S. Treasury securities with a remaining term equal to the expected life assumed at the date of grant. The assumed dividend yield was based on the Company's expectation of not paying dividends in the foreseeable future.

The weighted average assumptions used in the Black-Scholes option pricing model are as follows during the years ended December 31, 2024 and 2023:

	2024	2023
Expected stock price volatility	98.1%	96.0%
Expected life of options (years)	5.94	6.1
Expected dividend yield	0%	0%
Risk free interest rate	4.2%	4.2%

During the years ended December 31, 2024 and 2023, 709,358 and 834,818 stock options vested, respectively. The weighted average fair value per share of options vesting during the years ended December 31, 2024 and 2023 was $2.61 and $2.41, respectively. During the years ended December 31, 2024 and 2023, 703,436 and 266,433 stock options were forfeited, respectively.

Restricted Stock Units

During the year ended December 31, 2024, the Company granted an aggregate of 1,025,022 restricted stock units ("RSUs"), respectively, to certain officers and employees under the 2020 Plan. The weighted average grant date per unit fair value of the RSUs granted during the year ended December 31, 2024 was $1.78. The vesting period of the RSUs range from a one to four year period with vesting tranches on an annual basis, subject to the recipient's continued service on such dates.

During the year ended December 31, 2023, the Company granted an aggregate of 936,156 RSUs, respectively, to certain officers and employees under the 2020 Plan. The weighted average grant date per unit fair value of the RSUs granted during the year ended December 31, 2023 was $3.37. The vesting period of the RSUs range from a six month to four year period with vesting tranches on a quarterly, semi-annual and annual basis, subject to the recipient's continued service on such dates.

During the year ended December 31, 2024, 314,162 RSUs vested and 119,330 RSUs were forfeited. During the year ended December 31, 2023, 33,614 RSUs vested and 100,842 RSUs were forfeited, attributed solely to the departure of the Company's former Chief Executive Officer. The total expense for the year ended December 31, 2024 and 2023 related to the RSUs was $1.2 million and $0.7 million, respectively.

A summary of RSU activity is as follows for the years ended December 31, 2024 and 2023:

	Number of Shares
Non-vested at December 31, 2022	—
Granted	936,156
Forfeited	(100,842)
Vested	(33,614)
Non-vested at December 31, 2023	801,700
Granted	1,025,022
Forfeited	(119,330)
Vested	(314,162)
Non-vested at December 31, 2024	1,393,230

Common Stock Issued for Services

The Company granted common stock for services in the amount of 81,234 and 72,986 shares of common stock during the years ended December 31, 2024 and 2023, respectively, with a weighted grant date fair value of $3.01 and $3.77 per share, respectively, to board members during those periods, respectively, who elected to receive their board retainers in the form of stock for services. The stock-based compensation related to these services amounted to $245,000 and $275,000 during the years ended December 31, 2024 and 2023, respectively.

General

Unrecognized stock-based compensation cost was $6.1 million as of December 31, 2024. The unrecognized stock-based compensation cost is expected to be recognized over a weighted average period of 1.6 years. As of December 31, 2024, 1,420,289 shares in the aggregate were available for future issuance under the 2020 Plan and Inducement Plan.

9. Apexian Sublicense Agreement

On January 21, 2020, the Company entered into a sublicense agreement (as amended on June 4, 2020, the "Apexian Sublicense Agreement") with Apexian, pursuant to which it obtained exclusive worldwide patent and other intellectual property rights that constitute a Ref-1 Inhibitor program relating to therapeutic applications to treat disorders related to ophthalmic and diabetes mellitus conditions. The lead compound in the Ref-1 Inhibitor program is APX3330, which the Company intends to develop as an oral tablet therapeutic to treat diabetic retinopathy initially, and potentially later to treat diabetic macular edema, geographic atrophy and age-related macular degeneration. In connection with the Apexian Sublicense Agreement, the Company issued a total of 891,422 shares of its common stock to Apexian and to certain affiliates of Apexian in calendar year 2020.

The Company also agreed to make one-time milestone payments under the Apexian Sublicense Agreement for each of the first ophthalmic indication and the first diabetes mellitus indication for the development and regulatory milestones, and once for each of several sales milestones. These milestone payments include (i) payments for specified developmental and regulatory milestones (including completion of the first Phase 2 trial and the first Phase 3 pivotal trial in the United States, and filing and achieving regulatory approval from the FDA for the first New Drug Application for a compound) totaling up to $11 million in the aggregate and (ii) payments for specified sales milestones of up to $20 million in the aggregate, which net sales milestone payments are payable once, upon the first achievement of such milestone. Lastly, the Company also agreed to make a royalty payment equal to a single-digit percentage of its net sales of products associated with the covered patents under the Apexian Sublicense Agreement. If it is not terminated pursuant to its terms, the Apexian Sublicense Agreement shall remain in effect until expiration of the last to expire of the covered patents.

None of the milestone or royalty payments were triggered or deemed probable as of December 31, 2024.

10. License and Collaboration Agreements

Viatris License Agreement

On November 6, 2022, the Company entered into the Viatris License Agreement, pursuant to which it granted Viatris (as successor to Famy) an exclusive, perpetual, sub-licensable license to develop, manufacture, import, export and commercialize (i) PS, for treating (a) reversal of mydriasis, (b) night vision disturbances or dim light vision, and (c) presbyopia, and (ii) PS and low dose pilocarpine for treating presbyopia (together, the "PS Products") worldwide except for certain countries and jurisdictions in Asia (the "Viatris Territory"). The Company retains the exclusive right to develop, manufacture, have manufactured, import, export and commercialize the PS Products outside of the Viatris Territory.

Under the terms of the Viatris License Agreement, the Company in partnership with Viatris, will develop the PS Products in the United States. Viatris will reimburse the Company for agreed-to budgeted costs related to the development of the PS Products through FDA approval, and then share costs above the agreed upon threshold amount. Viatris will be responsible for developing the PS Products in countries and jurisdictions in the Viatris Territory outside of the United States.

Pursuant to the Viatris License Agreement, the Company received a one-time non-refundable cash payment of $35 million in November 2022 for the exclusive, perpetual, sub-licensable license to develop, manufacture, import, export and commercialize the PS Products in the Viatris Territory. In addition, with respect to the PS Products, the Company will be eligible to receive potential additional payments of up to $130 million upon achieving certain specified regulatory or net sales milestones, with the first milestone payment of $10 million already made following approval by the FDA of PS for reversal of mydriasis, which occurred during the third quarter of 2023. The Company will also receive tiered royalties, starting at low double-digit royalties up to low 20% royalties, based on the aggregate annual net sales of all PS Products in the United States, and will receive low double-digit royalties based on all annual net sales in the Viatris Territory outside of the United States. The royalty payments will continue on a country-by-country basis from the date of the first commercial sale of the first PS Product in a country of the Viatris Territory until December 31, 2040.

The Viatris License Agreement was accounted for under the provisions of ASC 606. In accordance with the provisions under ASC 606, the Company identified two distinct performance obligations at the effective date: (1) the license to its intellectual property ("license transfer") and (2) research and development services.

The Company determined that the licenses transferred represented functional intellectual property. As such, the revenue related to the licenses was recognized at the point in time in which the license/know-how was delivered to Viatris which occurred during the fourth quarter of 2022. The Company determined that revenue related to the research and development services constrained to the 120-day non-cancellation period was to be recognized over time as the services are rendered based on an estimated percentage of completion input model.

Recognition of Revenue

Revenue recognized under the Viatris License Agreement during the year ended December 31, 2024 was $11.0 million related to the output of research and development services and to a much lesser extent royalty payments.

Revenue recognized under the Viatris License Agreement during the year ended December 31, 2023 was $19.0 million related to the output of research and development services and to milestone payments. On September 25, 2023, the Company met the $10 million milestone payment requirements attributed to the FDA's approval of PS for reversal of mydriasis under the name "RYZUMVI", and the $10 million milestone payment was included in the revenue recognized during the year ended December 31, 2023.

Regulatory Milestones under the Viatris License Agreement

The Company has evaluated the regulatory milestones that may be received in connection with the Viatris License Agreement. There is uncertainty that the events to obtain the remaining regulatory milestones (aside from the approval by the FDA of RYZUMVI) will be achieved given the nature of clinical development and the stage of the development of the PS Products. These remaining regulatory milestones will be constrained until it is probable that a significant revenue reversal will not occur.

Sales Milestone and Royalty Payments

Sales milestones and royalties relate predominantly to a license of intellectual property granted to Viatris and are determined by sales or usage-based thresholds. The sales milestones and royalties are accounted for under the royalty recognition constraint and are accounted for as constrained variable consideration. The Company applies the royalty recognition constraint for each commercial milestone and only recognize revenues for each once a sale of a licensed product (achievement of each) occurs.

Each of the remaining regulatory and sales milestone performance obligations (aside from the $10 million milestone payment related to the FDA's approval of PS in the third quarter of 2023) were constrained as of December 31, 2024 and no revenue was recognized related to these milestones.

A reconciliation of the closing balance of the contract assets and unbilled receivables associated with the Viatris License Agreement is as follows as of December 31, 2024 and 2023 (in thousands):

	2024	2023
Contract Assets and Unbilled Receivables		
Balance as of beginning of period	$ 1,407	$ 3,552
Revenue recognized	10,992	19,049
Reclassification to accounts receivable related to costs billed under the Viatris License Agreement	(10,190)	(21,194)
Balance as of end of period	$ 2,209	$ 1,407

BioSense License and Assignment:

On March 10, 2020, prior to the Rexahn Merger, Rexahn entered into an amendment to its collaboration and license agreement, (as amended, the "BioSense License and Assignment Agreement") with BioSense to advance the development and commercialization of the Rexahn RX-3117 drug compound ("RX-3117") for all human uses in the Republic of Singapore, China, Hong Kong, Macau, and Taiwan (the "BioSense Territory").

Under the BioSense License and Assignment Agreement, the Company is eligible to receive additional milestone payments in an aggregate of up to $84,500,000 upon the achievement of development, regulatory and commercial goals and will also be eligible to receive tiered royalties at low double-digit rates on annual net sales in the BioSense Territory. The Company determined that none of the milestone payments under the BioSense License and Assignment Agreement were probable of payment as of December 31, 2024, and as a result, no revenue related to the milestones was recognized, as the achievement of events entitling the Company to any milestone payments were highly susceptible to factors outside of the Company's control. Future sales-based royalties related to the exclusive license to develop RX-3117 will be recognized in the period the underlying sales transaction occurs.

Payments received under the BioSense License and Assignment Agreement will be subject to the CVR Agreement described in Note 2 – Mergers.

Processa License Agreement

On June 16, 2021, the Company entered into a license agreement (the "Processa License Agreement") with Processa Pharmaceuticals, Inc. ("Processa"), pursuant to which the Company agreed to grant Processa an exclusive license to develop, manufacture and commercialize RX-3117 globally, excluding the BioSense Territory.

Processa will make future payments to the Company upon the achievement of certain development, regulatory and commercial milestones. In addition, Processa will pay the Company mid-single-digit percentage royalties based on annual sales. The Company determined that none of the milestone payments under the Processa License Agreement were probable of payment as of December 31, 2024, and as a result, no revenue related to the milestones was recognized, as the achievement of events entitling the Company to any milestone payments were highly susceptible to factors outside of the Company's control.

Future payments received under the Processa License Agreement will be subject to the CVR Agreement described in Note 2 – Mergers.

11. Net loss per share

Basic loss per share of common stock is computed by dividing net loss by the weighted average number of shares of common stock outstanding during the period. Diluted earnings or loss per share of common stock is computed similarly to basic loss or earnings per share except the weighted average shares outstanding are increased to include additional shares from the assumed exercise of any common stock equivalents, if dilutive. The Company's Series A Preferred Stock, warrants, stock options and RSUs, while outstanding, are considered common stock equivalents for this purpose. Diluted earnings is computed utilizing the treasury method for the warrants, stock options and RSUs. Diluted earnings with respect to the Series A Preferred Stock utilizing the if-converted method was not applicable during the periods presented as no conditions required for conversion had occurred. No incremental common stock equivalents were included in calculating diluted loss per share because such inclusion would be anti-dilutive given the net loss reported for the periods presented. Incremental common stock equivalents that were antidilutive were excluded in calculating diluted income per share. For the year ended December 31, 2024, no common stock equivalents were included in the diluted loss per share because such inclusion would be anti-dilutive given the net loss reported for the prior year period.

The following potential common shares were not considered in the computation of diluted net loss income per share as their effect would have been anti-dilutive for the year end periods presented below:

	2024	2023
Series A and RDO warrants	7,204,299	7,204,299
Stock options	5,073,736	4,410,258
RSUs	1,393,230	801,700
Former Rexahn warrants	—	58,597

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12. Income Taxes

The effective tax rate for the years ended December 31, 2024 and 2023 was zero percent and 0.1 percent , respectively.

A reconciliation of income tax computed at the statutory federal income tax rate to the provision (benefit) for income taxes included in the accompanying statements of comprehensive loss is as follows for the years ended December 31, 2024 and 2023:

	2024	2023
Income tax (benefit) provision at federal statutory rate	(21.0)%	(21.0)%
Valuation allowance	26.5	23.8
State income tax, net of federal benefit	(4.9)	(4.9)
Private Opus acquisition	(11.2)	—
Financing contracts	—	3.2
Stock options	0.8	1.0
Acquired IPR&D	12.6	—
Research and development	(1.6)	(3.9)
Other	(1.2)	1.9
Effective tax rate	—%	0.1%

The components of income tax provision (benefit) consisted of the following for the years ended December 31, 2024 and 2023 (in thousands):

	2024	2023
Loss before income taxes:	$ (57,532)	$ (9,974)
Current:		
Federal	$ —	$ 2
State	—	10
Total current tax provision (benefit)	—	$ 12
Deferred:		
Federal	—	—
State	—	—
Total tax provision (benefit)	$ —	$ 12

Significant components of the Company's deferred tax assets and liabilities are summarized in the tables below as of December 31, 2024 and 2023 (in thousands):

	2024	2023
Deferred tax assets:		
Federal and state operating loss carryforwards	$ 20,342	$ 12,780
Acquired intangibles	547	547
Deferral of research and development costs	9,582	3,794
Organizational costs	5	6
Other	77	72
Stock-based compensation	2,035	1,835
Research and development credit carryforward	2,089	1,107
Transaction costs in connection with Opus Acquisition	753	—
Subtotal	35,430	20,141
Valuation allowance	(35,403)	(20,141)
Total deferred tax assets, net of valuation allowance	27	—
Deferred tax liabilities:		
Fixed assets	(27)	—
Total deferred tax liabilities	(27)	—
Net deferred tax assets	$ —	$ —

As of December 31, 2024 and 2023, the Company had gross deferred tax assets of approximately $35.4 million and $20.1 million, respectively. Realization of the deferred tax assets is primarily dependent upon future taxable income, if any, the amount and timing of which are uncertain. The Company has cumulative pre-tax losses and faces significant challenges to becoming profitable in the future. Accordingly, the net deferred tax assets have been fully offset by a valuation allowance of $35.4 million and $20.1 million as of December 31, 2024 and 2023, respectively. U.S. net deferred tax assets will continue to require a valuation allowance until the Company can demonstrate their realizability through sustained profitability or another source of income.

As of December 31, 2024 and 2023, the tax effect of the Company's federal net operating loss carryforwards was approximately $17.1 million and $10.6 million, respectively. The Company had federal research credit carryforwards as of December 31, 2024 and 2023 of approximately $2.1 million and $1.1 million, respectively. The federal net operating loss carryforwards will not expire and the tax credit carryforwards will begin to expire in 2041 if not utilized. As of December 31, 2024 and 2023, the Company had state net operating loss carryforwards with a tax effect of approximately $3.3 million and $2.1 million, respectively. The Company did not have any state research credit carryforwards as of December 31, 2024 and 2023. The state net operating loss carryforwards will begin to expire in 2028.

During the year ended December 31, 2023, the Company utilized federal and state net operating tax carryforwards with a tax effect in the amount of $0.2 million and $0.1 million, respectively, to offset taxable income. In addition, the Company also utilized its federal research credit carryforwards in the amount of $26,000 to partially offset its tax liability for the year ended December 31, 2023. The Company did not utilize any tax carryforwards or credits during the year ended December 31, 2024.

Utilization of the net operating loss carryforwards and credits may be subject to a substantial annual limitation due to the ownership change limitations provided by Section 382 and Section 383 of the Internal Revenue Code of 1986, as amended, and similar state provisions. Generally, in addition to certain entity reorganizations, the limitation applies when one or more "5-percent shareholders" increase their ownership, in the aggregate, by more than 50 percentage points over a 3 year testing period, or beginning the day after the most recent ownership change, if shorter. The annual limitation may result in the expiration of net operating losses and credits before utilization.

As a result of the Opus Acquisition, the Company recorded $5.8 million and $0.6 million in federal and state deferred tax assets, respectively, related largely to any net operating loss carryforwards and research development cost deferrals. The deferred tax assets acquired were fully offset by a valuation allowance. The Company has not yet evaluated the impact of Section 382 and Section 383 related to the Opus Acquisition.

As a result of the Merger with Rexhan, the Company recorded deferred tax assets of $10.3 million relating to net operating loss carryforwards which were fully offset by a valuation allowance. The $10.3 million net deferred tax assets recorded in relation to the Merger did not include federal and state net operating loss carryforwards that were estimated to expire under Internal Revenue Code Sections 382 as a result of the Merger. The Company has not yet evaluated the impact of Section 382 and Section 383 on its remaining tax attributes that were generated by Opus since the formation of the Company in 2018.

The Company recognizes interest and/or penalties related to uncertain tax positions in income tax expense. There were no uncertain tax positions as of December 31, 2024 and 2023, and as such, no interest or penalties were recorded to income tax expense.

The Company's corporate returns are subject to examination beginning with the 2020 tax year for federal income tax purposes and 2019 for state income tax purposes.

13. Deferred Compensation Plan

Effective October 1, 2021, the Company began offering a 401(k) plan ("401K Plan") to its employees. All employees are eligible to participate in the 401K Plan. The Company makes matching contributions equal to 100% on the first 3% of compensation that is deferred as an elective deferral and an additional 50% on the next 2% of compensation. The Company's matching contributions are made on a monthly basis. During the years ended December 31, 2024 and 2023, the Company contributed $160,000 and $99,000 to the 401K Plan, respectively.

Opus Genetics, Inc.
Notes to Consolidated Financial Statements

14. Subsequent Events

Headquarters Move

On January 1, 2025, the Company relocated its headquarters to Durham, North Carolina. The monthly base rent for the new headquarters lease is approximately $1,300.

ATM

On January 13, 2025, the Company filed a new prospectus supplement with the U.S. Securities and Exchange Commission with respect to the offer and sale of shares of its common stock, with an aggregate offering price of up to $40,000,000, establishing an at-the-market equity issuance program. On January 13, 2025, the Company also entered into a sales agreement (the "Sales Agreement") by and between the Company and Leerink Partners LLC through or to which the Company will sell shares of common stock via an ATM program. Upon entry into the Sales Agreement, the Company terminated its prior ATM program pursuant to the Capital on DemandTM Sales Agreement dated March 11, 2021, by and between the Company and JonesTrading Institutional Services LLC.

Subsequent to December 31, 2024, 352,953 shares of common stock were sold under the Leerink ATM for gross proceeds through March 27, 2025 in the amount of $0.4 million, before deducting issuance expenses, including the placement agent's fees and legal and accounting expenses, in the amount of $12,000.

March 2025 Financings

On March 21, 2025, the Company entered into an underwriting agreement (the "Underwriting Agreement") with Craig-Hallum Capital Group, LLC, as the sole underwriter (the "Underwriter"). Pursuant to the Underwriting Agreement, the Company agreed to issue and sell, in an underwritten public offering (the "Offering"), 12,219,736 shares of common stock and warrants to purchase up to 21,052,631 shares of common stock (the "March 2025 Warrants"). Each share of common stock was sold together with one March 2025 Warrant to purchase one share of common stock, at a price to the public of $0.95 per share and related March 2025 Warrant. The Company also agreed to issue 8,832,895 pre-funded warrants ("Pre-Funded Warrants") at a price to the public of $0.9499 per Pre-funded Warrant.

On March 21, 2025, the Company entered into a subscription agreement (the "Subscription Agreement") with Dr. George Magrath, the Company's Chief Executive Officer, and Cam Gallagher, the chairman of the Board. Pursuant to the Subscription Agreement, the Company agreed to issue and sell, in a private offering (the "Private Offering"), 1,176,471 shares of common stock and warrants to purchase up to 1,176,471 shares of common stock (the "March 2025 Private Warrants"). Each share of common stock was sold together with one March 2025 Private Warrant to purchase one share of common stock, at a price to the private investors of $1.15 per share and related March 2025 Private Warrant.

The combined gross proceeds from the Offering and the Private Offering, which closed on March 24, 2025, were approximately $21.5 million, before deducting underwriting discounts and commissions and offering expenses payable by the Company.

Opus Genetics, Inc.
Notes to Consolidated Financial Statements
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.

OPUS GENETICS, INC.

Dated: March 31, 2025

By: /s/ George Magrath
George Magrath
Chief Executive Officer and Director

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

By /s/ George Magrath — Date: March 31, 2025
George Magrath
Chief Executive Officer and Director (Principal Executive Officer)

By /s/ Nirav Jhaveri — Date: March 31, 2025
Nirav Jhaveri
Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)

By /s/ Sean Ainsworth — Date: March 31, 2025
Sean Ainsworth
Director

By /s/ Dr. Jean Bennett — Date: March 31, 2025
Dr. Jean Bennett
Director

By /s/ Susan K. Benton — Date: March 31, 2025
Susan K. Benton
Director

By /s/ Cam Gallagher — Date: March 31, 2025
Cam Gallagher
Director

By s/ Dr. Adrienne Graves — Date: March 31, 2025
Dr. Adrienne Graves
Director

By /s/ James S. Manuso — Date: March 31, 2025
James S. Manuso
Director

By /s/ Richard J. Rodgers — Date: March 31, 2025
Richard J. Rodgers
Director

By /s/ Dr. Benjamin R. Yerxa — Date: March 31, 2025
Dr. Benjamin R. Yerxa
President and Director

Exhibit 4.12

DESCRIPTION OF THE REGISTRANT'S SECURITIES REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934

The following description of securities of Opus Genetics, Inc. (the "Company," "we," "our," or "us") provides a summary of the rights of our capital stock as well as certain provisions of our Restated Certificate of Incorporation, as amended (our "Certificate of Incorporation"), and our Amended and Restated Bylaws (our "Bylaws"), each as currently in effect. This summary does not purport to be complete and is qualified in its entirety by reference to the applicable provisions of the Delaware General Corporation Law, as amended (the "DGCL"), and the provisions of our Certificate of Incorporation and our Bylaws, copies of which are filed as exhibits to this Annual Report on Form 10-K and are incorporated by reference herein. We encourage you to read our Certificate of Incorporation, our Bylaws, and the applicable provisions of the DGCL for additional information.

Description of Capital Stock

Authorized Capital Stock

We are authorized to issue 135,000,000 shares of capital stock, of which 125,000,000 shares are shares of common stock, par value $0.0001 per share ("*Common Stock*"), and 10,000,000 shares are shares of preferred stock, par value $0.0001 per share ("*Preferred Stock*").

Rights of Common Stock

Voting Rights. Generally, holders of Common Stock are entitled to cast one vote for each share held of record on all matters submitted to a vote of the stockholders, including the election of directors. Accordingly, the holders of a majority of the outstanding shares of Common Stock entitled to vote in any election of directors can elect all of the directors standing for election, if they so choose, other than any directors that holders of any Preferred Stock we may issue may be entitled to elect. Except as may be provided in the Certificate of Incorporation or by our board of directors (the "*Board*"), holders of Common Stock have the exclusive right to vote for the election of directors and for all other purposes.

Dividends. Holders of our Common Stock have equitable rights to receive dividends, as may be lawfully declared from time to time by our Board, subject to any preferential rights of holders of any outstanding shares of Preferred Stock, as described below.

Liquidation. In the event of our liquidation, dissolution or winding up, whether voluntary or involuntary, after payment of our debts and other liabilities and making provision for the holders of outstanding shares of Preferred Stock, if any, holders of our Common Stock have the right to share ratably in the remainder of our assets.

Other Rights and Preferences. Holders of our Common Stock do not have any preemptive, cumulative voting, subscription, conversion, redemption, or sinking fund rights. The Common Stock is not subject to future calls or assessments by us.

Rights of Series A Preferred Stock

Generally. Our Board has the authority, without further action by our stockholders, to issue shares of Preferred Stock in one or more series and to fix the designations, powers, preferences, rights of the shares of each such series and to fix the qualifications, limitations, and restrictions of each series, including, but not limited to, dividend rights, terms of redemption, conversion rights, voting rights, and sinking fund terms, any or all of which may be greater than the rights of Common Stock, and the number of shares constituting such series. The issuance of our Preferred Stock could adversely affect the voting power of holders of our Common Stock and the likelihood that such holders will receive dividend payments and payments upon liquidation. In addition, the issuance of Preferred Stock could have the effect of decreasing the market price of our Common Stock or delaying, deferring or preventing a change of control or other corporate action. The Company previously filed a Certificate of Designation of Preferences, Rights and Limitations of the Series A Non-Voting Convertible Preferred Stock (the "*Certificate of Designation*"), designating 14,146 shares of authorized Preferred Stock as Series A Non-Voting Convertible Preferred Stock ("*Series A Preferred Stock*").

Voting Rights. Holders of Series A Preferred Stock generally do not have voting rights, except with respect to certain protective matters such as amendments to our Certificate of Incorporation or the Certificate of Designation that alter or change adversely the powers, preferences or rights given to the Series A Preferred Stock.

Dividends. Holders of Series A Preferred Stock are entitled to receive dividends on shares of Series A Preferred Stock (on an as-if-converted-to-common-stock basis) equal to and in the same form, and in the same manner, as dividends (other than dividends on shares of our Common Stock payable in the form of Common Stock) actually paid on shares of our Common Stock when, as and if such dividends (other than dividends payable in the form of Common Stock) are paid on shares of our Common Stock. Additionally, commencing on October 15, 2025, holders of Series A Preferred Stock will be entitled to receive, as and if declared by the Board, cumulative quarterly cash dividends equal to $15.26 per share of Series A Preferred Stock on October 15, 2025 and $26.00 per share of Series A Preferred Stock for quarterly dividends thereafter. The Company cannot pay any dividends (other than dividends payable in the form of Common Stock) on shares of Common Stock unless the full dividends payable to holders of Series A Preferred Stock are paid at the same time.

Liquidation. The Series A Preferred Stock ranks on parity with our Common Stock with respect to the payment of dividends and distributions of assets upon liquidation, dissolution or winding up of the Corporation, whether voluntarily or involuntarily.

Conversion. Upon approval by the Company's stockholders, each share of Series A Preferred Stock will be automatically converted into 1,000 shares of Common Stock, effective as of 5:00 p.m. Eastern Time on the third business day following such approval. No fractional shares of Common Stock will be issued upon conversion of the Series A Preferred Stock; rather, in lieu of any fractional shares to which a holder of Series A Preferred Stock would otherwise be entitled, the Company will pay such holder cash equal to such fraction multiplied by the closing price of a share of Common Stock on the Nasdaq Stock Market on such date. In the event that the Company (i) pays a stock dividend or otherwise makes a distribution or distributions payable in shares of Common Stock, (ii) subdivides outstanding shares of Common Stock into a larger number of shares, or (iii) combines (including by way of a reverse stock split) outstanding shares of Common Stock into a smaller number of shares, then the conversion ratio described above will be adjusted by the multiple of a fraction in which the numerator is the number of shares of Common Stock outstanding immediately after such event and the denominator is the number of shares of Common Stock outstanding immediately prior to such event.

Other Rights and Preferences. The shares of Series A Preferred Stock are not redeemable. A holder of Series A Preferred Stock may transfer his, her or its shares of Series A Preferred Stock in whole, or in part, together with all accompanying rights, without the consent of the Company so long as such transfer is in compliance with applicable securities laws and with the terms of any lock-up agreement that such shares of Series A Preferred Stock are subject to. In the event that the Company engages in a certain type of business combination, holders of Series A Preferred Stock are entitled to receive the same kind and amount of securities, cash, or property as they would have received if they had converted their shares into Common Stock immediately before the transaction.

Fully Paid and Nonassessable

All of our outstanding shares of Common Stock and Preferred Stock are fully paid and nonassessable.

Anti-Takeover Provisions

Bylaws and Certificate of Incorporation

Various provisions in our Certificate of Incorporation and Bylaws could make it more difficult to complete an acquisition of us by means of a tender offer, a proxy contest or otherwise or change the composition of the Board. For example:

- Directors may be removed with or without cause only by a stockholder vote of at least a majority of the voting power of the then-outstanding voting stock. Vacancies on the Board may be filled by a majority of directors then in office, even if less than a quorum, unless the Board determines otherwise. The authorized number of directors may only be changed by a resolution of the Board.

- A special meeting of stockholders may be called only by a resolution adopted by a majority of our Board, by the Company's Chief Executive Officer, by the Chair of the Board (acting in his or her discretion), or by the Chair of the Board acting within 10 days of receipt of a written request on behalf of at least 20% or more of the stockholders of all of the then-outstanding voting stock.

- There is an advance notice procedure for stockholders to make nominations of candidates for election as directors or to bring other business before an annual meeting of our stockholders. The notice must follow the form and content specified in the Bylaws and include, without limitation, the following information:

  i. as to director nominations, all information relating to each director nominee that is required by the rules of the Securities and Exchange Commission to be disclosed in solicitations of proxies, or is otherwise required by Regulation 14A of the Securities Exchange Act of 1934, as amended;

  ii. as to any other business that the stockholder proposes to bring before the meeting, a brief description of the business to be proposed, the reasons for conducting such business at the meeting and, if any, the stockholder's material interest in the proposed business; and

  iii. the name and address of the stockholder who intends to make the nomination and the class and number of our shares beneficially owned of record.

- The ability to authorize undesignated Preferred Stock makes it possible for our Board to issue Preferred Stock with voting or other rights or preferences that could have the effect of delaying, deferring, preventing or otherwise impeding any attempt to change control of us.

Restrictions on Business Combinations with Interested Stockholders

Delaware Anti-Takeover Statute. We are subject to Section 203 of the DGCL, which prohibits persons deemed "interested stockholders" from engaging in a "business combination" with a publicly traded Delaware corporation for three years following the date these persons become interested stockholders unless the business combination is, or the transaction in which the person became an interested stockholder was, approved in a prescribed manner or another prescribed exception applies. Generally, an "interested stockholder" is a person who, together with affiliates and associates, owns, or within three years prior to the determination of interested stockholder status did own, 15% or more of a corporation's voting stock. Generally, a "business combination" includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. The existence of this provision may have an anti-takeover effect with respect to transactions not approved in advance by the Board, such as discouraging takeover attempts that might result in a premium over the market price of our Common Stock.

Certificate of Incorporation. Our Certificate of Incorporation also includes restrictions on certain "business combinations" with "interested stockholders"—even after persons have been interested stockholders for a three-year period—that require approval by the holders of at least a majority of the voting power of our then outstanding shares of voting stock not beneficially owned by any interested stockholder or an affiliate or associate thereof. The foregoing restriction does not apply, however, if the transaction is either approved by a majority of our "continuing directors" or certain minimum price and procedural and other requirements are met. Generally, a "business combination" includes a merger, consolidation, liquidation, recapitalization or other similar transaction or a sale, lease, transfer or other disposition of assets or securities having an aggregate fair market value of $15 million or more. An "interested stockholder" generally means a beneficial owner of 20% or more of our voting stock, certain assignees of such beneficial owners and certain of our affiliates that within the preceding two years were the beneficial owner of 20% or more of our voting stock. A "continuing director" is defined as any member of our Board who is not an affiliate or associate or representative of the interested stockholder and was a member of the Board prior to the time the interested stockholder became such, and any successor of a continuing director who is unaffiliated with the interested stockholder and is recommended or elected by at least two-thirds of the continuing directors then on the Board.

Warrants

As of March 27, 2025, 7,204,299 warrants to purchase shares of our capital stock were outstanding.

Series A Warrants

On June 17, 2020, the Company, Rexahn Pharmaceuticals, Inc. ("*Rexahn*") and certain investors (each, an "*Investor*") entered into a Securities Purchase Agreement (as amended and restated, the "*Securities Purchase Agreement*"). Pursuant to the Securities Purchase Agreement, the Company issued Series A Warrants representing the right to acquire shares of Common Stock. The Series A Warrants are exercisable for 5,665,838 shares of Common Stock in the aggregate (without giving effect to any limitation on exercise contained therein). The Series A Warrants were issued on November 19, 2020 at an initial exercise price of $4.4795 per share, were immediately exercisable upon issuance and have a term of five years from the date of issuance. At the end of the term the Series A Warrants will expire. As of March 27, 2025, all 5,665,838 Series A Warrants were outstanding.

RDO Warrants

On June 4, 2021, we entered into a placement agency agreement with Alliance Global Partners ("*AGP*"), pursuant to which AGP sold warrants to purchase 1,538,46 shares of Common Stock (the "*RDO Warrants*"). The RDO Warrants were issued on June 8, 2021 at an initial exercise price of $6.09 per share, were immediately exercisable upon issuance and have a term of five years from the date of issuance. At the end of the term, the RDO Warrants will expire. Subject to limited exceptions, a holder of a RDO Warrant will not have the right to exercise any portion of its RDO Warrants if the holder, together with its affiliates, would beneficially own in excess of 4.99% (or, at the election of a holder prior to the date of issuance, 9.99%) of the number of shares of Common Stock outstanding immediately after giving effect to such exercise; provided, however, that upon prior notice to us, the holder may increase or decrease the beneficial ownership limitation so long as the beneficial ownership limitation does not exceed 9.99%. As of March 27, 2025, all 1,538,461 RDO Warrants were outstanding.

Listing

Our Common Stock is listed on the Nasdaq Stock Market under the symbol "IRD".

Transfer Agent and Registrar

The transfer agent and registrar for our Common Stock is Equiniti Trust Company, LLC.

Exhibit 10.30

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL. OMITTED INFORMATION HAS BEEN REPLACED WITH ASTERISKS [***]

Execution Version

EXCLUSIVE LICENSE AGREEMENT WITH KNOW-HOW

Agreement No: L2011

By and among

The Trustees of the University of Pennsylvania

And

The University of Florida Research Foundation, Incorporated, acting as a single party

(the "Licensors")

And

Ophthotech Corporation

(the "Licensee")

Dated: April 10, 2019

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This Agreement is effective as of April 10, 2019 (the "**Effective Date**") among the Trustees of the University of Pennsylvania, a Pennsylvania nonprofit corporation, with offices located at Penn Center for Innovation, 3160 Chestnut Street, Suite 200, Philadelphia, PA 19104-6283 (hereinafter called "**Penn**") and the University of Florida Research Foundation, Incorporated, a nonstock, nonprofit Florida corporation with offices located at 223 Grinter Hall, Gainesville, Florida 32611 (hereinafter called "**UFRF**" together with Penn, the "**Licensors**"), and Ophthotech Corporation, a Delaware corporation, having a place of business at One Penn Plaza, Suite 3520, New York, NY 10119 (hereinafter called "**Licensee**").

WHEREAS, Licensee is engaged in business relating to the development and commercialization of products that can use or incorporate the Patent Rights (as defined below), Know-How (as defined below), Licensed Information (as defined below), and Subsequently Added Intellectual Property (as defined below) that is added to this Agreement pursuant to Section 2.7, and has the capability of developing commercial applications of such intellectual property;

WHEREAS, Penn and UFRF have developed gene therapy technology for treating bestrophinopathies, which are diseases associated with mutations in the BESTI gene, owned and/or controlled, either wholly or jointly, by Penn and/or UFRF as described in Licensed Information and the Knockdown and Replace Patent (as defined below) and other Patent Rights, and embodied in the Know-How and Subsequently Added Intellectual Property;

WHEREAS, Penn, UFRF and Licensee entered into an option agreement, dated as of October 30, 2018 (the "Option Agreement"), pursuant to which Penn and UFRF granted to Licensee an exclusive option to negotiate to acquire a license to the foregoing BESTI gene therapy technology; and

WHEREAS, Penn and UFRF are willing to grant a license to Licensee under the Patent Rights, Licensed Information, Know-How and Subsequently Added Intellectual Property; and Licensee desires a license under them.

THEREFORE, Licensee and Licensors agree as follows:

Section 1 Definitions

1.1 "Affiliate" means, with respect to a party, (a) any entity which controls at least fifty percent (50%) of the equity or voting stock of such party, (b) any entity fifty percent (50%) of whose equity or voting stock is owned or controlled by such party or (c) any entity of which at least fifty percent (50%) of the equity or voting stock is owned or controlled by the same person or entity owning or controlling at least fifty percent (50%) of such party. A "wholly-owned" Affiliate means with respect to a party, (1) an Affiliate which controls one hundred percent (100%) of the equity or voting stock of such party, (2) any Affiliate one hundred percent (100%) of whose equity or voting stock is owned or controlled by such party or (3) any Affiliate of which one hundred (100%) of the equity or voting stock is owned or controlled by the same person or entity owning or controlling one hundred percent (100%) of such party.

1.2 "Biosimilar" means any biological product that receives Regulatory Approval (a) under the biosimilarity standard set forth under 42 U.S.C. §§ 262(i)(2) and (k) for the United States, and under any foreign equivalent biosimilarity standards, on a country-by-country basis, and (b) for which the reference product (as defined in 42 U.S.C. § 262(i)(4) and any foreign equivalent thereof, on a country-by-country basis) is a Licensed Product.

1.3 "BLA" means (a) a Biologics License Application (as defined in Title 21 of the United States Code of Federal Regulations, as amended from time to time) filed with the FDA, or any successor application or procedure, and any foreign counterpart of a United States Biologics License Application, and (b) all supplements and amendments, including supplemental Biologics License Applications (and any foreign counterparts), that may be filed with respect to the foregoing.

1.4 "Category" means a category consisting of either (a) any and all Wildtype Only Products, taken as a whole, or (b) any and all Knockdown and Replace Products, taken as whole.

1.5 "Commercially Reasonable Efforts" means [***].

1.6 "Controlled" means, with respect to any intellectual property right, the possession by a party (whether by ownership, license from an Affiliate or a Third Party, or control over an Affiliate having such possession by ownership or license) of the ability to grant to the other party access or a license (or sublicense, as the case may be) as provided herein.

1.7 "Covered" means, with respect to a product, technology, process or method, that in the absence of ownership of or a license granted under a Valid Claim, the manufacture, use, offer for sale, sale or importation of such product or the practice of such technology, process or method would infringe such Valid Claim (or, in the case of a Valid Claim that has not yet issued, would infringe such Valid Claim if it were to issue).

1.8 "Development Plan" means the [***] development plan summarizing the development activities, including regulatory activities, that are to be undertaken by or on behalf of the Licensee to bring Licensed Products to market [***], as it may be updated from time to time pursuant to this Agreement. The initial Development Plan for the Wildtype Only Products is attached as Appendix C.

1.9 "Development Report" means a written account of Licensee's progress under the Development Plan for a certain period of time, and that includes at least the information specified on Appendix D.

1.10 "European Union" means, collectively, the member states of the European Union, as it may be constituted from time to time. For purposes of this Agreement, the European Union includes the United Kingdom.

1.11 "FDA" means the United States Food and Drug Administration, or any successor agency thereof.

1.12 "First Commercial Sale" means the first transfer or sale by Licensee, its Affiliates or a Sublicensee, whether at retail, wholesale or otherwise, of any Licensed Product, following the grant of a valid and enforceable Regulatory Approval, to a Third Party that is not an Affiliate or a Sublicensee.

1.13 "IND" means an investigational new drug application filed with the FDA, or the equivalent application in any foreign jurisdiction filed with another Regulatory Authority.

1.14 "Knockdown and Replace Patent" means [***].

1.15 "Knockdown and Replace Products" has the meaning set forth in Section 1.42.

1.16 "Know-How" means, in each case, to the extent the same are Controlled, whether wholly or jointly, by Penn or UFRF, the information, results, capsid plasmid sequence information, protocols, descriptions, methodologies, methods and standard operating procedures set forth on Appendix A and in existence prior to the Effective Date.

1.17 "Licensed Field" means therapies for the prevention, treatment, control and palliation of human diseases associated with mutations in the BEST1 gene.

1.18 "Licensed Information" means, in each case, to the extent the same are Controlled, whether wholly or jointly, by Penn or UFRF, [***].

1.19 "Licensed Product" means any product or part thereof that (i) incorporates, consists of, utilizes, or was developed utilizing Know-How, Licensed Information or any modifications or derivatives of Know-How or Licensed Information, (ii) is manufactured using Know-How, Licensed Information or any modifications or derivatives of Know-How or Licensed Information, or is manufactured using a process that is claimed or otherwise Covered by any of the Patent Rights, or (iii) is otherwise claimed or Covered by any of the Patent Rights. For clarity, Wildtype Only Products and Knockdown and Replace Products are considered Licensed Products.

1.20 "Licensed Territory" means worldwide.

1.21 "Loss of Market Exclusivity" means [***].

1.22 "Major European Countries" means the United Kingdom, France, Germany, Spain and Italy.

1.23 "Net Sales" means [***].

1.24 "Patent Challenge" means a challenge to the validity, scope, patentability, and/or enforceability of any of the Patent Rights or otherwise opposing any of the Patent Rights.

1.25 "Patent Rights" means, in each case, to the extent the same are Controlled, whether wholly or jointly, by Penn or UFRF:

(a) the Knockdown and Replace Patent identified on Appendix A and the patent(s)/patent application(s) claiming the Licensed Information and/or Subsequently Added Intellectual Property and identified on Appendix G;

(b) all United States and foreign patent applications claiming priority to any of the patent(s) and patent application(s) identified in Appendix A or Appendix G including divisionals, reissues, re-examinations, substitutions, continuations, and continuations-in-part (only to the extent of claims that are entitled under 35 U.S.C. Section 112 to the priority date of the patent(s)/patent application(s) identified on Appendix A or Appendix G); and

(c) all United States and foreign patents issuing from the patent applications identified in Sections 1.25(a) and 1.25(b) (but in the case of patents issuing on continuations-in-part applications identified in Section 1.25(b), only to the extent of claims that are entitled under 35 U.S.C. Section 112 to the priority date of the patent(s)/patent application(s) identified on Appendix A or Appendix G), including, letters patent, patents of addition, extensions, restorations, registration or confirmation patents, patents resulting from post-grant proceedings, and supplementary protection certificates.

1.26 "Penn Principal Investigators" means the Penn employees who have agreed to participate in a statement of work under the Penn SRA.

1.27 "Penn SRA" means the Master Sponsored Research Agreement entered into on October 30, 2018 [***].

1.28 "Phase I Clinical Trial" means any first-in-human clinical trial of a Licensed Product, a principal purpose of which is to determine metabolism and pharmacologic actions of a product and the side effects associated with increasing doses in humans and that would satisfy the requirements under 21 C.F.R. § 312.21(a) for the United States, as amended from time to time, or the corresponding foreign regulations of a comparable Regulatory Authority.

1.29 "Phase III Clinical Trial" means a human clinical trial of a Licensed Product intended to be a pivotal trial for obtaining Regulatory Approval or to otherwise establish safety and efficacy in patients with the disease or condition being studied for purposes of filing a Biologics License Application and that would satisfy the requirements under 21 C.F.R. § 312.21(c), as amended from time to time, or the corresponding foreign regulations for a comparable filing with a comparable Regulatory Authority.

1.30 "Rare Pediatric Disease Priority Review Voucher" or "PRV" means a voucher issued by the United States Secretary of Health and Human Services to the sponsor of a rare pediatric disease product application at the time of a marketing application approval, which entitles the holder of the voucher to designate a single human drug application submitted under Section 505(b)(1) of the FD&C Act or Section 351(a) of the United States Public Health Service Act as qualifying for a priority review, as further defined in 21 U.S.C. 360ff or any subsequent or superseding statute conferring similar rights.

1.31 "Regulatory Approval" means the approvals (excluding pricing and reimbursement approvals), licenses, registrations or authorizations of any Regulatory Authority, necessary to commercially distribute, sell or market a product in a country.

1.32 "Regulatory Authority" means any national, supranational, regional, state or local regulatory agency, department, bureau, commission, council or other governmental entity and any other agencies in any country involved in the granting or receipt of Regulatory Approvals.

1.33 "Regulatory Exclusivity" means any exclusive marketing rights or data exclusivity rights conferred by any governmental authority with respect to a Licensed Product other than a patent right, including rights conferred in the U.S. under the Section 351(k) of the Public Health Service Act (42 U.S.C. 262(k)), the Orphan Drug Act (21 U.S.C. 360bb(a)(2)(A)), or the FDA Modernization Act of 1997 (21 U.S.C. 355a(b)), or rights similar thereto outside the United States, including without limitation, in the European Union, European Commission Regulation (EC) No 726/2004 and European Commission Directive 2001/83/EC (as amended).

1.34 "Sale" means [***].

1.35 "SRA" means, as applicable, the Penn SRA, the Three-Party SRA or the UFSRA.

1.36 "Sublicense" means the agreement to grant or not to assert any right licensed to Licensee under Section 2.1, Section 2.2 or Section 2.3, including, any agreement that permits any use of all or part of the Patent Rights, Licensed Information or Know-How for research, development, or the manufacture, marketing, distribution, commercialization, sale, offer for sale, import or export of Licensed Products. An agreement that is described in this definition is a Sublicense whether or not it is called a "sublicense" and whether or not it is included in a stand-alone document or is part of a broader collaboration, development, or joint venture agreement or arrangement.

1.37 "Sublicensee" means any Third Party or Licensee Affiliate granted a Sublicense. "Sublicensee" also includes any Third Party or Licensee Affiliate to which Licensee sells a Licensed Product and from which Licensee receives a royalty based on sales of the Licensed Product by the Third Party.

1.38 "Subsequently Added Intellectual Property" shall mean any Related Intellectual Property, Related Joint Intellectual Property, Related Penn Intellectual Property or Related UF Intellectual Property (as defined in the Penn SRA, Three-Party SRA and UFSRA) to which Licensee has exercised its option under Section 5.5 of the applicable SRA to have such Related Intellectual Property, Related Joint Intellectual Property, Related Penn Intellectual Property or Related UF Intellectual Property added to this Agreement, and which is further described on Appendix G, as such Appendix G may be updated in accordance with Section 2.8.

1.39 "Third Party" means any natural person or any corporation, company, partnership, joint venture, firm or other entity, or any government or agency or political subdivision thereof, in each case other than Licensee, either Licensor, or any Affiliate of Licensee or either Licensor.

1.40 "Three-Party SRA" means [***].

1.41 "UF Principal Investigators" means [***].

1.42 " UF SRA" means the mutually agreeable Sponsored Research Agreement to be entered into by Licensee and UFRF [***].

1.43 "Valid Claim" means (a) a claim of an issued patent that has not expired or been dedicated to the public, abandoned, disclaimed or rendered unenforceable through disclaimer or otherwise, nor been held invalid, unpatentable or unenforceable or revoked by a patent office, court or other governmental agency of competent jurisdiction in a final and non-appealable judgment (or judgment from which no appeal was taken within the allowable time period), or (b) a claim within a patent application which application has not been pending for more than [***] from the date of its priority filing date and which claim has not been irretrievably revoked, irretrievably cancelled, irretrievably withdrawn, held invalid or irretrievably abandoned by a patent office, court or other governmental agency of competent jurisdiction in a final and non-appealable judgment (or judgment from which no appeal was taken within the allowable time period), or finally determined to be unallowable in a decision from which an appeal cannot or can no longer be taken.

1.44 "Wildtype Only Products" has the meaning set forth in Section 1.27.

Section 2 Grant

2.1 Patent Rights. In return for the royalties and other payments described in Section 4, Licensors grant to Licensee a royalty-bearing, exclusive license under the Patent Rights in the Licensed Field and Licensed Territory to make, have made, use, have used, sell, offer to sell, have offered to sell, import, have imported, develop, have developed, research, have researched, commercialize and have commercialized Licensed Products. For clarity, Licensee shall be permitted to seek the right to export and have exported Licensed Products under this Agreement.

2.2 Know-How. In return for the royalties and other payments described in Section 4, Licensors grant to Licensee a royalty-bearing, non-exclusive license under the Know-How in the Licensed Field and Licensed Territory to make, have made, use, have used, sell, offer to sell, have offered to sell, import, have imported, develop, have developed, research, have researched, commercialize and have commercialized Licensed Products. For clarity, Licensee shall be permitted to seek the right to export and have exported Licensed Products under this Agreement.

2.3 Licensed Information. In return for the royalties and other payments described in Section 4, Licensors grant to Licensee a royalty-bearing, exclusive license under the Licensed Information in the Licensed Field and Licensed Territory to make, have made, use, have used, sell, offer to sell, have offered to sell, import, have imported, develop, have developed, research, have researched, commercialize and have commercialized Licensed Products. For clarity, Licensee shall be permitted to seek the right to export and have exported Licensed Products under this Agreement.

2.4 Sublicense Rights.

(a) Licensee may grant written Sublicenses to Third Parties with the prior written consent of Licensors not to be unreasonably withheld; provided that, Licensee may grant written Sublicenses, with the right to further sublicense, without the prior written consent of Licensors (i) to its Affiliates that are not owned or controlled in part by a Third Party Sublicensee or a Third Party distributor of Licensed Products (without regard to market capitalization) and (ii) to biopharmaceutical companies [***]. Any agreement granting a Sublicense shall state that the Sublicense is subject and subordinate to the terms of this Agreement, including termination. Licensee shall also include provisions in all Sublicenses to provide that in the event Sublicensee or its Affiliate brings a Patent Challenge against Licensors or assists another party in bringing a Patent Challenge against Licensors (except as required under a court order or subpoena or as part of proceedings initiated by a patent office and not provoked by Sublicensee or its Affiliate) then Licensee may terminate the Sublicense within [***]. Sublicenses granted hereunder shall (i) be issued in writing, (ii) to the extent applicable, include or incorporate all of the rights of Licensors and require the performance of obligations due to Licensors (and, if applicable, the U.S. Government under 35 U.S.C. §§200-212) contained in this Agreement and (iii) include or incorporate no less than the following terms and conditions:

(i) Reasonable record keeping, audit and reporting obligations sufficient to enable Licensors and Licensee to reasonably verify the payments due to Licensee and to Licensors under such Sublicense and to reasonably monitor such Sublicensee's progress in developing and/or commercializing Licensed Products, provided that such obligations shall be no less stringent that those provided in this Agreement for Licensee.

(ii) Infringement and enforcement provisions that do not conflict with the restrictions and procedural requirements imposed on Licensee hereunder and do not provide greater rights to Sublicensee than as provided in Section 8.

(iii) Confidentiality provisions with respect to Confidential Information of Penn consistent with the restrictions on Licensee in Section 18 of this Agreement.

(iv) A requirement of indemnification of Licensors by Sublicensee that is equivalent to the indemnification of Licensors by Licensee under Section 13 of this Agreement.

(v) A requirement of obtaining and maintaining insurance by Sublicensee that is equivalent to the insurance requirements of Licensee under Section 13.3 of this Agreement, including coverage under such insurance of Penn and UFRF as provided in Section 13.3.

(vi) Restriction on use of Licensors' names etc. consistent with Section 14 of this Agreement.

Any Sublicense that does not include all of the terms and conditions set forth in this Section 2.4(a), or which is not issued in accordance with the terms and conditions set forth in this Section 2.4, shall be null and void.

(b) Licensee shall provide Licensors with a final copy, with reasonable redactions (provided that the information reasonably necessary for Licensors to verify Licensee's compliance with its obligations to Licensors under this Agreement shall not be redacted), within [***] after execution, of any Sublicense that grants any right (including, for the avoidance of doubt, an option) to commercialize a Licensed Product and/or under which Licensee has the right to receive payments related to the sublicensed rights or to commercialization of Licensed Product.

2.5 Patent Challenge. If Licensee (or any of its Affiliates) or Sublicensees (or any of their Affiliates) brings a Patent Challenge against Licensors, or Licensee (or any of its Affiliates) or Sublicensees (or any of their Affiliates) assists another party in bringing a Patent Challenge against Licensors (except as required under a court order or subpoena or as part of proceedings initiated by a patent office and not provoked by Licensee or its Affiliate or Sublicensee or its Affiliate), and Licensors do not terminate this Agreement pursuant to Section 9.4, then, if the Patent Challenge is successful, Licensee may not recoup any consideration, including royalties, paid to Licensors during the period of challenge. [***]

2.6 Retained Rights. Penn reserves to itself and any of its non-commercial collaborators (subject to applicable confidentiality obligations), and UFRF reserves to itself and the University of Florida and any of its or their non-commercial collaborators (subject to applicable confidentiality obligations), the right under the Patent Rights, Licensed Information and Know-How to make, have made, develop, import, use and transfer to non-commercial collaborators Licensed Products solely for its and their internal research (including research sponsored by Third Party commercial entities), clinical (including, but not limited to patient care at Shands Teaching Hospital and University of Florida patient care facilities and the Hospital of the University of Pennsylvania and Penn), and educational purposes; provided that Penn, UFRF and the University of Florida do not grant any rights under the Patent Rights or Licensed Information to commercialize or to manufacture any Licensed Product to any Third Party commercial entity. The right set forth in this Section 2.6 is subject in all cases to the confidentiality obligations of Section 18.

2.7 [***]

2.8 Related IP. If Licensee exercises its right pursuant to the applicable SRA to have Related Intellectual Property, Related Joint Intellectual Property, Related Penn Intellectual Property, or Related UF Intellectual Property (as defined in the Penn SRA, Three-Party SRA or UF SRA) added to the intellectual property licensed under this Agreement, then (i) Licensee shall prepare an amendment to this Agreement in a form reasonably acceptable to Penn and UFRF to include such Related Intellectual Property, Related Joint Intellectual Property, Related Penn Intellectual Property, or Related UF Intellectual Property on Appendix G hereto and (ii) for no additional consideration from Licensee, Penn and UFRF shall promptly execute such amendment to add such Related Intellectual Property, Related Joint Intellectual Property, Related Penn Intellectual Property or Related UF Intellectual Property to Appendix G and such rights shall be deemed to be "Subsequently Added Intellectual Property" hereunder by virtue of such amendment.

2.9 Exclusivity of Transgene. [***]

2.10 Data Package Delivery. Licensee, from time to time, and solely in connection with the development of a Licensed Product, may make reasonable requests of Licensors for additional Licensed Information or Know How that is possessed by Licensors but that has not been previously delivered to Licensee. To the extent that such Licensed Information or Know How is readily available and is not subject to other restrictions or limitations, Licensors will make a reasonable effort to comply with such requests from Licensee and will each deliver to Licensee such requested Licensed Information or Know How. Licensee shall be responsible for Licensors' reasonable out-of-pocket costs and expenses incurred in furtherance of the foregoing.

Section 3 Diligence Obligations

3.1 Development. Licensee agrees that:

(a) it will use Commercially Reasonable Efforts to pursue the Development Plan with the intent to provide at least one Licensed Product for sale within at least the United States and two of the Major European Countries within the Licensed Field;

(b) following Regulatory Approval, it will use Commercially Reasonable Efforts to commercialize at least one Licensed Product within at least the United States and two of the Major European Countries;

(c) until such time as a Licensed Product receives Regulatory Approval in the United States and two of the Major European Countries, it will supply Penn, on behalf of both Licensors, with a written Development Report for each calendar year annually within [***] after the end of such calendar year; and

(d) Licensee and Sublicensee(s) shall apply patent markings that meet all requirements of 35 U.S.C. §287 with respect to all Licensed Products.

3.2 First Commercial Sale; Milestones.

(a) Milestone Obligations.

(i) Wildtype Only Products. Licensee agrees that the First Commercial Sale of a Wildtype Only Product to a customer shall occur [***]. In addition, if Licensee fails to achieve such First Commercial Sale within such timeframe or if Licensee fails to meet the milestones shown in Appendix F-1 (as such due dates or milestones may be extended in accordance with Section 3.2(b)) by their respective due dates, Licensors may terminate this Agreement pursuant to Section 9.3(b) but solely with respect to Licensee's rights and licenses to the Category of Wildtype Only Products. For clarity, the foregoing diligence obligations shall be deemed satisfied if met by one Wildtype Only Product, and Licensee shall not be obligated to meet such diligence obligations with respect to any subsequent Wildtype Only Product.

(ii) Knockdown and Replace Products. Following the completion of, and based on the results of, the research under the UFSRA, the parties shall mutually agree in good faith on (x) a date for Licensee to achieve the First Commercial Sale to a customer of a Knockdown and Replace Product, which shall be set forth in this Section 3.2(a)(ii), (y) an update to the Development Plan to include the pertinent information for the Knockdown and Replace Products, and (z) the diligence milestones for the Knockdown and Replace Products and the dates for Licensee to achieve such milestones, which shall be set forth in Appendix F-2. If Licensee fails to achieve such agreed upon First Commercial Sale within the agreed upon timeframe or if Licensee fails to meet the agreed upon milestones set forth in Appendix F-2 (as such due dates or milestones may be extended in accordance with Section 3.2(b)) by their respective due dates, Licensors may terminate this Agreement pursuant to Section 9.3(b) but solely with respect to Licensee's rights and licenses to the Category of Knockdown and Replace Products. For clarity, the foregoing diligence obligations shall be deemed satisfied if met by one Knockdown and Replace Product, and Licensee shall not be obligated to meet such diligence obligations with respect to any subsequent Knockdown and Replace Product.

(b) Licensee shall notify Licensors in writing as each milestone set forth in Section 3.2(a) is met. If Licensee requires an extension of any milestones or due dates set forth in Section 3.2(a) or Appendix F, Licensee shall inform Penn of such extension in writing at least [***] prior to the required due dates, fully describing Licensee's diligent efforts to achieve the milestone or due date to date, establishing the new due date, and describing Licensee's plan to meet such new due date. Later-in-time milestone due dates shall automatically be deemed to have been extended by the same amount of time. However, if Penn reasonably objects to such extension within [***] after receipt of Licensee's extension notice, the terms of such extension (including whether to grant such extension) shall be negotiated by the parties in good faith, unless Licensee sends to Penn documentation demonstrating that Licensee has spent the below amounts in respect of the Licensed Product whose milestones Licensee is seeking to extend, in which case Penn's objection as to whether to grant an extension shall be deemed to have been overcome, and the parties shall agree on reasonable extension dates; however, Licensee may only use such justification for an extension [***] per milestone.

Timing of Extension Request	Amount Spent by Licensee under this Agreement in the [***] Months Prior to Extension Request
[***]	[***]
[***]	[***]
[***]	[***]

3.3 Clinical Trials. University of Florida or Penn policies may require approval of clinical trials at the University of Florida or Penn (as applicable) involving technology invented at the University of Florida or at Penn (as applicable). Accordingly, Licensee will notify the applicable Licensor prior to commencing any clinical trials involving a Licensed Product at such Licensor or its affiliated medical facilities.

Section 4 Payments

4.1 License Issue Fee. Licensee shall pay to Penn, on behalf of both Licensors, a non-refundable license issue fee of [***] within [***] after the Effective Date.

4.2 Annual License Maintenance Fee. Starting with the first anniversary of the Effective Date, Licensee shall pay to Penn, on behalf of both Licensors, an annual license maintenance fee of [***] each year, to be paid within [***]after each anniversary of the Effective Date of this Agreement. The annual license maintenance fee is payable until the First Commercial Sale of a Licensed Product, after which time the royalties set forth in Section 4.4, instead of the annual license maintenance fee, shall become due and payable to Penn on behalf of both Licensors. The annual license maintenance fees paid by Licensee are not creditable against any royalties that become due and payable under this Agreement.

4.3 Patent Application Grant Fee. In the event that a U.S. patent that claims inventions that are disclosed in the Licensed Information, Knockdown and Replace Patent, and/or inventions generated under the Penn SRA, Three-Party SRA or OF SRA is issued and is exclusively licensed to Licensee under this Agreement, Licensee shall pay Penn a one-time, non-refundable and non-creditable patent grant fee of [***] within [***] of the later of the date of the issuance of such patent or the date when such patent is exclusively licensed to Licensee under this Agreement. This fee shall be payable no more than once. Notwithstanding the foregoing, patents issued from patent applications filed prior to the Effective Date are excluded, other than the Knockdown and Replace Patent.

4.4 Royalty on Licensed Products. Licensee shall pay Penn, on behalf of both Licensors, earned royalties calculated as a percentage of Net Sales. Earned royalties are earned as of the earlier of (i) the date the Licensed Product is actually sold and paid for and (ii) the date an invoice is sent by Licensee, its Affiliates and/or its Sublicensee(s), or as of the date a Licensed Product is transferred to a Third Party for promotional reasons. Licensee shall pay to Penn royalties as follows, on a country-by-country basis:

(a) [***] for Net Sales of Licensed Products that are Covered by a Valid Claim of the Patent Rights in the country in which such Licensed Product is sold, which royalty obligation under this Section 4.4(a) shall terminate, on a country-by-country basis, when the Licensed Product is no longer Covered by a Valid Claim of the Patent Rights in the country in which such Licensed Product is sold. In the event of Loss of Market Exclusivity with respect to a Licensed Product in a particular country, the royalty due under this clause Section 4.4(a), if applicable, shall, starting with the calendar quarter following such Loss of Market Exclusivity, be reduced for the remainder of the Royalty Term for such Licensed Product or the period of time that a Loss of Market Exclusivity for such Licensed Product exists in such country, whichever is shorter, to [***] for Net Sales of such Licensed Product in such country. For the avoidance of confusion, in each case with respect to sales of a Licensed Product in a particular country, if a royalty reduction for Loss of Market Exclusivity has been applied pursuant to the previous sentence, then a royalty reduction for royalty payments to third parties pursuant to Section 4.4(d) may not be applied.

(b) [***] for Net Sales of Licensed Products that are not subject to Section 4.4(a) above, but are sold during a period of Regulatory Exclusivity for such Licensed Product in the country in which such Licensed Product is sold, which royalty obligation under this Section 4.4(b) shall terminate, on a country-by-country basis, when the Licensed Product is no longer sold during a period of Regulatory Exclusivity for such Licensed Product in the country in which such Licensed Product is sold. In the event of Loss of Market Exclusivity with respect to a Licensed Product in a particular country, the royalty due under this clause Section 4.4(b), if applicable, shall, starting with the calendar quarter following such Loss of Market Exclusivity, be reduced for the remainder of the Royalty Term for such Licensed Product or the period of time that a Loss of Market Exclusivity for such Licensed Product exists in such country, whichever is shorter, to [***] for Net Sales of such Licensed Product in such country.

(c) [***] for Net Sales of Licensed Products that are not subject to either of Sections 4.4(a) or 4.4(b) above, which royalty obligation under this Section 4.4(c) shall terminate on the date that is ten (10) years after the First Commercial Sale of a Licensed Product.

(d) If Licensee has or obtains a license(s) from a Third Party(ies) to patent rights or other intellectual property rights that are necessary to research, develop, make, have made, use, have used, offer to sell, sell, import, export or commercialize a Licensed Product(s), Licensee, subject to the proviso to this sentence, may offset [***] of any royalty payments actually paid by Licensee to such Third Party(ies) under such license(s) with respect to sales of such Licensed Product(s) in a country against the royalty payments that are due to Penn with respect to Net Sales of such Licensed Products in such country under Section 4.4(a); provided that in no event shall the royalty payments under Section 4.4(a) to Penn with respect to Net Sales of such Licensed Products in such country be reduced as a result of the application of this Section 4.4(d) by more than [***] of the amount otherwise due under Section 4.4(a). For clarity, the royalty due under Section 4.4(a) shall not be reduced beyond a floor of [***] during the period such royalty is applicable to the Licensed Product in the applicable country. Any amounts that are not offset during a reporting period shall be creditable against payments arising in subsequent reporting periods. For clarity, Licensee shall be responsible for making all payments to Third Parties in respect of any such necessary intellectual property rights.

(e) Within [***] after the end of each calendar quarter ending on March 31, June 30, September 30 or December 31, Licensee shall pay amounts owing to Penn under this Section 4.4 for such calendar quarter. Royalties are not additive, but are payable based on the highest applicable rate that is calculated according to this Section 4.4. Royalties shall be payable, on a country-by-country and Licensed Product-by-Licensed Product basis, until the latest of (i) the expiration of the last-to-expire Patent Rights if the making, having made, using, offering to sell, selling or importing of such Licensed Product by Licensee, its Affiliates or its Sublicensees (or the distributors of any of them) is Covered by a Valid Claim of the Patent Rights in the country in which the Licensed Product is sold, (ii) the expiration of Regulatory Exclusivity in the country in which such Licensed Product is sold or (iii) ten (10) years from the First Commercial Sale of such Licensed Product in the country in which the Licensed Product is sold (the "Royalty Term").

4.5 Minimum Royalty.

(a) Licensee shall pay Penn a minimum annual royalty ("Minimum Annual Royalty") of [***] during the period set forth in Section 4.5(b).

(b) Beginning on the earlier of (i) the calendar year following the First Commercial Sale of a Licensed Product or (ii) [***], the Minimum Annual Royalty shall be due on January 15 of each calendar year. The Minimum Annual Royalty paid to Penn for a given calendar year shall be credited toward earned royalties payable to Penn, but only for royalties based on Net Sales made in such given calendar year.

4.6 Milestone Payments.

(a) Licensee shall pay Penn, on behalf of both Licensors, the below milestone payments within [***] after Licensee, or any Affiliate or Sublicensee, first (and only the first time) achieves the corresponding milestone for a first Licensed Product:

Event	**Milestone Payment**
One-Time Clinical or Regulatory Milestones	
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]
One-Time Worldwide Commercial Milestones on Net Sales	
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]

Each time a Clinical or Regulatory Milestone set forth above for a first Licensed Product is achieved, then any Clinical or Regulatory Milestone Payments with respect to earlier Clinical or Regulatory Milestones set forth above for the same Licensed Product shall, to the extent not previously paid, be due and payable together with the achieved Clinical or Regulatory Milestone irrespective of whether such earlier Clinical or Regulatory Milestone(s) was actually achieved; provided, however, that a Regulatory Approval or reimbursement approval Clinical or Regulatory Milestone in one territory shall not be deemed to be a Clinical or Regulatory Milestone that is earlier than any other Regulatory Approval or reimbursement approval Clinical or Regulatory Milestone in another territory.

(b) [***] In the event that Licensee pursues both Categories of Licensed Products, then Licensee shall pay Penn, on behalf of both Licensors, the following one-time, non-refundable and non-creditable Milestone Payments within [***] after Licensee, or any Affiliate or Sublicensee, first (and only the first time) achieves the corresponding milestone for a Licensed Product from a different Category than the Licensed Product that first achieves the same milestone event under Section 4.6(a) above:

Event	**Milestone Payment**
One-Time Clinical or Regulatory Milestones	
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]
One-Time Worldwide Commercial Milestones on Net Sales	
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]

Each time a Clinical or Regulatory Milestone set forth above for a subsequent Licensed Product is achieved, then any Clinical or Regulatory Milestone Payments with respect to earlier Clinical or Regulatory Milestones set forth above for the same Licensed Product shall, to the extent not previously paid, be due and payable together with the achieved Clinical or Regulatory Milestone irrespective of whether such earlier Clinical or Regulatory Milestone(s) was actually achieved; provided, however, that a Regulatory Approval or reimbursement approval Clinical or Regulatory Milestone in one territory shall not be deemed to be a Clinical or Regulatory Milestone that is earlier than any other Regulatory Approval or reimbursement approval Clinical or Regulatory Milestone in another territory. For the avoidance of doubt, if the subsequent Licensed Product that achieves any of the foregoing milestone events is in the same Category as the first Licensed Product to achieve the same milestone event, then the milestones for such subsequent Product will not be due.

4.7 Sublicense Fees.

(a) For purposes of this Section 4.7, the following defined terms shall have the following meanings:

(i) "Sublicense Income" shall mean [***];

(ii) "Third Party Allocated Sublicense Income" shall mean [***]; and

(iii) "Licensor Allocated Sublicense Income" shall mean (A) the total amount of Sublicense Income received by Licensee and any of its Affiliates less (B) any Third Party Allocated Sublicense Income.

(b) If Licensee or any of its Affiliates receives any Sublicense Income then Licensee shall pay Penn, on behalf of both Licensors, within [***] of receipt of such Sublicense Income, the following percentages of the portion of such Sublicense Income constituting the Licensor Allocated Sublicense Income, based upon on the status, at the time of entering into the Sublicense, of clinical development of each Licensed Product which is the subject of the particular Sublicense:

Time period	**Percentage (%) of Licensor Allocated Sublicense Income payable to Penn, on behalf of both Licensors**
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]

Provided that, in the event that the amount that would otherwise be payable by Licensee to Penn, on behalf of both Licensors, pursuant to this Section 4.7(b) is less than [***] of the total Sublicense Income received by Licensee and any of its Affiliates (the "Minimum Sublicense Share"), Licensee shall pay an additional amount to Penn, on behalf of both Licensors, such that the total amount paid by Licensee to Penn, on behalf of both Licensors, pursuant to this Section 4.7(b) equals the Minimum Sublicense Share.

If under the Sublicense the Licensee receives Sublicense Income that is not attributable to any particular Licensed Product (e.g., an upfront payment), then [***].

(c) [***]

4.8 FDA Priority Review Voucher. In the event Licensee or its Affiliate receives an FDA Rare Pediatric Disease Priority Review Voucher based on a Regulatory Approval of a Licensed Product, then Licensee shall promptly provide written confirmation to Penn that it or its Affiliate received such PRV. In addition, if and when the conditions of either 4.8(a) or 4.8(b) are met, Licensee shall pay Penn (on behalf of Licensors) the amounts set forth in either 4.8(a) or 4.8(b), as applicable:

(a) In the event Licensee or its Affiliate sells the PRV to a Third Party, then Licensee will pay to Penn (on behalf of Licensors) [***] of all consideration, [***].

(b) In the event Licensee or its Affiliate uses the PRV for a Licensee product or Licensee's Affiliate product (other than a Licensed Product), then Licensee will pay Penn (on behalf of Licensors):

(i) [***]

(ii) [***]

(iii) [***]

Section 5 Representations and Disclaimers of Licensors and Licensee.

5.1 Representations of Licensors. Each of Penn and UFRF (on behalf of itself and with respect to the University of Florida), as applicable and as of the Effective Date, represents to Licensee that (a) in the case of Penn, its employees have assigned or are obligated to assign to such party their entire right, title, and interest in the applicable Patent Rights, Licensed Information and Know-How, and in the case of UFRF, the University of Florida's employees have assigned or are obligated to assign to the University of Florida their entire right, title and interest in the applicable Patent Rights, Licensed Information and Know-How, and in turn, the University of Florida has assigned its entire right, title and interest in the applicable Patent Rights, Licensed Information and Know-How to UFRF; (b) it is duly authorized, by all requisite governance action, to execute and deliver this Agreement and the execution, delivery and performance of this Agreement by such party does not require any stakeholder action or approval, and the person executing this Agreement on behalf of such party is duly authorized to do so by all requisite governance action; (c) to the actual knowledge of the individuals currently in UFRF's licensing office and involved with the Patent Rights, all inventors of the inventions set forth in the Patent Rights are correctly identified in the patent filings; (d) in the case of UFRF, to the actual knowledge of the individuals currently in the UFRF licensing office, the granting of the licenses to the Patent Rights, Licensed Information and Know How, in each case Controlled by UFRF, pursuant to this Agreement does not violate any agreement with a Third Party binding UFRF; and (e) in the case of UFRF, to the actual knowledge of the individuals currently in the UFRF licensing office, with respect to the Knockdown and Replace Patent and any related Patent Rights, it is in compliance with The Patent and Trademark Law Amendments Act of 1980 (Public Law 96-517; 35 U.S.C. §§ 200-212), including any amendments thereto and all regulations promulgated thereunder.

5.2 Representations of Licensee. Licensee, as of the Effective Date, represents that (a) it is a corporation duly organized, validly existing and in good standing under the laws of the state or other jurisdiction of incorporation or formation and has full corporate power and authority to enter into this Agreement and to carry out the provisions hereof, (b) it is duly authorized, by all requisite corporate action, to execute and deliver this Agreement and the execution, delivery and performance of this Agreement by Licensee does not require any shareholder action or approval, and the person executing this Agreement on behalf of Licensee is duly authorized to do so by all requisite corporate action and (c) no consent, approval, order or authorization of, or registration, qualification, designation, declaration or filing with, any federal, state or local governmental authority is required on the part of Licensee in connection with the valid execution, delivery and performance of this Agreement.

5.3 Disclaimers.

(a) Nothing in this Agreement is:

(i) a warranty or representation by Licensors of the scope of any right included in the Patent Rights;

(ii) a warranty or representation that anything made, used, sold or otherwise disposed of under the license granted in this Agreement does not infringe patents or other rights of Third Parties;

(iii) an obligation to bring or prosecute actions or suits against Third Parties for infringement of Patent Rights;

(iv) an obligation to furnish know-how or services other than those specified in this Agreement; or

(v) a warranty or representation by Licensors that they will not grant licenses to others to make, use or sell products not covered by the claims of the Patent Rights which may be similar to or compete with products made or sold by Licensee.

(b) EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS AGREEMENT, NEITHER LICENSEE NOR LICENSORS MAKE ANY REPRESENTATIONS AND EXTEND NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND VALIDITY OF PATENT RIGHTS CLAIMS, ISSUED OR PENDING.

(c) LICENSORS ASSUME NO RESPONSIBILITIES WHATSOEVER WITH RESPECT TO USE, SALE, OR OTHER DISPOSITION BY LICENSEE, ITS SUBLICENSEE(S), ITS AFFILIATE(S) OR THEIR VENDEES OR OTHER TRANSFEREES OF PRODUCTS INCORPORATING OR MADE BY USE OF PATENT RIGHTS, LICENSED INFORMATION OR KNOW-HOW LICENSED UNDER THIS AGREEMENT.

Section 6 Record Keeping; Accounting

6.1 Books and Records. Licensee and its Sublicensee(s) shall keep books and records related to its and their payment and diligence obligations regarding Licensed Products under this Agreement sufficiently to verify the accuracy and completeness of Licensee's and its Sublicensee(s)'s accounting and reporting relating to such obligations, including without limitation, applicable inventory, purchase and invoice records, manufacturing records, sales analysis, general ledgers, financial statements, and tax returns. Licensee and its Sublicensee(s) shall preserve these books and records for at least [***] after they are created or as required by federal law, both during and after the term of this Agreement.

6.2 Audit Rights. Licensee and its Sublicensee(s) shall take steps to permit Penn to, on behalf of both Licensors and within [***] after its written request therefor, audit and review all of such books and records maintained for purposes of compliance with Section 6.1, up to a maximum of once per calendar year, at a single United States location of Licensee's choice to verify the accuracy of Licensee's and its Sublicensee(s)'s accounting relating to Licensed Products and Sublicense consideration. The review may be performed by any authorized employees of Penn as well as by any attorneys or accountants designated by Penn upon reasonable notice and during regular business hours. If a deficiency with regard to any payment is determined, Licensee and its Sublicensee(s) shall pay the deficiency along with applicable interest as described in Section 6.3(a) within [***] of receiving notice. If a payment deficiency for a calendar year exceeds [***] of amounts paid for that year, then Licensee or its Sublicensee(s) shall pay Penn's out-of-pocket expenses incurred with respect to the review, and Penn shall have the right to conduct a second audit within the same calendar year. If an overpayment with regard to any payment is determined, Licensee shall have the right to credit the amount of such overpayment against any future payments under this Agreement. The rights of Penn under this Section 6.2 are subject to the execution and delivery by Penn, its attorneys or accountants participating in such audit of a nondisclosure agreement on terms reasonably satisfactory to Licensee pursuant to which Penn, its attorneys and accountants agree not to disclose or use for any purpose other than as contemplated under this Section 6.2 any of the information reviewed pursuant to such audit.

6.3 Accounting for Payments.

(a) Any undisputed, overdue amount under this Section 6, Section 7 or any other provision of this Agreement shall accrue interest from the due date at the rate of [***] per month. This interest provision is not a grant of permission for any payment delays, and shall not accrue on the portions of any overdue amounts that are disputed in good faith. Licensee is responsible for repayment to Penn of any reasonable attorney, collection agency, or other out-of-pocket expenses to collect overdue payments.

(b) Except as otherwise directed or with respect to the instructions for reimbursements set forth in Sections 7.2 and 7.3, Licensee shall pay all amounts owing to Penn or UFRF under this Agreement in United States dollars at any one of the following address:

[***] [***]

Licensee shall convert all monies owing in currencies other than United States dollars in accordance with Licensee's reasonable then-current standard exchange rate methodology as applied in its external reporting for the conversion of foreign currency sales into U.S. Dollars. Licensee shall give Penn prompt written notice of any changes to Licensee's customary and usual procedures for currency conversion.

(c) Prior to the First Commercial Sale, on an annual basis concurrently with delivery of Development Reports pursuant to Section 3.1(c), and following the First Commercial Sale, on a quarterly basis concurrently with payment of royalties pursuant to Section 4.4(e), Licensee shall submit a completed royalty report in the form shown in Appendix E—Royalty Report showing how any amounts payable to Penn have been calculated. Such royalty report shall provide accounting on a per-country and Licensed Product-by-Licensed Product basis. In addition, Licensee shall include with all such reports a written representation signed by an officer of Licensee on behalf of Licensee that (i) the Net Sales amounts used to prepare such statements have been prepared in accordance with the Accounting Principles and (ii) the amounts payable to Penn reflected in such statements have been calculated in accordance with this Agreement.

(d) Following the First Commercial Sale, if no payment is owed to Penn, Licensee shall supply an. accounting demonstrating that fact to Penn.

(e) Licensee shall make all payments due under this Agreement without deduction for taxes, assessments, or other charges of any kind which may be imposed on Penn by any government or political subdivision with respect to any amounts payable to Penn pursuant to this Agreement. All such taxes, assessments, or other charges, if any, shall be assumed by Licensee. Licensee is responsible for all wire/bank fees associated with all payments due to Penn pursuant to this Agreement.

Section 7 Patent Prosecution

7.1 Prosecution of the Knockdown and Replace Patent. UFRF shall file, prosecute, and maintain the Patent Rights related to the Knockdown and Replace Patent using counsel of its choice reasonably acceptable to Licensee. Licensee acknowledges that [***] is acceptable. UFRF shall promptly provide Licensee with copies of all documents sent to and received from the United States Patent and Trademark Office and foreign patent offices relating to the Knockdown and Replace Patent. Licensee shall keep those documents confidential.

7.2 Reimbursement. Licensee shall pay UFRF $18, 367.00 within [***] after the Effective Date to reimburse expenses associated with preparation, filing, prosecution, issuance, maintenance, and reporting of the Patent Rights relating to the Knockdown and Replace Patent prior to the Effective Date. [***]:

7.3 Consultation and Maintenance.

(a) UFRF will solicit input from Licensee regarding [***]. UFRF will submit, or will cause to be submitted to Licensee (or its designated counsel)[***].

(b) UFRF shall maintain the Patent Rights related to the Knockdown and Replace Patent in at least the following countries: [***]. Licensee shall pay all costs and expenses incurred by UFRF related to the preparation, filing, prosecution (including interferences and oppositions), issuance, maintenance and reporting of the Patent Rights related to the Knockdown and Replace Patent in such countries and in any additional countries or jurisdictions in which UFRF and Licensee mutually agree to pursue such preparation, filing, prosecution (including interferences and oppositions), issuance, maintenance and reporting, in each case that were not previously reimbursed pursuant to Section 7.2 within [***] of receipt of an invoice from UFRF. Licensee shall keep UFRF fully apprised of the entity status of Licensee and all Sublicensees with respect to United States and applicable foreign patent laws. Licensee shall inform UFRF of any changes in writing of the entity status from “small entity” to “large entity” or vice versa with respect to United States and applicable foreign patent laws within [***] of any change.

(c) UFRF shall, with respect to the Knockdown and Replace Patent and any related Patent Rights, remain in compliance with The Patent and Trademark Law Amendments Act of 1980 (Public Law 96-517; 35 U.S.C. §§ 200-212), including any amendments thereto and all regulations promulgated thereunder, and shall reasonably assist Licensee in complying with Licensee's obligations under such law, including, as applicable, that set forth in Section 17.1.

(d) Licensee shall have the sole right in electing which of the Patent Rights related to the Knockdown and Replace Patent shall receive any patent term extension under 35 U.S.C. § 156 in the United States, supplemental protection certificate in the European Union and similar rights in foreign jurisdictions. UFRF and Licensee shall cooperate in timely filing and obtaining the patent term extension, supplemental protection certificate and similar rights for such Patent Right(s) elected by Licensee.

7.4 Licensee may elect upon [***] prior written notice to decline to reimburse UFRF for patent expenses for any Patent Right related to the Knockdown and Replace Patent in any particular country or jurisdiction, provided that if Licensee elects to decline to reimburse UFRF for such patent expenses in any of the [***], then upon such election, the license granted to Licensee by this Agreement terminates after the [***] with respect to the applicable Patent Right in that country or jurisdiction.

7.5 Patent prosecution of any Patent Rights other than Patent Rights related to the Knockdown and Replace Patent shall be subject to a separate written agreement between the parties, which will provide Licensee with information, review and consultation rights substantially similar to those set forth in this Article 7.

Section 8 Infringement and Invalidity

8.1 Information. Each party shall inform the other parties promptly in writing of any (i) alleged infringement of the Patent Rights by a Third Party and of any available evidence of the alleged infringement or (ii) declaratory judgment action or post grant challenge (e.g., a post-grant review or *inter partes* review) brought against Licensors or Licensee with respect to the Patent Rights. None of the parties shall charge a Third Party with infringement of the Patent Rights without first consulting with the other parties regarding such proposed action; provided that Licensee, upon prior written notification to Licensors, shall be entitled to take such actions (including notifying Third Parties of infringement or instituting a lawsuit) as are reasonably necessary to timely comply with and preserve all rights under the Biologics Price Competition and Innovation Act in the United States and comparable laws in other applicable countries.

8.2 Infringement Enforcement. During the term of this Agreement:

(a) Licensee shall prosecute any infringement of the Patent Rights at its own expense. [***]

(b) If, within [***] after receiving notice of, or otherwise becoming aware of, an alleged infringement, Licensee is unsuccessful in persuading the alleged infringer to desist, has not brought an infringement action against the alleged infringer, or notifies Penn or UFRF, as applicable, of its intention not to bring suit against the alleged infringer, then, and in those events only, Licensors may but are not obligated to prosecute at their own expense the alleged infringement of the Patent Rights. Licensors may use the name of Licensee as party plaintiff in the infringement action (in which case the applicable Licensor must provide reasonable notice to Licensee of its inclusion as party plaintiff prior to the filing of the infringement action). Licensors may not enter any settlement, consent judgment, or other voluntary final disposition of the suit without the prior, written consent of Licensee, which consent may not be unreasonably withheld. Licensors shall indemnify Licensee against any order for costs that may be made against Licensee in any proceedings undertaken pursuant to this Section 8.2(b).

(c) If a declaratory judgment action or post grant challenge (e.g., a post-grant review or *inter panes* review) is brought against Licensors or Licensee by a Third Party alleging invalidity, unpatentability, unenforceability, or non-infringement of the Patent Rights, Licensee, if it is the sole licensee of the Patent Rights, shall be responsible for the sole defense of the CONFIDENTIAL action. Such defense shall be at Licensee's sole expense, subject to Sections 8.3 and 8.4. If Licensee does not defend such action if brought in [***], then Licensors, at their option, may within twenty (20) days after commencement of the action take over the sole defense of the action at their own expense and terminate the license in respect of the applicable Patent Rights.

8.3 Voluntary Joinder. If Licensee undertakes the enforcement or defense of the Patent Rights by litigation, either or both Licensors may voluntarily join the litigation, represented by its own counsel at its own expense.

8.4 Recovery. Licensee shall apply any recovery of damages first in satisfaction of any unreimbursed expenses and legal fees of Licensee relating to the suit and next toward reimbursement of Licensors for any legal fees and unreimbursed expenses. Licensee and Licensors shall divide the balance remaining from any recovery as follows. [***]

8.5 Cooperation. In any suit in which Licensee or either Licensor is involved to enforce or defend the Patent Rights pursuant to this Agreement, the other parties shall, at the request and expense of the party initiating the suit, cooperate in all respects and, to the extent possible, have its employees testify when requested and make available relevant records, papers, information, samples, specimens, and the like.

8.6 Patent Challenge. If Licensee (or its Affiliate) or any Sublicensee (or **its Affiliate**) brings a Patent Challenge against any Patent Rights, unless Licensors terminate this Agreement pursuant to Section 9.4, Licensee shall continue to pay royalties and make other payments pursuant to this Agreement with respect to that patent as if the contest were not underway until the patent is adjudicated invalid or unenforceable by a court of last resort. If Licensee does not continue to pay royalties and make other payments pursuant to this Agreement with respect to the applicable Patent Rights as if the contest were not underway, and if at the end of such contest Patent Rights covering Licensed Products remain valid, then all royalties and other payments due under this Agreement with respect to such Patent Rights will be [***].

Section 9 Term and Termination

9.1 Term. The term of this Agreement begins on the Effective Date and continues until the latest to end of each of the royalty obligations set forth in Section 4.4(a), (b) and (c), unless earlier terminated pursuant to this Section 9.

9.2 Licensee Termination.

(a) Before the Effectiveness of IND. Licensee may terminate this Agreement in its entirety or with respect to a particular Category of Licensed Products at any time prior to an IND for a Licensed Product in such Category becoming effective by giving at least [***]' prior written notice to Penn, on behalf of both Licensors. Licensee shall include a statement of the reasons for termination, if any, in the notice. For clarity, Licensee may terminate pursuant to this subsection (a) with respect to the Category of Wildtype Only Products only, or with respect to the Category of Knockdown and Replace Products only, without affecting its rights or obligations to the other Category of Licensed Products.

(b) After the Effectiveness of IND. If an IND for a Licensed Product in a particular Category becomes effective, then this Agreement shall be non-cancellable under Section 9.2 with respect to such Category, except that Licensee shall have the right to terminate this Agreement with respect to such Category by providing Penn written notice, certified by an officer of the Licensee, that Licensee is ceasing all use, research and development of, manufacture of, sales, importation of, or any commercialization of all Licensed Products in such Category (other than any further use that is necessary to comply with any applicable regulatory requirements arising from studies and trials initiated prior to notice of termination of this Agreement with respect to such Category, for which Licensee shall provide Penn with a semiannual written summary of any ongoing uses of the Licensed Products, in such Category including the purpose of such ongoing uses and the expected duration of such uses, and shall confirm in writing when such use has ceased). For clarity, Licensee may terminate pursuant to this subsection (b) with respect to the Category of Wildtype Only Products only, or with respect to the Category of Knockdown and Replace Products only, without affecting its rights or obligations to the other Category of Licensed Products.

(c) Material Breach by Penn or UFRF. If Penn or UFRF commits a material breach of this Agreement at any time, then Licensee may give Penn, on behalf of both Licensors, written notice specifying the nature of the default, requiring Penn or UFRF, as applicable, to cure such breach, and stating its intention to terminate this Agreement. If such breach is not cured within [***] of such notice and Penn fails to provide Licensee with a plan to cure such breach that is reasonably acceptable to Licensee, such termination shall become effective upon a notice of termination by Licensee thereafter to Penn.

9.3 Licensors' Termination. If Licensee commits a material breach of this Agreement, Penn, on behalf of both Licensors, may give to Licensee written notice specifying the nature of the default, requiring it to cure such breach, and stating its intention to terminate this Agreement. If such breach is not cured within ninety [***] in the case of payment breaches, provided that in the case of good faith payment disputes, such cure period shall be tolled in respect of, and only to the extent of, amounts actually being disputed during the pendency of any dispute resolution proceeding in which the amount due is being disputed in good faith, until the resolution of the disputed amount due, in which case Licensee may cure such payment breach by paying the amount determined to be due, if any, within [***] after such resolution) of such notice and Licensee fails to provide Licensors with a plan to cure such breach that is reasonably acceptable to either Licensor, such termination shall become CONFIDENTIAL effective upon a notice of termination by Licensors thereafter. For clarity, a material breach includes but is not limited to:

[***] Penn, on behalf of both Licensors, may also terminate this Agreement upon [***] notice to Licensee in the event that (i) Licensee goes into bankruptcy, liquidation or proposes having a receiver control any of its assets (unless such action is dismissed within [***]); (ii) Licensee ceases to carry on the entirety of its business pertaining to Patent Rights or Licensed Information; or (iii) Licensee ceases for more than [***] consecutive calendar quarters to make any payment of earned royalties under Section 4.4 once begun, unless such cessation is based on safety concerns that Licensee is actively attempting to address.

9.4 If Licensee or any of its Affiliates brings a Patent Challenge against Licensors or assists others in bringing a Patent Challenge against Licensors (except as required under a court order or subpoena or as part of proceedings initiated by a patent office and not provoked by Licensee or its Affiliate), then Penn, on behalf of both Licensors, may immediately terminate this Agreement. If a Sublicensee or any Sublicensee Affiliate brings a Patent Challenge or assists another party in bringing a Patent Challenge (except as required under a court order or subpoena or as part of proceedings initiated by a patent office and not provoked by Sublicensee or its Affiliate), then Penn, on behalf of both Licensors, may send a written demand to Licensee to terminate the Sublicense. If Licensee fails to terminate the Sublicense within [***] after Licensors' demand, Penn, on behalf of both Licensors, may immediately terminate this Agreement.

9.5 License Survival. Upon any expiration of this Agreement under Section 9.1 (but not earlier termination), the licenses granted to Licensee under Sections 2.1, 2.2 and 2.3 shall become fully paid-up and perpetual, on a country-by-country basis or with respect to the Licensed Territory, as applicable.

9.6 Licensee Payment Defaults. Licensee's cure period under Section 9.3 shall be decreased to [***] upon the occurrence of the [***] separate failure by Licensee within any [***] to pay at least [***] of any monies due under this Agreement when due.

9.7 Effects of Certain Terminations. In the event of termination of this Agreement pursuant to Section 9.2, 9.3, or 9.4, the licenses granted to Licensee under Sections 2.1, 2.2 and 2.3 shall terminate, but Licensee may elect to have any then-existing Sublicenses survive as direct licenses from Licensors (provided that the applicable Sublicensees are in good standing thereunder and are not in material breach of any material obligation or term under this Agreement including Section 2.4) and such survival will be accepted by Licensors. Each Sublicense surviving as a direct license as set forth herein will remain in full force and effect with Licensors as the licensor or sublicensor instead of Licensee, but the duties and obligations of Licensors under such surviving Sublicenses will not be greater than the duties of Licensors under this Agreement, and the rights of Licensors under such surviving Sublicenses will not be less than the rights of Licensors under this Agreement.

9.8 Accrued Obligations. Termination of this Agreement for any reason does not release either Licensee or Licensors from any obligation that matured prior to the effective date of termination. Licensee remains obligated to provide an accounting for and to pay royalties earned as well as pay any other amounts due including patent expenses incurred during the term of the Agreement. Licensee may prorate any minimum royalties that are due as of the date of termination by the number of days elapsed in the applicable calendar year. Licensee and its Sublicensees may, however, during [***] after the effective date of termination, sell any Licensed Products that are in inventory and complete and sell Licensed Products that are in the process of manufacture, provided that Licensee provides an accounting for and pays all earned royalties and other payments that are due under the terms of the Agreement for such sales of Licensed Products.

9.9 Survival. Upon termination of the Agreement for any reason, defined terms and the following sections of the License Agreement remain in force as non-cancelable obligations: 4.8, 5.3, 6 (except 6.3(c) and 6.3(d)), 8.5, 9.7-9.11, 11, 12, 13 (except 13.3), 14, 15.1, 15.2, 15.3, 15.5(a), 15.6, 15.7, 15.8, 15.10, 15.11, 15.12, 15.13, 16, 18 and 20.

9.10 Upon early termination (but not expiration) of the Agreement for any reason, Licensee shall, at its option, return to Penn and UFRF or destroy (followed by written certification by Licensee of such destruction) all Licensed Information and Know-How Controlled by Licensee, its Affiliates or Sublicensees as the date of termination, and shall cease using all Licensed Information and Know-How for any purpose (other than any further use that is necessary to comply with any applicable regulatory requirements arising from studies and trials initiated prior to notice of termination of this Agreement, for which Licensee shall provide Penn with a semiannual written summary of any ongoing uses of the Licensed Information and Know-How, including the purpose of such ongoing uses and the expected duration of such uses, and shall confirm in writing when such use has ceased).

9.11 In the event of termination of this Agreement pursuant to Section 9.2, Licensee agrees to promptly meet with Licensors and consider Licensors' interest in obtaining, on commercially reasonable terms, a license to or assignment of Licensee's right, title and interest in any Licensed Product in the possession or control of Licensee and in any intellectual property developed by or on behalf of Licensee relating to this Agreement, including, whether or not patentable, (i) data (including but not limited to preclinical data and clinical data), (ii) reports including, but not limited to, study reports, (iii) manufacturing data, batch records, and reports, (iv) inventions, and (v) documents submitted to and received from regulatory agencies and documents relied on in support of regulatory filings, in each case generated by or on behalf of the Licensee and in the possession or control of the Licensee. For the avoidance of doubt, Licensee has sole discretion as to whether to enter into such a license or an assignment with Licensors.

Section 10 **No Discrimination** Neither Licensors nor Licensee will discriminate against any employee or applicant for employment because of race, color, sex, sexual or affectional preference, age, religion, national or ethnic origin, handicap, or veteran status. However, a breach of this Section 10 by any party shall not entitle any other party(ies) to terminate this Agreement so long as the breaching party is taking good faith efforts to investigate, and if applicable, remediate (including via discipline) such discrimination in compliance with applicable discrimination laws. For the avoidance of doubt, an alleged discrimination shall not constitute a breach of this Section 10.

Section 11 Assignability

(a) This Agreement may not be transferred or assigned by Licensee except with the prior written consent of Licensors, except that Licensee may assign this Agreement without prior written consent of Licensors (i) to a wholly-owned Affiliate, (ii) to an Affiliate that is not wholly-owned if Licensee (or its successor following an assignment pursuant to this Section 11) has a market capitalization of [***] at the time of such assignment, and in the case of (i) and (ii) provided that Licensee remains liable for any breach of this Agreement by the Affiliate, or (iii) in connection with sale or transfer of all or substantially all of the business or the assets, as applicable, of the business to which this Agreement relates, including by way of sale of assets, merger or consolidation, and in each case of (i), (ii) and (iii) provided that (A) there exists no uncured financial breach by the Licensee or its Affiliates of any material term of this Agreement, including those caused by a Sublicensee at the time of the assignment; (B) within [***] of the consummation of such transaction, Licensee shall give notice of the transaction to Licensors; and (C) the assignee agrees in writing to (x) be legally bound by this Agreement; (y) assume responsibility for any and all liabilities that arose under this Agreement prior to the effective date of the proposed assignment of this Agreement, and (z) deliver to Licensors an updated Development Plan within [***] after the closing of the proposed transaction.

(b) This Agreement may not be transferred or assigned by any of the Licensors except with the prior written consent of Licensee, except that any Licensor may assign this Agreement (i) to an Affiliate or (ii) in connection with sale or transfer of all or substantially CONFIDENTIAL all of the business and assets of such party to which this Agreement relates, including by way of sale of assets, merger or consolidation, in each case ((i) or (ii)) without prior written consent of Licensee, provided that such Licensor shall provide prompt written notice to the other parties following such assignment. Licensors shall not assign any Patent Right or their rights in the Licensed Information or Know-How licensed hereunder to any Third Party other than in connection with a permitted assignment of this Agreement.

(c) Any attempted assignment in contravention of this Section 11 **is** void and constitutes a material breach of this Agreement. Any new permitted assignee shall assume all responsibilities under this Agreement and agree in writing to the non-assigning parties to be bound by this Agreement.

Section 12 Dispute Resolution

12.1 Mandatory Procedures. Before either Licensee or Licensors intend to file a lawsuit against the other(s) with respect to any matter in connection with this Agreement, except with regard to any payments made or due under this Agreement, it shall first comply with the procedures set forth in this Section 12, other than for injunctive relief to enforce the provisions of this Section 12.

(a) When a party intends to invoke the procedures set forth in this Section 12, it shall provide written notice to the other parties. Within [***] after the date of that notice, senior representatives of the Licensee and of the Licensors shall engage in good faith negotiations at a mutually convenient location to resolve the dispute. In the case of Licensors, that representative is the Managing Director of the Penn Center for Innovation, who may act as the representative for both Licensors if UFRF has given its prior written consent for Penn to represent UFRF in the dispute resolution process, otherwise UFRF shall designate a representative to represent UFRF. In the case of Licensee, that representative is the Chief Financial Officer, General Counsel or individual of equivalent authority.

(b) If such representatives fail to meet within the time period set forth in Section 12(a) or if either Licensee or Licensors subsequently determine that negotiations between the representatives are at an impasse, the party declaring that the negotiations are at an impasse shall give notice to the other parties stating with particularity the issues that remain in dispute.

(c) Not more than [***] after the notice of issues, the Managing Director of the Penn Center for Innovation of Penn and UFRF's designated representative (or Penn acting on behalf of both Licensors if UFRF has given its prior written consent for Penn to represent UFRF in the dispute resolution process) and the Chief Executive Officer of the Licensee shall meet and engage in good faith negotiations at a mutually convenient location to resolve the dispute.

12.2 Failure to Resolve Dispute. If (a) any issue is not resolved within [***] after the first meeting pursuant to Section 12.1(c) or (b) there is a dispute regarding payments made or due under this Agreement, either Licensee or Licensors may file appropriate CONFIDENTIAL administrative or judicial proceedings with respect to the issue in dispute. The parties agree to consider in good faith any proposals to address issues through alternative dispute resolution.

Section 13 Indemnification; Liability; Insurance

13.1 Indemnity.

(a) Licensee and Sublicensee(s) shall, at all times during the term of this Agreement and thereafter, indemnify, defend and hold Penn, the University of Pennsylvania, UFRF, the Florida Board of Governors, the University of Florida Board of Trustees, the University of Florida and each of their directors, trustees, officers, employees, and agents, the inventors of the Patent Rights, and the creators of the Licensed Information, regardless of whether the inventors are employed by the University of Florida or the University of Pennsylvania at the time of the claim (each individually, an **"Indemnitee"** and collectively, the **"Indemnitees"),** harmless against any and all claims and liabilities, damages, costs and expenses, including legal expenses and reasonable attorneys' fees, arising from a Third Party claim (or resulting from UFRF's or Penn's enforcing this indemnification clause against Licensee or a Sublicensee with respect to such a Third Party claim), arising out of (i) death of or injury to any person or persons or out of any damage to property, including product liability claims, or any other claim, proceeding, demand, expense or liability resulting from the development, production, manufacture, sale, use, consumption, marketing, or advertisement of Licensed Products by Licensee or any Sublicensee(s) or arising from (ii) any exercise of a right or the performance of any obligation of Licensee or any Sublicensee(s) under this Agreement, (iii) any enforcement action or suit brought by Licensee or a Sublicensee against a Third Party for infringement of Patent Rights and (iv) any claim by a Third Party that the practice of the Patent Rights or the design, composition, manufacture, use, sale, or other disposition of any Licensed Product infringes or violates any patent, copyright, trade secret, trademark, or other intellectual property right of such Third Party; provided that a Sublicensee's obligations pursuant to this Section 13.1 shall only apply with respect to actions or omissions of such Sublicensee.

(b) Licensee's and any Sublicensee's obligations under Section 13.1(a) are conditioned upon the applicable Indemnitee (i) providing written notice to the indemnifying party of any claim, demand or action arising out of the indemnified activities within [***] after the Indemnitee has knowledge of such claim, demand or action; (ii) permitting the indemnifying party to assume full responsibility to investigate, prepare for and defend against any such claim or demand; and (iii) assisting the indemnifying party, at the indemnifying party's expense, in the investigation of, preparation of and defense of any such claim or demand; provided that, if the Indemnitee fails to notify the indemnifying party without undue delay pursuant to the foregoing clause, the indemnifying party shall only be relieved of its indemnification obligation to the extent it is prejudiced by such failure. Notwithstanding the foregoing, if in the reasonable judgment of the Indemnitee, such suit or claim involves an issue or matter which could have a materially adverse effect on the business, operations or assets of the Indemnitee, the Indemnitee may waive its rights under Section 13.1(a) and control the defense or settlement thereof. The indemnifying party may compromise or settle any indemnified claim or demand without the applicable Indemnitee's prior written consent, provided that such compromise or settlement includes (i) an unconditional and complete release of the applicable Indemnitee from any and all liability in respect of such claim or demand (other than any financial CONFIDENTIAL liability assumed by the indemnifying party), (ii) does not commit any Indemnitee to take, or forbear to take, any action, and (iii) does not grant any rights under the Patent Rights or Licensed Information except for Sublicenses permitted under Section 2.4. Notwithstanding the above, the Licensors at all times reserve the right to retain counsel of their own to defend the interests of UFRF and Penn, the Florida Board of Governors, the University of Florida Board of Trustees, the University of Florida, the University of Pennsylvania and the inventor(s); provided that any such counsel shall be at the applicable Licensor's expense unless an actual conflict of interest between the indemnifying party and the applicable Indemnitee(s) exist, in which case, the indemnifying party shall be liable for reasonable attorneys' fees of up to one law firm for each Licensor taken together with its associated Indemnitees.

(c) Licensee's and Sublicensee(s)' obligations under this Section 13.1 shall not apply to the extent that the Third Party claim arises out of the gross negligence or intentional misconduct of UFRF or Penn, the Florida Board of Governors, the University of Florida Board of Trustees, the University of Florida, the University of Pennsylvania or inventor(s) employed by any of them, as determined by a court of law, in which case, as between the Licensors, the party to which the gross negligence or intentional misconduct is attributable (i.e., UFRF or Penn) is responsible for their own liability.

13.2 Limitation of Liability. EXCEPT WITH RESPECT TO THE INDEMNIFICATION RIGHTS OR OBLIGATIONS OF LICENSEE UNDER THIS AGREEMENT, NEITHER LICENSEE NOR LICENSORS WILL BE LIABLE FOR INDIRECT, INCIDENTAL, CONSEQUENTIAL, SPECIAL, EXEMPLARY OR PUNITIVE DAMAGES, INCLUDING LOST PROFITS, ARISING FROM OR RELATING TO THIS AGREEMENT, REGARDLESS OF ANY NOTICE OF SUCH DAMAGES.

13.3 Insurance. Licensee warrants that it now maintains and will continue to maintain and that it will procure that its Sublicensee(s) will maintain, liability insurance coverage (which, in the event that Licensee or a Sublicensee has a market capitalization of at [***], may consist of self-insurance) appropriate to the risk involved in developing, producing, manufacturing, conducting clinical trials for, selling, marketing, using, leasing, consuming, or advertising Licensed Products (the "**Required Insurance Coverage**"). The Required Insurance Coverage shall list UFRF, Penn, the Florida Board of Governors, the University of Florida Board of Trustees, the University of Florida, the University of Pennsylvania, the inventors of the Patent Rights and the creators of the Licensed Information as additional insureds. Within [***] after the execution of this Agreement and thereafter annually between [***], Licensee will present evidence to Licensors that the Required Insurance Coverage is being maintained. In addition, Licensee shall provide Penn with at least [***] prior written notice of any cancellation of the Required Insurance Coverage.

Section 14 Use of Names

Licensee and its Sublicensee(s) may not use the names or logos of Penn, the University of Pennsylvania, UFRF or the University of Florida, nor of any of the foregoing institution's employees, agents, or affiliates, nor the name of any inventor of Patent Rights, Licensed Information or Know-How, nor any adaptation of those names, in any promotional, advertising or marketing materials or any other form of publicity, or to suggest any endorsement by these entities or individuals, without the prior written approval of the applicable party in each case.

Section 15 Miscellaneous

15.1 Governing Law. This Agreement shall be governed by and interpreted in accordance with the laws of the Commonwealth of Pennsylvania, excluding application of any conflict of laws principles that would require application of the law of a jurisdiction outside of the Commonwealth of Pennsylvania.

15.2 Independent Contractors. Licensee and Licensors are independent contractors and not joint venturers or partners.

15.3 Integration; Amendments. This Agreement constitutes the full understanding between the parties with reference to its subject matter, and no prior statements or agreements by the parties, whether oral or in writing, including the Option Agreement, may modify the terms of this Agreement. However, the Penn SRA and any confidentiality agreements entered into by or among the parties before the Effective Date relating to the subject matter hereof shall each survive in accordance with their terms. Neither Licensee nor Licensors may claim any amendment, modification, or release from any provisions of this Agreement, unless the mutual agreement is in writing and signed by Licensee and the applicable Licensors.

15.4 No Security Interest. Licensee may not encumber or otherwise grant a security interest in any of the rights granted under this Agreement to any Third Party.

15.5 Laws and Regulations. Licensee shall comply with all local, state, federal, and international laws and regulations that are applicable to the development, manufacture, use, and sale of Licensed Products, including:

(a) Licensee acknowledges that it is subject to and agrees to abide by United States laws and regulations (including the Export Administration Act of 1979 and Arms Export Control Act) controlling the export of technical data, computer software, laboratory prototypes, biological material, and other commodities. The transfer of those items may require a license from the cognizant agency of the United States Government or written assurances by Licensee that it will not export items to certain foreign countries or persons without prior approval by that agency. Licensors neither represent that a license is or is not required nor represent that, if required, it will be issued.

(b) Licensee shall obtain all necessary approvals from the United States Food & Drug Administration, Environmental Protection Agency, Department of Agriculture and any similar governmental authorities of foreign jurisdictions in which Licensee intends to make, use, or sell Licensed Products.

15.6 Force Majeure. Neither Licensee nor Licensors are responsible for default, delay, or failure to perform, if such default, delay or failure to perform is due to causes beyond the party's reasonable control, including, but not limited to, strikes, lockouts, inactions of governmental authorities, war, fire, hurricane or other natural disaster, provided that the nonperforming party uses commercially reasonable efforts to avoid or remove those causes of CONFIDENTIAL nonperformance and continues performance under this Agreement with reasonable dispatch when the causes are removed. In the event of a default, delay or failure to perform described in this Section 15.6, any date or times by which Licensee or Licensors are scheduled to perform is extended automatically for a time equal to the time lost by reason of the excused default, delay or failure to perform.

15.7 Severability. If any provision hereof should be held invalid, illegal or unenforceable in any respect in any jurisdiction, the parties hereto shall substitute, by mutual consent, valid provisions for such invalid, illegal or unenforceable provisions which valid provisions in their economic effect are sufficiently similar to the invalid, illegal or unenforceable provisions that it can be reasonably assumed that the parties would have entered into this Agreement with such valid provisions. In case such valid provisions cannot be agreed upon, the invalidity, illegality or unenforceability of one or several provisions of this Agreement shall not affect the validity of this Agreement as a whole, unless the invalid, illegal or unenforceable provisions are of such essential importance to this Agreement that it is to be reasonably assumed that the parties would not have entered into this Agreement without the invalid, illegal or unenforceable provisions.

15.8 No Other Rights to Licensor Intellectual Property. Except as expressly provided herein, nothing in this Agreement shall be construed as granting to Licensee any additional ownership interest, license, express or implied, or other right, in or to any technology or intellectual property of Licensors, including know-how, patents, patent applications, trade secrets, products, formulations, delivery devices and chemical or biological materials.

15.9 Compliance with Export Regulations. None of Licensee, its Affiliates, and Sublicensees shall export any technology licensed to it under this Agreement except in compliance with United States export laws and regulations.

15.10 Waiver. No provision of this Agreement shall be waived by any act, omission or knowledge of a party or its agents or employees except by an instrument in writing expressly waiving such provision and signed by a duly authorized officer of the waiving party.

15.11 Descriptive Headings. The descriptive headings of this Agreement are for convenience only, and shall be of no force or effect in construing or interpreting any of the provisions of this Agreement.

15.12 No Strict Construction; No Prior Drafts. The parties and their respective counsel have had an opportunity to fully negotiate this Agreement. If any ambiguity or question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the parties, and no presumption or burden of proof shall arise favoring or disfavoring any party by virtue of the authorship of any provision of this Agreement. No prior draft of this Agreement shall be used in the interpretation or construction of this Agreement.

15.13 Interpretation. Unless context otherwise clearly requires, whenever used in this Agreement: (a) the words “include” or “including” shall be construed as incorporating, also, “but not limited to” or “without limitation;” (b) the word “day” or “year” means a calendar day or year unless otherwise specified; (c) the word “notice” shall mean notice in writing (whether or CONFIDENTIAL not specifically stated) and shall include notices, consents, approvals and other written communications contemplated under this Agreement; (d) the words “hereof,” “herein,” “hereby” and derivative or similar words refer to this Agreement (including any Appendices); (e) the word “or” shall be construed as the inclusive meaning identified with the phrase “and/or;” (f) provisions that require that a party or the parties hereunder “agree,” “consent” or “approve” or the like shall require that such agreement, consent or approval be specific and in writing, whether by written agreement, letter or otherwise; (g) words of any gender include the other gender; (h) words using the singular or plural number also include the plural or singular number, respectively; and (i) the word “law” (or “laws”) when used herein means any applicable, legally binding statute, ordinance, resolution, regulation, code, guideline, rule, order, decree, judgment, injunction, mandate or other legally binding requirement of a government entity, together with any then-current modification, amendment and re-enactment thereof, and any legislative provision substituted therefor.

Section 16 Notices

The parties shall provide any notice required to be given pursuant to this Agreement in writing to the addresses listed in this Section 16, except that any notice to be provided by Licensee to Licensors shall be deemed to be properly provided and effective if delivered to Penn. Notice is effective on the day it **is** delivered personally with written receipt from an authorized signatory and on the second day after the day on which the notice has been sent for next day delivery prepaid to a nationally recognized courier service.

If to UFRF:

President
University of Florida Research
Foundation, Incorporated
223 Grinter Hall University of Florida
P. O. Box 115500
Gainesville, FL 32611-5500

with a copy to:

Office of Technology Licensing
University of Florida
Attn: Director (Rm. 112)
747 SW 2nd Avenue
Post Office Box 115575
Gainesville, Florida 32611-5575

If to Penn:

Penn Center for Innovation
University of Pennsylvania
3160 Chestnut Street, Suite 200
Philadelphia, PA 19104-6283
Attention: Managing Director

with a copy to:

University of Pennsylvania
Office of General Counsel
2929 Walnut Street, Suite 400
Philadelphia, PA 19104-5509
Attention: General Counsel

If to Licensee:

Ophthotech Corporation
One Penn Plaza, Suite 3520
New York, NY 10119

Attention: Legal Department

with a copy to:

WilmerHale LLP
60 State Street
Boston, MA 02109

Attention: [***]

Section 17 United States Government Interests; Foundation Fighting Blindness Rights

17.1 The United States Government has funded Grant No. EY021721 during the course of or under which any of the inventions of the Patent Rights was conceived or reduced to practice. The United States Government is entitled under the provisions of 35 U.S.C. §202-212 and applicable regulations to a non-exclusive, nontransferable, irrevocable, paid-up license to practice or have practiced those inventions for or on behalf of the United States throughout the world. Any license granted to Licensee in this Agreement is subject to that license. If any invention claimed in the Patent Rights or described in Licensed Information was funded by the United States Government, Licensee agrees that Licensed Products that are used or sold in the United States will be manufactured substantially in the United States unless a waiver is obtained, at Licensee's expense, from the appropriate Untied States Government agency with respect to the requirement of United States manufacturing preference.

17.2 [***]

Section 18 Confidentiality

18.1 Unless required by Pennsylvania law or other applicable law, the parties (a) may only use one another's Confidential Information (as defined below) as necessary to perform the obligations or exercise the rights set forth in this Agreement, (b) may not disclose any other party's Confidential Information to any Third Party, and (c) shall protect one another's Confidential Information with the same degree of care that they exercise with their own Confidential Information but in no event less than a reasonable degree of care. Notwithstanding the foregoing, the parties may disclose this Agreement and Confidential Information to their authorized Affiliates, directors, officers, employees, consultants, attorneys, accountants, subcontractors, Sublicensees, potential Sublicensees, investors, potential investors, lenders, potential lenders, acquirers, potential acquirers or agents who are bound by similar confidentiality provisions. For the purposes of this Agreement, "Confidential Information" means the terms of this Agreement and information disclosed by one party to another in connection with this Agreement that is marked "confidential" by the disclosing party or that is confirmed in writing within [***] after verbal disclosure. Confidential Information does not include information that (i) is publicly known; (ii) is already known or independently developed without use of the Confidential Information as shown by written records; (iii) is disclosed by a Third Party having no known obligation of confidentiality with respect to the Confidential Information; or (iv) is required to be disclosed to comply with applicable laws or regulations or with a court or administrative order, including to comply with applicable disclosure requirements under United States securities regulations and rules of any stock exchange on which shares of the disclosing party are listed. These confidentiality obligations remain effective for (x) in the case of the terms of this Agreement, the period during which this Agreement remains in effect [***] and (y) in the case of other Confidential Information, [***] after disclosure of the Confidential Information.

18.2 Notwithstanding Section 18.1, a party may disclose Confidential Information of another party to the extent such disclosure is reasonably necessary in the following instances:

(a) Prosecuting patent rights in accordance with this Agreement; provided that the non-filing party whose Confidential Information is being disclosed is given a reasonable opportunity to review the proposed disclosure of such Confidential Information;

(b) making filings with Regulatory Authorities or otherwise complying with applicable laws or submitting information to tax or other governmental authorities;

(c) for Regulatory Approval of Licensed Products; or

(d) to the extent mutually agreed to in writing by the parties.

18.3 In the event that UFRF receives a request for Confidential Information pursuant to the Florida Public Records Act, Fla. Stat. §119.07, it is the parties' intent that UFRF will rely on the exemption set forth in paragraph (2) of Florida Education Code, Fla. Stat. § 1004.22 to avoid disclosure of Confidential Information in connection with such request. In the event that UFRF determines in good faith that such exception is not applicable, UFRF shall provide Licensee or Penn, as applicable, with advance written notice prior to making any disclosures of such party's Confidential Information pursuant to any such public records request.

18.4 During the term of this Agreement, neither the Penn Principal Investigators nor OF Principal Investigators will publicly disclose the sequence or identity of the specific BEST1 transgene in the Wildtype Only Products other than if and to the extent required pursuant to a journal publication requirement or obligation, and in such case, if Penn Principal Investigators or OF Principal Investigators wish to publish, Penn or UFRF, as applicable, will promptly notify Licensee of the applicable disclosure requirement and in any event prior to submission for publication.

Section 19 University Rules and Regulations

Licensee understands and agrees that University of Florida personnel who are engaged by Licensee, whether as consultants, employees, or otherwise or who possess a material financial interest in Licensee are subject to the University of Florida's rules regarding outside activities and financial interests set forth in University of Florida Regulation 1.011, the University of Florida's Intellectual Property Policy, and an associated monitoring plan which addresses conflicts of interests. Any term of an agreement between Licensee and such University of Florida personnel which seeks to vary or override the personnel's obligations to the University of Florida may not be enforced without the express written consent of an individual authorized to vary or waive such obligations on behalf of the University of Florida Board of Trustees and UFRF. Furthermore, should an interest of Licensee conflict with the interests of the University of Florida, such University of Florida personnel are obligated to resolve those conflicts according to the rules, guidelines, and policies of the University of Florida.

Section 20 Contract Formation and Authority

20.1 The submission of this Agreement is not an offer, and this document is effective and binding only upon the execution by duly authorized representatives of Licensee and each Licensor. Copies of this Agreement that have not been executed and delivered by UFRF, Penn and Licensee do not evidence an agreement among the parties. Penn, on behalf of Licensors, may terminate this Agreement without the requirement of any notice to Licensee, if Penn, on behalf of Licensors, does not receive the license issuance fee pursuant to this Agreement within thirty (30) days after the Effective Date.

20.2 Each Licensor and Licensee hereby warrant and represent that the persons signing this Agreement have authority to execute this Agreement on behalf of the party for whom they have signed.

[remainder of page intentionally left blank]

The parties have duly executed this Agreement on the dates indicated below.

THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA

By: /s/ Benjamin Dibling, Ph.D.
Name: Benjamin Dibling, Ph.D.
Title: . Executive Director of Licensing, Penn Center for Innovation

Date: April 11, 2019

OPHTHOTECH CORPORATION

By: /s/ Glenn Sblendorio
Name: Glenn Sblendorio
Title: CEO + President

Date: April, 2019

UNIVERSITY OF FLORIDA RESEARCH FOUNDATION, INCORPORATED
By: /s/ Jim O'Connell
Name: Jim O'Connell
Title: Director of Technology Licensing

Date: 4/11/2019

Appendix A - Patent Rights and Know-How

[***]

Appendix B - Licensed Information

[***]

Appendix C - Initial Development Plan

[***]

Appendix D - Development Report

[***]

Appendix E - Royalty Report

[***]

Appendix F - Milestones

[***]

Appendix G - Subsequently Added Intellectual Property

Appendix H - [***]

[***]

Exhibit 10.30.1

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL. OMITTED INFORMATION HAS BEEN REPLACED WITH ASTERISKS [***]

AMENDMENT NO. 1 TO EXCLUSIVE LICENSE AGREEMENT WITH KNOW-HOW

This Amendment No. 1 to Exclusive License Agreement with Know-How ("Amendment") is made effective as of May 1, 2020 by and among the Trustees of the University of Pennsylvania, a Pennsylvania nonprofit corporation ("Penn"), the University of Florida Research Foundation, Incorporated, a nonstock, nonprofit Florida corporation ("UFRF"; together with Penn, the "Licensors") and IVERIC bio, Inc., a Delaware corporation ("Licensee").

Recitals

WHEREAS, the Licensors and Licensee entered into an Exclusive License Agreement with Know-How, dated as of April 10, 2019 (the "License Agreement") pursuant to which the Licensors granted Licensee exclusive rights to certain patent rights and information and non-exclusive rights to certain know-how, in each case to develop, manufacture and commercialize certain gene therapy technologies in the field of treating diseases associated with mutations in the *BEST1* gene;

WHEREAS, in connection with the License Agreement, Licensee entered into separate sponsored research agreements with Penn and UFRF;

WHEREAS, as a result of the sponsored research with Penn, Penn has filed two patent applications covering certain methods of treating BEST/-related retinal diseases (the "Patent Applications") and the Patent Applications constitute "Related Penn Intellectual Property" under the Penn SRA;

WHEREAS, Licensee exercised its option rights under the Penn SRA to include the Patent Applications as "Subsequently Added Intellectual Property" under the License Agreement; and

WHEREAS, the Licensors and Licensee agree to amend the License Agreement to add such Subsequently Added Intellectual Property.

Agreement

The Licensors and Licensee agree as follows:

1. The Patent Applications, which are described in the Appendix 1 of this Amendment, and all patent rights arising therefrom constitute Subsequently Added Intellectual Property and Appendix G to the License Agreement is hereby amended by adding the information on Appendix 1 hereto to Appendix G.

2. The following definitions shall be added to Section 1 of the License Agreement in the appropriate alphabetical order:

"Penn Subsequently Added Intellectual Property" means Subsequently Added Intellectual Property arising under the Penn SRA.

"UF Subsequently Added Intellectual Property" means Subsequently Added Intellectual Property arising under the UF SRA.

3. The following subsections shall be added to Section 7 of the License Agreement (Patent Prosecution):

7.6 Prosecution of the Subsequently Added Intellectual Property. Penn shall file, prosecute, and maintain the Patent Rights related to the Penn Subsequently Added Intellectual Property using counsel of its choice reasonably acceptable to Licensee, and UFRF shall file, prosecute, and maintain the Patent Rights related to the UF Subsequently Added Intellectual Property using counsel of its choice reasonably acceptable to Licensee. Licensee acknowledges that for Penn Subsequently Added Intellectual Property, [***] is acceptable and for UF Subsequently Added Intellectual Property, [***] is acceptable. Penn or UFRF, as applicable, shall promptly provide Licensee with copies of all documents sent to and received from the United States Patent and Trademark Office and foreign patent offices relating to Penn Subsequently Added Intellectual Property or UF Subsequently Added Intellectual Property, as applicable. Licensee shall keep those documents confidential.

7.7 Consultation and Maintenance.

(a) Penn or UFRF, as applicable, will solicit input from Licensee regarding [***]. Penn or UFRF, as applicable, will submit, or will cause to be submitted to Licensee (or its designated counsel) [***].

(b) Penn or UFRF, as applicable, shall maintain the Patent Rights related to Penn Subsequently Added Intellectual Property or UF Subsequently Added Intellectual Property, as applicable, in at least the following countries: [***]. Licensee shall pay all costs and expenses incurred by Penn or UFRF, as applicable, related to the preparation, filing, prosecution (including interferences and oppositions), issuance, maintenance and reporting of the Patent Rights related to Penn Subsequently Added Intellectual Property or UF Subsequently Added Intellectual Property, as applicable, in such countries and in any additional countries or jurisdictions in which Penn or UFRF, as applicable, and Licensee mutually agree to pursue such preparation, filing, prosecution (including interferences and oppositions), issuance, maintenance and reporting, in each case that were not previously reimbursed, within [***] of receipt of an invoice from Penn or UFRF, as applicable. Licensee shall keep Penn or UFRF, as applicable, fully apprised of the entity status of Licensee and all Sublicensees with respect to United States and applicable foreign patent laws. Licensee shall inform Penn or UFRF, as applicable, of any changes in writing of the entity status from "small entity" to "large entity" or vice versa with respect to United States and applicable foreign patent laws within [***] of any change.

(c) Penn or UFRF, as applicable, shall, with respect to Penn Subsequently Added Intellectual Property or UF Subsequently Added Intellectual Property, as applicable, and any related Patent Rights, remain in compliance with The Patent and Trademark Law Amendments Act of 1980 (Public Law 96-517; 35 U.S.C. §§ 200-212), including any amendments thereto and all regulations promulgated thereunder, and shall reasonably assist Licensee in complying with Licensee's obligations under such law, including, as applicable, that set forth in Section 17.1.

(d) Licensee shall have the sole right in electing which of the Patent Rights related to Subsequently Added Intellectual Property shall receive any patent term extension under 35 U.S.C. § 156 in the United States, supplemental protection certificate in the European Union and similar rights in foreign jurisdictions. Penn or UFRF, as applicable, and Licensee shall cooperate in timely filing and obtaining the patent term extension, supplemental protection certificate and similar rights for such Patent Right(s) elected by Licensee.

7.8 Licensee may elect upon [***] prior written notice to decline to reimburse Penn or UFRF, as applicable, for patent expenses for any Patent Right related to Penn Subsequently Added Intellectual Property or UF Subsequently Added Intellectual Property, as applicable, in any particular country or jurisdiction, provided that if Licensee elects to decline to reimburse Penn or UFRF, as applicable, for such patent expenses in any country, then upon such election, the license granted to Licensee by this Agreement terminates after the [***] with respect to the applicable Patent Right in that country or jurisdiction.

4. Reimbursement. Licensee shall pay Penn, within [***] after receipt of an invoice therefor, to reimburse expenses associated with preparation, filing, prosecution, issuance, maintenance, and reporting of the Patent Rights relating to the Patent Applications incurred prior to the effective date of this Amendment.

5. Except as expressly set forth in this Amendment, the License Agreement remains in full force and effect in accordance with its terms.

6. Penn and UFRF each consents to Licensee filing a copy of this Amendment with the Securities and Exchange Commission, in accordance with its rules and regulations.

7. This Amendment may be executed in counterparts, each of which will be deemed an original, and all of which together will be deemed to be one and the same instrument. A portable document format (PDF) or electronic copy of this Amendment, including the signature pages, will be deemed an original.

[Signatures follow]

Execution Copy

This Amendment No. 1 to Exclusive License Agreement with Know-How is entered into by the parties by their duly authorized signatories.

Licensors:

TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA

By: /s/ Benjamin Dibling, Ph.D.
Name: Benjamin Dibling, Ph.D.
Title: Executive Director of Licensing,
Penn Center for Innovation

UNIVERSITY OF FLORIDA RESEARCH FOUNDATION, INCORPORATED

By: /s/ Jim O'Connell
Name: Jim O'Connell
Title: Director, UF Innovate | Tech Licensing

Licensee:

IVERIC BIO, INC.

By: /s/ Abraham Scaria, Ph.D.
Name: Abraham Scaria, Ph.D.
Title: Chief Scientific Officer

Appendix 1

[***]

Exhibit 10.30.2

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL. OMITTED INFORMATION HAS BEEN REPLACED WITH ASTERISKS [***]

AMENDMENT NO. 2 TO EXCLUSIVE LICENSE AGREEMENT WITH KNOW-HOW

This Amendment No. 2 to Exclusive License Agreement with Know-How ("Amendment") is made effective a of July 1, 2022 by and among the Trustees of the University of Pennsylvania, a Pennsylvania nonprofit corporation ("Penn"), the University of Florida Research Foundation, Incorporated, a nonstock, nonprofit Florida corporation ("UFRF"; together with Penn, the "Licensors") and IVERIC Bio Gene Therapy LLC, a Delaware limited liability company ("Licensee").

Recitals

WHEREAS, the Licensors and Licensee entered into an Exclusive License Agreement with Know-How, dated as of April 10, 2019, as amended by Amendment No. 1 on May 1, 2020 (the "License Agreement") pursuant to which the Licensors granted Licensee exclusive rights to certain patent rights and know-how and non-exclusive rights to certain know-how, in each case to develop, manufacture and commercialize certain gene therapy technologies in the field of treating diseases associated with mutations in the *BEST1* gene. Capitalized terms used but not defined herein shall have the meanings ascribed to them in the License Agreement; and

WHEREAS, the parties now wish to amend the License Agreement by this Amendment;

NOW THEREFORE, in consideration of the premises and mutual covenants contained herein the parties hereto agree as follows:

1. **Payment.** Licensee hereby agrees to pay to Penn a non-creditable, non-refundable fee of [***] within [***] following the execution of this Amendment.

2. **Section 3.2 First Commercial Sale — Milestones.** The first sentence of Section 3.2(a)(i) of the License Agreement is hereby deleted in its entirety and replaced with the following:

"Licensee agrees that the First Commercial Sale of a Wildtype Only Product to a customer shall occur [***]."

3. **Appendix F — Milestones.** Appendix F-1 is hereby deleted in its entirety and replaced with the following:

Diligence Events for Wildtype Only Products

Diligence Event	Achievement Date
[***]	[***]
[***]	[***]
[***]	[***]

4. Except as expressly set forth in this Amendment, the License Agreement remains in full force and effect in accordance with its terms.

5. Licensors consent to Licensee filing a copy of this Amendment with the U.S. Securities and Exchange Commission, in accordance with its rules and regulations.

6. This Amendment may be executed in counterparts, each of which will be deemed an original, and all of which together will be deemed to be one and the same instrument. A portable document format (PDF) or electronic copy of this Amendment, including the signature pages, will be deemed an original.

[Signatures follow]

This Amendment No. 2 to Exclusive License Agreement with Know-How is entered into by the parties by their duly authorized signatories.

Licensors:

TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA

By: /s/ Benjamin Dibling, Ph. D.
Name: Benjamin Dibling, Ph. D.
Title: Deputy Managing Director, Penn Center for Innovation

UNIVERSITY OF FLORIDA RESEARCH FOUNDATION, INCORPORATED

By: /s/ Jim O'Connell
Name: Jim O'Connell
Title: Director, UF Innovate | Tech Licensing

License:

IVERIC BIO GENE THERAPY LLC

By: /s/ Kieth Westby
Name: Kieth Westby
Title: Chief Operating Officer

Exhibit 10.30.3

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL. OMITTED INFORMATION HAS BEEN REPLACED WITH ASTERISKS [***]

EXECUTION VERSION
CONFIDENTIAL

ASSIGNMENT CONSENT AGREEMENT AND THIRD AMENDMENT TO THE EXCLUSIVE LICENSE AGREEMENT WITH KNOW-HOW
Signature Page

<table>
<tr><th colspan="3">LICENSE CONTACT INFORMATION</th></tr>
<tr><td colspan="2">Company full legal name and notice address:
IVERIC bio Gene Therapy LLC
8 Sylvan Way
Parsippany, NJ 07054
Attention: [***]
Email: [***]

with a copy to:

Wilmer Cutler Pickering Hale and Dorr LLP
60 State Street
Boston, MA 02109
Attention: [***]
Email: [***]</td><td>Company primary phone number:
[***]

Company primary fax number:
[***]</td></tr>
<tr><td>Company contact name:
[***]</td><td>Contact title:
[***]</td><td>Contact phone number:
[***]</td></tr>
</table>

<table>
<tr><th colspan="3">ASSIGNEE CONTACT INFORMATION</th></tr>
<tr><td colspan="2">Company full legal name and notice address:
Opus Genetics Inc.
8 Davis Drive
Durham, NC 27709
Attention: [***]
Email: [***]

with a copy to:

Smith, Anderson, Blount, Dorsett, Mitchell & Jennigan, LLP
Wells Fargo, Capitol Center
150 Fayetteville Street, Suite 2300
Raleigh, NC 27601
Attention: [***]
Email: [***]</td><td>Company primary phone number:

Company primary fax number:</td></tr>
<tr><td>Company contact name:
[***]</td><td>Contact title:
[***]</td><td>Contact phone number:
[***]</td></tr>
</table>

PENN CONTACT INFORMATION	
Penn notice address: University of Pennsylvania Penn Center for Innovation 3600 Civic Center Blvd, 9th Flr Philadelphia, PA 19104-6283 Attention: Managing Director	***Penn primary phone number***: [***] ***Company primary fax number***: [***]
Penn Investigator name: [***]	***Penn department***: [***]
Payments to Penn shall be made in accordance with Section 6.3 of the License Agreement: [***]	

UFRF CONTACT INFORMATION	
UFRF notice address: University of Florida Research Foundation. Incorporated 223 Grinter Hall, University of Florida P.O. Box 115500 Gainesville, FL 32611-5500 Attn: President With a copy to: Office of Technology Licensing University of Florida Attn: Director (Rm. 112) 747 SW 2nd Avenue Post Office Box 115575 Gainesville, Florida 32611-5575	***UFRF primary phone number***: [***] ***UFRF primary fax number***: [***]
UFRF Investigator name: [***]	***UFRF department***: [***]

LICENSE AGREEMENT	
Patent Docket Numbers: [***]	***Effective Date of License***: April 10, 2019
Field of Use: THERAPIES FOR THE PREVENTION, TREATMENT, CONTROL AND PALLIATION OF HUMAN DISEASES ASSOCIATED WITH THE BEST1 GENE.	***Amendments/Effective Dates***: Amendment No. 1 May 1, 2020 Amendment No. 2. July 1, 2022

EFFECTIVE DATE OF ASSIGNMENT	
Background: Opus is purchasing all or substantially all of the assets of Iveric related to products identified in the License Agreement (as defined below), pursuant to the Asset Purchase Agreement (defined below). The parties with to provide for the assignment to Opus of all of Iveric's rights under the License Agreement form and after the date hereof. The parties also desire to amend the License Agreement as provided in Section 5 hereof.	***Effective Date of Assignment***: December 23, 2022

SIGNATURES	
This Assignment Consent Agreement and Third Amendment to the Exclusive License Agreement with Know-How includes this Signature Page and all of the attached Terms and Conditions. By signing below, Iveric, Opus, Penn and UFRF agree to all of the provisions of this Agreement and intend to be bound hereby.	
LICENSEE **IVERIC BIO GENE THERAPY LLC** By: /s/ Tony Gibney (*please sign*) Name: Tony Gibney Title: Chief Business and Strategy Officer Date: 12/23/2022	**ASSIGNEE** **OPUS GENETICS INC.** By: /s/ Ben Yerxa (*please sign*) Name: Ben Yerxa Title: President & Chief Executive Officer Date: 12/23/2022
THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA By: /s/ Benjamin Dibling (*please sign*) Name: Benjamin Dibling Title: Deputy Managing Director Date: 12/23/2022	**THE UNIVERSITY OF FLORIDA RESEARCH FOUNDATION INCORPORATED** By: /s/ Jim O'Connell (*please sign*) Name: Jim O'Connell Title: Director, UF Innovate | Licensing Date: 12/23/2022

Terms and Conditions

This Assignment Consent Agreement and Third Amendment to the Exclusive License Agreement with Know-How ("**Assignment Agreement**"), effective upon execution by all the parties as of the effective date listed on the Signature Page (the **"Effective Date**"), is entered into by and among, IVERIC bio Gene Therapy LLC (successor in interest to Ophthotech Corporation) **(**"**Iveric**"), Opus Genetics Inc. ("**Opus**"), The Trustees of the University of Pennsylvania ("**Penn**") and The University of Florida Research Foundation, Incorporated ("**UFRF**", and collectively with Penn, the **"Licensors**").

1. Defined Terms. Capitalized terms used but not defined in this Assignment Agreement are defined in the Exclusive License Agreement with Know-How, by and among Penn, UFRF and Iveric, dated as of April 10, 2019, as amended by Amendment No. 1, dated May 1, 2020, and Amendment No. 2, dated July 1, 2022 (the "**License Agreement**").

2. Assignment and Consent. As of the Effective Date:

(a) Pursuant to the Asset Purchase Agreement between Iveric and Opus effective as of the Effective Date (the "**Asset Purchase Agreement**"), Iveric has assigned to Opus all of Iveric's right, title and interest in, to and under (i) the License Agreement, and Opus has assumed all of Opus' obligations under the License Agreement from and after the Effective Date, (ii) the Penn SRA, dated October 30, 2018, as amended by Amendment No. 1, dated October 1, 2019 and Amendment No. 2, dated October 31, 2022, the "**Sponsored Research Agreement**", and collectively with the License Agreement, the "**Assigned Agreements**"). The Licensors, on behalf of their respective institutions, hereby (x) consent to the assignment and assumptions of the License Agreement and (y) Penn acknowledges and agree to the assignment of the Sponsored Research Agreements.

(b) In furtherance of the foregoing, effective as of the Effective Date:

(i) Opus hereby accepts, and agrees to assume, all of Iveric's right, title and interest in, to and under the Assigned Agreements;

(ii) Opus will become a party to the Assigned Agreements and will succeed to all of the rights and assume all of the obligations of Licensee thereunder;

(iii) all references to "Licensee" in the License Agreement will refer to Opus; and

(iv) all references to "Sponsor" in the Sponsored Research Agreements will refer to Opus.

(b) The Patent Applications, which are described in Appendix 1 of this Assignment Agreement, and all patent rights arising therefrom constitute Subsequently Added Intellectual Property and Appendix G to the License Agreement is hereby deleted in its entirety and replaced with Appendix 1..

All other terms and provisions of the License Agreement, except as expressly amended by this Section 5, remain in full force and effect.

6. Miscellaneous. Any notice must be in writing and sent to the address of the party listed on the Signature Page. The parties do not intend that any agency or partnership relationship be created by this Assignment Agreement. This Assignment Agreement may only be modified by a written amendment that is executed by an authorized representative of each party . Any waiver must be express and in writing. No waiver by a party of a breach by another party will constitute a waiver of any different or succeeding breach. This Assignment Agreement will be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania without regard to conflicts of law principles of any jurisdiction.

(c) Anything in this Assignment Agreement to the contrary notwithstanding, in no event shall Iveric be released from any liabilities under, or failure to perform its obligations pursuant to, the License Agreement prior to the Effective Date, and Iveric shall remain liable to Licensors for all such liabilities and obligations.

3. Representations and Warranties. Each party to this Assignment Agreement represents and warrants to each other that the person executing this Assignment Agreement on its behalf has all necessary power and authority to do so, and that upon such execution, this Assignment Agreement is a legal, valid and binding obligation enforceable against such party.

4. Consideration. In consideration for the Licensors' consent to the assignment of the License Agreement from Iveric to Opus, Opus agrees to pay Penn:

(a) [***], which payment will be made on the Effective Date;

(b) [***] of each milestone payment that it is required to pay to Iveric under Section 3.3 of the Asset Purchase Agreement, with each such payment due to Penn within [***] of achieving the milestone and in addition to any amounts that may be owed to Penn under the License Agreement for the same milestone.

5. Amendments to License Agreement. The Licensors and Opus agree that the License Agreement shall be amended as follows, as of the Effective Date:

(a) Appendix F-1 of the License Agreement — Milestones — Diligence Events for Wildtype Only Products shall be amended by deleting the contents of such table and replacing them with the following:

[***]

This Assignment Agreement, the Asset Purchase Agreement, the License Agreement (as amended hereby) and the Sponsored Research Agreements contain the entire agreement between the parties with respect to subject matter of this Assignment Agreement and supersede all other oral or written representations, statements, or agreements with respect to such subject matter. This Assignment Agreement is binding upon the parties and their respective heirs, successors, assigns, and personal representatives. No party may assign this Assignment Agreement without the prior written consent of the other parties. This Assignment Agreement may be signed in counterparts which, taken as a whole, will constitute one agreement.

Appendix 1

[***]

Exhibit 10.30.4

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL. OMITTED INFORMATION HAS BEEN REPLACED WITH ASTERISKS [***]

AMENDMENT NO. 4 TO EXCLUSIVE LICENSE AGREEMENT WITH KNOW-HOW

This Amendment No. 4 to Exclusive License Agreement with Know-How ("Amendment") is made effective as of April 15, 2024, by and among the Trustees of the University of Pennsylvania, a Pennsylvania nonprofit corporation ("Penn"), the University of Florida Research Foundation, Incorporated, a nonstock, nonprofit Florida corporation ("UFRF"; together with Penn, the "Licensors") and Opus Genetics Inc. ("Licensee").

RECITALS:

WHEREAS, the Licensors and Licensee entered into an Exclusive License Agreement with Know-How, dated as of April 10, 2019, as amended by Amendment No. 1 on May 1, 2020, Amendment No. 2 dated July 1, 2022 and Assignment Consent Agreement and Third Amendment dated December 23, 2022 (the "License Agreement") pursuant to which the Licensors granted Licensee exclusive rights to certain patent rights and know-how and non-exclusive rights to certain know-how, in each case to develop, manufacture and commercialize certain gene therapy technologies in the field of treating diseases associated with mutations in the *BEST1* gene; and

WHEREAS, the parties now desire to modify the Diligence Events and wish to amend the License Agreement to reflect these changes. Capitalized terms used but not defined herein shall have the meanings ascribed to them in the License Agreement.

NOW THEREFORE, in consideration of the premises and mutual covenants contained herein the parties hereto agree as follows:

1. **Appendix F — Milestones.** Appendix F-1 is hereby deleted in its entirety and replaced with the following:

Diligence Events for Wildtype Only Products

Diligence Event	Achievement Date
[***]	[***]
[***]	[***]
[***]	[***]

2. Except as expressly set forth in this Amendment No. 4, the License Agreement remains in full force and effect in accordance with its terms.

3. This Amendment No. 4 may be executed in counterparts, each of which will be deemed an original, and all of which together will be deemed to be one and the same instrument. A portable document format (PDF) or electronic copy of this Amendment No. 4, including the signature pages, will be deemed an original. The parties hereby agree that this Amendment No. 4 may be executed with electronic signatures and shall be valid and binding on the parties to the extent electronically signed.

[Signatures follow]

This Amendment No. 4 to Exclusive License Agreement with Know-How is entered into by the parties by their duly authorized signatories.

Licensors:

TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA

By: /s/ Benjamin Dibling, Ph.D.
Name: Benjamin Dibling, Ph.D.
Title: Associate Vice Provost for Research and Managing Director, Penn Center for Innovation

UNIVERSITY OF FLORIDA RESEARCH FOUNDATION, INCORPORATED

By: /s/ Jim O'Connell
Name: Jim O'Connell
Title: Director, UF Innovate | Tech Licensing

Licensee:

OPUS GENETICS INC.

By: /s/ Ben Yerxa
Name: Ben Yerxa
Title: Chief Executive Officer

Exhibit 10.31

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL. OMITTED INFORMATION HAS BEEN REPLACED WITH ASTERISKS [***]

Final Execution Copy

AMENDED AND RESTATED LICENSE AGREEMENT

DATED AS OF JUNE 15, 2022

BY AND BETWEEN

THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA

AND

OPUS GENETICS INC.

TABLE OF CONTENTS

UNIVERSITY OF PENNSYLVANIA

LICENSE AGREEMENT

This Amended and Restated License Agreement (this "**Agreement**") amends and restates that certain Patent License Agreement (the "**Original Agreement**") executed and effective as of August 5, 2021 ("**Original Agreement Effective Date**") by and between The Trustees of the University of Pennsylvania, a Pennsylvania nonprofit corporation ("Penn"), and Opus Genetics Inc., a Delaware corporation ("**Licensee**"). Penn and Licensee may be referred to herein as a "**Party**" or, collectively, as "**Parties**". This Agreement is being signed on June 15, 2022 ("**Execution Date**"). This Agreement will become effective on June 15, 2022 ("**Effective Date**").

RECITALS

WHEREAS, Penn owns and controls certain innovative technologies for the treatment of retinal disorders caused by a mutation or mutations in the lebercilin (LCA5) gene and the RDH12 gene, resulting in Leber congenital amaurosis 5 (LCA5) and Leber congenital amaurosis 13 (LCA 13) [***] that were developed at Penn by Dr. Jean Bennett and others (as identified on the patents and patent applications) (the "**Inventor(s)**")**;**

WHEREAS, Penn filed patent application(s) listed in **Exhibit A-1** covering the technology;

WHEREAS, under the Original Agreement, Penn exclusively licensed to Licensee, Penn's intellectual property rights in the aforementioned patent application(s) in a manner that will benefit the public and best facilitate the distribution of useful products and the utilization of new technology, consistent with Penn's educational and research missions and goals, which license will continue in effect under the terms and conditions of this Agreement;

WHEREAS, under the Original Agreement, Licensee licensed Penn's intellectual property rights in the aforementioned patent application(s) to develop, manufacture and commercialize (or otherwise make available) such technology, and will continue to do so under the terms and conditions of this Agreement;

WHEREAS, Penn disclosed certain Licensed Information [***] listed in **Exhibit A-2**;

WHEREAS, Penn desires to non-exclusively license, to Licensee, such Licensed Information, in a manner that will benefit the public and best facilitate the distribution of useful products and the utilization of new technology, consistent with Penn's educational and research missions and goals;

WHEREAS, Licensee desires to non-exclusively license from Penn, such Licensed Information on the terms and conditions of this Agreement; and

WHEREAS, Penn and Licensee desire to amend and restate the Original Agreement to reflect these changes.

NOW, **THEREFORE**, in consideration of the various promises and undertakings set forth herein, the Parties agree as follows:

ARTICLE 1
DEFINITIONS

Unless otherwise specifically provided herein, the following terms shall have the following meanings:

1.1 "**Achievement Date**" means, with respect to a Diligence Event, the corresponding date such Diligence Event is to be achieved as provided in **Exhibit B-1** attached hereto subject to modification pursuant to Section 3.3 below.

1.2 "**Affiliate**" means a Person that controls, is controlled by or is under common control with a Party, but only for so long as such control exists. For the purposes of this Section 1.2, the word "control" (including, with correlative meaning, the terms "controlled by" or "under the common control with") means the actual power, either directly or indirectly through one or more intermediaries, to direct the management and policies of such Person or entity, whether by the ownership of more than fifty percent (50%) of the voting stock of such entity, or by contract or otherwise.

1.3 "**Commercially Reasonable Efforts**" means [***].

1.4 "**Confidential Information**" of a Party, means (i) information relating to the business, operations or products of a Party or any of its Affiliates, including any know-how, that such Party has disclosed to the other Party under the Original Agreement or discloses to the other Party under this Agreement, or otherwise becomes known to the other Party by virtue of this Agreement, and (ii) the terms of this Agreement; provided that Confidential Information shall not include information that:

(a) is or becomes generally available to the public other than as a result of disclosure by the recipient;

(b) is already known by or in the possession of the recipient at the time of disclosure by the disclosing Party;

(c) is independently developed by recipient without use of or reference to the disclosing Party's Confidential Information; or

(d) is obtained by recipient from a Third Party that has not breached any obligations of confidentiality.

1.5 "**Controlled**" means, with respect to intellectual property rights, that a Party or one of its Affiliates owns or has a license or sublicense to such intellectual property rights and has the ability to provide to, grant a license or sublicense to, or assign its right, title and interest in and to, such intellectual property rights as provided for in this Agreement without violating the terms of any agreement or other arrangement with any Third Party.

1.6 "**Development Plan**" means the development plan provided by Licensee to Penn that provides the activities, and the associated timelines of when such activities shall be conducted (including in detail the activities that shall be conducted in the calendar year following the submission of such Development Plan to Penn), in order to develop a Product for commercialization. The initial Development Plan is attached hereto as **Appendix IV**.

1.7 "**Diligence Event**" means each of the events that Licensee is expected to accomplish in the development of a Product as provided in **Exhibit B-1** attached hereto.

1.8 "**Field of Use**" means all fields of use.

1.9 "**First Commercial Sale**" means, on a country-by-country basis, the first commercial transfer or disposition for value of Product in such country to a Third Party by Licensee, or any of its Affiliates or Sublicensees, in each case, after all Governmental Approvals have been obtained for such country.

1.10 "**GAAP**" means United States generally accepted accounting principles applied on a consistent basis.

1.11 "**Governmental Approval**" means, with respect to a Product in a country or region, the approval, clearance, license, registration or authorization (including but not limited to emergency use authorization) by the relevant Governmental Body, if applicable, for the commercialization of such Product in such country.

1.12 "**Governmental Body**" means any: (a) nation, principality, state, commonwealth, province, territory, county, municipality, district or other jurisdiction of any nature; (b) federal, provincial, state, local, municipal, foreign or other government; (c) governmental or quasi-governmental authority of any nature (including any governmental division, subdivision, department, agency, bureau, branch, office, commission, council, board, instrumentality, officer, official, representative, organization, unit, body or entity and any court or other tribunal); (d) multi-national or supranational organization or body; or (e) individual, entity, or body exercising, or entitled to exercise, any executive, legislative, judicial, administrative, regulatory, police, military or taxing authority or power of any nature.

1.13 "**Intellectual Property**" means the Penn Patent Rights.

1.14 "**Law**" or "**Laws**" means all applicable laws, statutes, rules, regulations, ordinances and other pronouncements having the binding effect of law of any Governmental Body.

1.15 "**Licensed Information**" means [***].

1.16 "**Limelight**" means Limelight Bio, Inc.

1.17 "**Net Sales**" means [***].

1.18 "**Patent Rights**" means any of the following, whether existing now or in the future anywhere in the world: issued patent, including inventor's certificates, substitutions, extensions, confirmations, reissues, re-examination, renewal or any like governmental grant for protection of inventions, and any pending application for any of the foregoing.

1.19 "**Penn Patent Rights**" means (a) the Patent Rights listed in **Exhibit A-1** Controlled by Penn as of the Effective Date, (b) any continuations, provisionals, continued prosecution applications, substitutions, extensions and term restorations, registrations, confirmations, reexaminations, renewals or reissues thereof, including divisions, but excluding continuations-in-part except to the extent of claims entirely supported in the specification and entitled to the priority date of the parent application, and (c) any corresponding foreign Patent Rights to the foregoing. Notwithstanding the above, Penn Patent Rights does not include the Carve-Out Patent Rights.

1.20 "**Person**" means any natural person, corporation, firm, business trust, joint venture, association, organization, company, partnership or other business entity, or any government or agency or political subdivision thereof.

1.21 "**Product**" means any (a) process, service or method covered by a Valid Claim or whose use or practice would, absent the License, constitute an infringement, inducement of infringement or contributory infringement of any Valid Claim ("**Method**"), (b) article, composition, apparatus, substance, chemical or any other material covered by a Valid Claim or whose manufacture, import, use offer for sale or sale would, absent the License, constitute an infringement, inducement of infringement or contributory infringement of any Valid Claim; or (c) service, article, composition, apparatus, chemical, substance or any other material imported, made, used or sold by or utilizing or practicing a Method or (d) product, service, method, article, composition, apparatus, substance, chemical or any other material which incorporates, consists of, makes use of or is made through use of or could not be made but for the use of Licensed Information.

1.22 "**Product Category**" means either (a) any Products directed towards treatment or correction of mutation of LCA5 (the "**LCA5 Products**"), or (b) any Products directed towards treatment or correction of mutation of RDH12 (the "**RDH12 Products**"). [***]

1.23 "**Sale**" means [***].

1.24 "**Sublicensee**" means a Person (including any Affiliate) to which a Sublicense is granted pursuant to the terms of Section 2.4. For further clarity, Sales by Licensee, Affiliate or Sublicensee to a wholesaler or distributor other than for the account of the Licensee, Affiliate or Sublicensee or under a Sublicense are prohibited. In the event that Licensee wishes to amend this Agreement to permit Sales by distributors other than for the account of Licensee, Licensee shall notify Penn in writing and Penn will promptly consider such request in good faith.

1.25 "**Sublicense Documents**" means any and all written agreements, amendments or written understandings entered into with a Sublicensee (including any of its Affiliates) that are directly related to a Sublicense, Penn Patent Rights or Product. For clarity, a development agreement or distribution agreement for a Product is a Sublicense Document.

1.26 "**Sublicense Income**" means [***].

1.27 "**Tax**" means all taxes, duties, fees, premiums, assessments, imposts, levies, rates, withholdings, dues, government contributions and other charges of any kind whatsoever, whether direct or indirect, together with all interest, penalties, fines, additions to tax or other additional amounts, imposed by any Governmental Body.

1.28 "**Third Party**" means any Person other than Penn, Licensee or any of their respective Affiliates.

1.29 "**Third Party Royalties**" means [***].

1.30 "**United States**" or "**US**" means the United States of America, its territories and possessions.

1.31 "**USD**" or "$" means the lawful currency of the United States of America.

1.32 "**Valid Claim**" means a claim of (a) an issued and unexpired patent in Penn Patent Rights which claim has not been revoked or held unenforceable or invalid by a decision of a court or governmental agency of competent jurisdiction from which no further appeal can be taken or has been taken within the time allowed for appeal, and has not been abandoned, disclaimed, denied or admitted to be invalid or unenforceable through reissue or disclaimer; or (b) a pending patent application that is included in Penn Patent Rights which was filed and is being prosecuted in good faith, and has not been abandoned or finally disallowed without the possibility of appeal or re-filing of the application (each a "**Pending Patent Application**").

1.33 **Other Terms**. The definition of each of the following terms is set forth in the section of the Agreement indicated below:

Defined Term	Section
Adjustment Equity	4.2.2(a)
Advance Payment	5.2.3
Agreement	Preamble
Bankruptcy Action	0
Carve-Out Patent Rights	3.3.2
Common Equity	4.2.1
Effective Date	Preamble
Financial Report	4.8
Historic Patent Costs	5.2.1
Infringement Notice	5.4.1
Inventor(s)	Recitals
License	2.1
Licensee	Preamble
Maintenance Fee	4.3
Method	1.21
Milestone	4.4.1
Milestone Payment	4.4.1
Minimum Annual Royalty	4.5.3
Ongoing Patent Costs	5.2.2
Parties	Preamble
Party	Preamble
Patent Costs	5.2.1
Patent Counsel	5.1.1
Patent Termination Notice	5.3
Penn	Preamble
Penn Indemnitees	7.1.1.1
Penn Sublicense Income	4.6
Progress Report	3.4.1
Prosecution Request	5.1.2
Royalty	4.5
Sublicense	2.4.1
Term	8.1

ARTICLE 2
LICENSES AND OTHER RIGHTS

2.1 **Grant of License**. Subject to the terms and conditions of this Agreement, Penn hereby grants to Licensee (i) an exclusive, royalty-bearing right and license (with the right to sublicense through multiple tiers as provided in, and subject to, the provisions of Section 2.4) under Penn Patent Rights, in all jurisdictions where Penn Patent Rights exist ("Exclusive License") and (ii) a non-exclusive, royalty-bearing right and license (with the limited right to sublicense as provided in and subject to, the provisions of Section 2.4) to Licensed Information ("**Non-Exclusive License**"), to make, have made, use, sell, offer for sale and import Product in the Field of Use during the Term (the Exclusive License and Non-Exclusive License, collectively referred to hereafter as "**License**").

2.2 **Retained Rights**. Notwithstanding the License, Penn retains the right under Penn Patent Rights to: (a) conduct educational, research and clinical activities itself and (b) authorize non-commercial Third Parties to conduct educational, research and clinical activities. For clarity, Penn retains the right to use and authorize Third Parties to use Licensed Information for any purpose.

2.3 **U.S. Government Rights**. The License is expressly subject to all applicable provisions of any license to the United States Government executed by Penn and is subject to any overriding obligations to the United States Federal Government under 35 U.S.C. §§200-212, applicable governmental implementing regulations, and the U.S. Government sponsored research agreement or other guidelines, including that products that result from intellectual property funded by the United States Federal Government that are sold in the United States be substantially manufactured in the United States. In the event that Licensee believes in good faith that substantial manufacture of such product is not commercially feasible in the United States and makes a request to Penn in writing to assist in obtaining a waiver of such requirement from the United States Government, then Penn shall, at the expense of Licensee, use reasonable efforts to assist in obtaining such waiver.

2.4 Grant of Sublicense by Licensee.

2.4.1 Penn grants to Licensee the right to grant sublicenses through multiple tiers, in whole or in part, under the License (each, a "**Sublicense**") subject to the terms and conditions of this Agreement and specifically this Section 2.4. For clarity, a sublicense to the Non-Exclusive License may only be granted in conjunction with a sublicense to the Exclusive License. The term Sublicense shall include any grant of rights under the License by a Sublicensee to any downstream third party, such downstream third party shall also be considered a Sublicensee for purposes of this Agreement.

2.4.2 All Sublicenses will (i) be issued in writing, (ii) to the extent applicable, include all of the rights of Penn and require the performance of obligations due to Penn (and, if applicable, the U.S. Government under 35 U.S.C. §§200-212) contained in this Agreement and (iii) include no less than the following terms and conditions:

(a) Reasonable record keeping, audit and reporting obligations sufficient to enable Licensee and Penn to reasonably verify the payments due to Licensee and Penn under such Sublicense and to reasonably monitor such Sublicensee's progress in developing and/or commercializing Product, provided that such obligations shall be no less stringent than those provided in this Agreement for Licensee.

(b) Infringement and enforcement provisions that do not conflict with the restrictions and procedural requirements imposed on Licensee and do not provide greater rights to Sublicensee than as provided in Section 5.4.

(c) Confidentiality provisions with respect to Confidential Information of Penn consistent with the restrictions on Licensee in Section 5.6 of this Agreement.

(d) Covenants by Sublicensee that are equivalent to those made by Licensee in Section 6.4.

(e) A requirement of indemnification of (x) Penn by Sublicensee that is equivalent to the indemnification of Penn by Licensee under Section 7.1.1 of this Agreement, and (y) Limelight by Sublicensee that is equivalent to the indemnification of Limelight by Licensee under Section 7.1.2 of this Agreement.

(f) A requirement of obtaining and maintaining insurance by Sublicensee that is equivalent to the insurance requirements of Licensee under Section 7.2 of this Agreement, including coverage under such insurance of Penn as provided in Section 7.2.

(g) Restriction on use of Penn's names etc. consistent with Section 9.4 of this Agreement.

(h) A requirement of antidiscrimination by Sublicensee no less stringent than that provided in Section 9.5 of this Agreement.

(i) A requirement that Penn is a third party beneficiary of such Sublicense; and that Limelight is a third party beneficiary of such Sublicense.

(j) [***]

2.4.3 Within [***] of the execution of a Sublicense Document, Licensee shall provide a complete and accurate copy of such Sublicense Document to Penn, in the English Language. Notwithstanding the foregoing, Licensee may redact any such Sublicense Document only with respect to technology other than the Penn Patent Rights and to the extent necessary to preserve the confidentiality of confidential information of Sublicensee, provided that sufficient information remains unredacted to allow Penn to assess whether Licensee and Sublicensee are in compliance with the terms and conditions of this Agreement and to verify amounts owed to Penn in connection with such Sublicense, provided that upon written request of Penn, Licensee shall promptly provide a complete and accurate copy of such Sublicense Document to Penn, in the English Language. Penn's receipt of a Sublicense Document, however, will constitute neither an approval nor disapproval of the Sublicense Document nor a waiver of any right of Penn or obligation of Licensee under this Agreement.

2.4.4 Licensee shall provide an annual Sublicense Development Report on or before December 1 of each year during the Term ("**SDR Report**") a form of which is attached hereto as **Appendix V**.

2.5 No Implied License. Each Party acknowledges that the rights and licenses granted in this Agreement are limited to the scope expressly granted. Accordingly, except for the rights expressly granted under this Agreement, no right, title, or interest of any nature whatsoever is granted whether by implication, estoppel, reliance, or otherwise, by either Party to the other Party. All rights with respect to any know-how, patent or other intellectual property rights that are not specifically granted herein are reserved to the owner thereof.

ARTICLE 3
DILIGENCE

3.1 Development Plan. No later than December 1 of each year during the Term, Licensee shall submit an updated Development Plan, which shall include amendments and revisions to any long term development activities and detailed activities to be conducted in the following calendar year, provided that such updated Development Plan for a given Product shall not be due after the First Commercial Sale of that Product in the United States. Notwithstanding the foregoing, Licensee shall provide to Penn such other information as is requested by a Governmental Body that is required pursuant to Law, including 37 C.F.R. 401.

3.2 General Diligence. Licensee shall use Commercially Reasonable Efforts to develop and commercialize a Product in the Field of Use. The efforts of an Affiliate or Sublicensee shall be considered the efforts of Licensee.

3.3 Diligence Events.

3.3.1 Licensee shall achieve each Diligence Event as set forth in **Exhibit B-1** by the corresponding Achievement Date. Licensee may extend any Achievement Date for a Diligence Event by [***] at no cost. After [***], Licensee may extend any Achievement Date for a Diligence Event by [***], but not more than [***] per Diligence Event, by making a [***] payment to Penn prior to the expiration of the Achievement Date for each such Diligence Event. Beyond the [***] extensions, Licensee will be permitted [***] more increments of [***] per Diligence Event, by making a [***] payment to Penn prior to expiration of the Achievement Date for each such Diligence Event. Notwithstanding the foregoing, the Achievement Dates for the Diligence Events relating to Licensee equity funding may not be extended by Licensee without the prior written consent of Penn.

3.3.2 Penn's sole and exclusive remedy with respect to Licensee's failure to achieve a Diligence Event by the corresponding Achievement Date and extensions per Section 3.3.1 shall be its right to terminate the License with respect to the Penn Patent Rights corresponding to the Product Category for which the Licensee failed to achieve any such Diligence Event. Penn may terminate such Penn Patent Rights, upon written notice, with immediate effect. Such patent application and patent(s) will thereafter not be part of the Penn Patent Rights ("**Carve-Out Patent Rights**") and therefore not subject to this Agreement, including the License, and Licensee will have no further rights to license them. Licensee shall cease using such Penn Patent Rights effective immediately. Penn may continue prosecution and maintenance of such Carve-Out Patent Rights in its sole discretion and use and otherwise dispose of such rights without any further obligation to Licensee.

3.4 Progress Reports.

3.4.1 So long as Licensee continues to develop Products, Licensee on an annual basis, but in no event later than December 1st of each calendar year, shall submit to Penn a progress report (each, a "**Progress Report**") covering Licensee's (and any Affiliates' and Sublicensees') activities related to the development of all Products and the obtaining of Governmental Approvals necessary for commercialization of Products.

3.4.2 Each Progress Report must include all of the following for each annual period:

[***]

ARTICLE 4
FINANCIAL PROVISIONS

4.1 **Issue Fee**. [***]

4.2 **Equity Issuance**. As additional consideration for the License:

4.2.1 To the extent not previously issued under the Original Agreement, Licensee shall, within [***] of the Effective Date, and subject to Penn's execution and delivery to Licensee of an Equity Issuance Agreement in substantially the form attached hereto as **Appendix I**, issue to Penn shares of common stock of Licensee ("**Common Equity**"), which is equal to [***] of stock of Licensee outstanding on a fully diluted basis as of the Original Agreement Effective Date, assuming the exercise, conversion and exchange of all outstanding securities of the Licensee for or into shares of Common Equity of Licensee. To the extent not previously delivered under the Original Agreement, Licensee shall also within [***] of the Effective Date deliver a stock certificate in the name of Penn reflecting the Common Equity.

4.2.2

(a) Licensee shall also issue additional Common Equity to Penn ("**Adjustment Equity**") until such time as [***] has been raised by Licensee in Net Proceeds from the sales of equity securities of the Licensee or securities convertible into equity (which shall not include Licensee's Series A Preferred Stock), so that after issuance of the Adjustment Equity, Penn still owns [***] of stock of Licensee outstanding on a fully diluted basis. [***].

(b) Licensee shall also issue additional Adjustment Equity to Penn until such time as [***] has been raised by Licensee in Net Proceeds from the sales of equity securities of the Licensee, so that after issuance of the Adjustment Equity, Penn still owns [***] of stock of Licensee outstanding on a fully diluted basis.

(c) Penn shall be issued Adjustment Equity within [***] after any issuance of stock or stock equivalent by Licensee. In all such adjustments, any increase in the number of shares of stock reserved for any option plan for employees, consultants, directors and so forth authorized in connection with a financing shall be deemed to have been authorized prior to the sale of securities. For clarity, Adjustment Equity shall be issued at no additional consideration from Penn to Licensee and Licensee shall within [***] of issuance of Adjustment Equity deliver a stock certificate in the name of Penn reflecting the Adjustment Equity.

4.3 License Maintenance Fee. As further consideration for the License, Licensee will pay an annual maintenance fee ("**Maintenance Fee**") of [***]. The Maintenance Fee will not be due and payable on any anniversary of the Original Agreement Effective Date if on that date Licensee is commercially selling Product and paying an earned royalty to Penn on the Sales of that Product. For clarity, the Maintenance Fee is non-refundable, is not an advance against royalties due to Penn or any other amounts due to Penn.

4.4 Milestone Payments.

4.4.1 As additional consideration for the License, Licensee will pay Penn the milestone payments (each, a "**Milestone Payment**") provided in **Exhibit B-2** attached hereto upon the first Product within each Product Category to achieve the corresponding milestone (each, a "**Milestone**"), whether achieved by Licensee or an Affiliate or Sublicensee. Licensee shall promptly notify Penn in writing of the achievement of any such Milestone and Licensee shall pay Penn in full the corresponding Milestone Payment within [***] of such achievement. For clarity, each Milestone Payment is non-refundable, is not an advance against royalties due to Penn or any other amounts due to Penn.

4.4.2 Each time a Milestone is achieved with respect to a particular Product Category, then any other Milestone Payments with respect to earlier Milestones for such Product Category that have not yet been paid will be due and payable together with the Milestone Payment for the Milestone that is actually achieved.

4.4.3 For clarity, milestones are due and payable on Products and on products that, upon approval of the applicable Governmental Body, would become Products.

4.5 Royalties.

As further consideration for the License, Licensee shall pay to Penn a non-refundable, non-creditable royalty on all Net Sales of Product ("**Royalty**") as set forth in **Exhibit B-3** attached hereto. [***].

4.5.1 [***]

4.5.2 Licensee must pay Royalties owed to Penn on a calendar quarter basis on or before the following dates:

(a) [***] for any Sales that took place on or before the last day of the calendar quarter ending December 31, of the prior year;

(b) [***] for any Sales that took place on or before the last day of the calendar quarter ending March 31 of such calendar year;

(c) [***] for any Sales that took place on or before the last day of the calendar quarter ending June 30 of such calendar year; and

(d) [***] for any Sales that took place on or before the last day of the calendar quarter ending September 30 of such calendar year.

4.5.3 Licensee shall pay to Penn the minimum annual royalties ("**Minimum Annual Royalty**") provided in **Exhibit B-4** attached hereto during each of the following calendar years after the year in which the First Commercial Sale occurred in any country. Licensee will pay the Minimum Annual Royalty on January 15th of each calendar year it is due, provided that the Minimum Annual Royalty paid for a calendar year shall be credited solely toward Royalties due in such calendar year.

4.5.4 If Licensee is obligated to pay Third Party Royalties, then Licensee may deduct [***] of such consideration paid to such Third Party, including royalties, for a license under such Patent Rights from any Royalties due under this Agreement, provided that:

(a) [***]

(b) In no event shall all Royalties due to Penn in any reporting period be so reduced by more than [***] of the amount that would otherwise be due to Penn under this Agreement.

4.6 **Penn Sublicense Income**. Licensee will pay to Penn a percentage of Sublicense Income as provided in **Exhibit B-5** attached hereto ("**Penn Sublicense Income**"). Licensee will make such payment to Penn on or before the following dates:

4.6.1 [***] for any Sublicense Income received by Licensee on or before the last day of the calendar quarter ending December 31, of the prior year;

4.6.2 [***] for any Sublicense Income received by Licensee on or before the last day of the calendar quarter ending March 31 of such calendar year;

4.6.3 [***] for any Sublicense Income received by Licensee on or before the last day of the calendar quarter ending June 30 of such calendar year; and

4.6.4 [***] for any Sublicense Income received by Licensee on or before the last day of the calendar quarter ending September 30 of such calendar year.

4.7 **Mode of Payment and Currency**. All payments to Penn hereunder shall be made by deposit of USD in the requisite amount to the "The Trustees of the University of Pennsylvania" and will be made by delivery to any one of the following:

[***]

Payments under this Agreement shall be made in USD. All amounts payable to Penn pursuant to this Section 4 shall be calculated first in the currency of the jurisdiction in which payment was made, and if not in the United States, then converted into USD. The exchange rate for such conversion shall be the average of the rate quoted in The Wall Street Journal for the last business day of each month in the calendar quarter in which such Royalty payment is made.

4.8 **Royalty and Penn Sublicense Income Reports**. Within [***] after the end of each calendar quarter [***], Licensee shall deliver to Penn a report ("**Financial Report**") setting out all details necessary to calculate the Royalty and Penn Sublicense Income due under this Article 4 for such calendar quarter, including:

[***]

Each Financial Report shall be in the form of the sample report attached hereto as **Appendix II**. For clarity, no such Financial Report shall be required prior to First Commercial Sale or first receipt of Sublicense Income.

4.9 **Late Payments**. In addition to any other remedies available to Penn, including the right to terminate this Agreement, any failure by Licensee to make a payment within [***] after the date when due shall obligate Licensee to pay computed interest, the interest period commencing on the due date and ending on the actual payment date, to Penn at a rate per annum equal to [***], or the highest rate allowed by Law, whichever is lower.

4.10 **Default Payment**. In the event of default in payment of any payment owing to Penn under the terms of this Agreement, and if it becomes necessary for Penn to undertake legal action to collect said payment, Licensee shall pay reasonable, documented out-of-pocket legal fees and costs incurred in connection therewith.

4.11 **Accounting**. Each Party shall calculate all amounts, and perform other accounting procedures required, under this Agreement and applicable to it in accordance with GAAP.

4.12 **Books and Records**. Licensee will keep accurate books and records of all Products developed, manufactured, used or sold and all Sublicenses, collaboration agreements and joint venture agreements entered into by Licensee that involved Penn Patent Rights. Licensee will preserve these books and records for at least [***] from the date of the Financial Report to which they pertain. Upon reasonable notice, key personnel, books and records will be made reasonably available and will be open to examination by representatives or agents of Penn during regular office hours to determine their accuracy and assess Licensee's compliance with the terms of this Agreement, provided that Licensee shall not have an obligation to provide access more than [***] in any given [***] period.

4.13 **Audits**. In addition to the right of Penn to examine the books and records and interview key personnel as provided in Section 4.12 above, Penn, at its own cost, through an independent auditor reasonably acceptable to Licensee (and who has executed an appropriate confidentiality agreement reasonably acceptable to Licensee that requires the auditor to keep any information learned by it confidential except as needed to report its audit conclusions to Penn), may inspect and audit the relevant records of Licensee pertaining to the calculation of any Milestones, Royalties and Penn Sublicense Income due to Penn under this Agreement. Licensee shall provide such auditors with access to the records during reasonable business hours. Such access need not be given to any such set of records [***] after the date of any report to be audited. Penn shall provide Licensee with written notice of its election to inspect and audit the records related to the Milestones and Royalties due hereunder not less than [***] prior to the proposed date of review of Licensee's records by Penn's auditors. Should the auditor find any underpayment of Milestones, Royalties or Penn Sublicense Income by Licensee, Licensee shall (a) promptly pay Penn the amount of such underpayment; (b) shall reimburse Penn for the cost of the audit, if such underpayment equals or exceeds the higher of (i) [***] or (ii) [***]; and (c) provide such auditors with an audit right exercisable within [***] after Penn receives the audit report. If the auditor finds overpayment by Licensee, then Licensee shall have the right to deduct the overpayment from any future milestones or royalties due to Penn by Licensee or, if no such future milestones or royalties are payable, then Penn shall refund the overpayment to Licensee within [***] after Penn receives the audit report. Licensee may designate competitively sensitive information which such auditor may see and review but which it may not disclose to Penn; provided, however, that such designation shall not restrict the auditor's investigation or conclusions.

4.14 **Taxes**. All payments made by Licensee to Penn under the Agreement shall be made free and clear of and without any deduction for or on account of any Taxes on or with respect to such payments.

ARTICLE 5
INTELLECTUAL PROPERTY

5.1 **Patent Filing Prosecution and Maintenance**.

5.1.1 Penn Patent Rights will be held in the name of Penn and obtained with counsel selected by Penn and reasonably acceptable to Licensee ("**Patent Counsel**"). Penn shall control all actions and decisions with respect to the filing, prosecution and maintenance of Penn Patent Rights and will consider any reasonable comments or suggestions by Licensee with respect to same. Penn will instruct Patent Counsel to copy Licensee on all correspondence related to Penn Patent Rights (including copies of each patent application, office action, response to office action, request for terminal disclaimer, and request for reissue or reexamination of any patent or patent application) and to interact with Licensee with respect to the preparation, filing, prosecution and maintenance of Penn Patent Rights. Penn has the right to take action to preserve rights and minimize cost whether or not Licensee has commented, and will use reasonable efforts to not allow any Penn Patent Rights for which Licensee is licensed and is underwriting the costs to lapse or become abandoned without Licensee's written authorization under this Agreement, except for filing of continuations, divisionals, or the like that substitute for the lapsed application, provided that, Penn shall have no requirement to file, prosecute, or maintain Penn Patent Rights if Licensee is not current with the Patent Cost obligations as set forth in this Agreement. For the purposes of this Agreement, "maintenance" of the Penn Patent Rights includes inter partes patent review proceedings before the USPTO or a similar patent administration outside the US. For further clarity, validity challenges raised in infringement litigation will be handled per Section 5.4, Infringement.

5.1.2 Licensee has the right to request that a patent application be filed in a country or territory filing via a written request to Penn [***] prior to the deadline set by the patent office in the territory in which filing is to take place ("**Prosecution Request**"). [***]

5.1.3 If, and during such time that (i) Licensee is the only party to which Penn Patent Rights have been licensed by Penn, (ii) there are no unpaid Historic Patent Costs or Ongoing Patent Costs, and (iii) Licensee requests to manage the filing, prosecution and maintenance of Penn Patent Rights, then Penn and Licensee will use reasonable efforts to enter into the Client and Billing Agreement with Patent Counsel in substantially the form attached hereto as **Appendix III**, which agreement upon execution shall, determine the management of Penn Patent Rights, in lieu of Section 5.1.1, provided that upon the termination of such agreement, the management of Penn Patent Rights shall be in accordance with Section 5.1.1.

5.2 Patent Costs.

5.2.1 Within [***] of the Effective Date, Licensee will reimburse Penn for all documented out-of-pocket costs for the filing, prosecution and maintenance of Penn Patent Rights, including all accrued attorney fees, expenses, official and filing fees ("**Patent Costs**"), incurred prior to the Effective Date ("**Historic Patent Costs**") to the extent not previously reimbursed by Licensee under the Original Agreement.

5.2.2 Licensee will bear all Patent Costs incurred during the Term ("**Ongoing Patent Costs**").

5.2.3 At any time, at Penn's request, Licensee shall pay in advance the Patent Counsel's estimated costs for undertaking material patent actions before Penn authorizes the Patent Counsel to proceed ("**Advance Payment**"). Notwithstanding whether Licensee makes an Advance Payment for any patent action, Licensee shall bear all Patent Costs incurred during the Term and shall pay such amounts within [***] of receipt of invoice for such patent actions. For clarity, the term "Patent Costs" means and includes Historic Patent Costs and Ongoing Patent Costs. For further clarity, this Section 5.2.3 shall not apply during any period during the Term where a Client and Billing Agreement is in effect.

5.3 Termination of Rights in, and Obligations with respect to, Certain Penn Patent Rights. Licensee may terminate its rights in, and obligations with respect to, any or all of Penn Patent Rights by providing written notice to Penn ("**Patent Termination Notice**"). Termination of Licensee's rights in and obligation with respect to such Penn Patent Right will be effective [***] after receipt of such Patent Termination Notice by Penn. Penn will use reasonable efforts to curtail Patent Costs chargeable to Licensee under this Agreement after the receipt of the Patent Termination Notice is received. Penn may continue prosecution and maintenance of such Patent Rights at its sole discretion and expense, and such Patent Rights will then be Carve-Out Patent Rights and therefore not subject to this Agreement, including the License, and Licensee will have no further rights or license to them.

5.3.1 In the event that Penn terminates Licensee's rights and license in certain Penn Patent Rights pursuant to Section 3.3.2 (Diligence Events), such that they become Carve -Out Patent Rights and therefore not subject to this Agreement, Licensee will have no further patent reimbursement obligation with respect to Carve-Out Patent Rights except to the extent such patent reimbursement obligation accrued prior to the applicable Patent Termination Notice.

5.4 Infringement.

5.4.1 If either Party believes that an infringement by a Third Party with respect to any Penn Patent Right is occurring, the knowledgeable Party will provide the other Party with (a) written notice of such infringement or potential infringement and (b) evidence of such infringement or potential infringement (the "**Infringement Notice**"). [***] Both Penn and Licensee will use their diligent efforts to cooperate with each other to terminate such infringement without litigation.

5.4.2 If infringing activity of potential commercial significance has not been abated within [***] following the date the Infringement Notice for such activity was provided, then during the period in which, and in the jurisdiction where, Licensee has exclusive rights under this Agreement, Licensee may institute suit for patent infringement against the infringer [***]. Penn may voluntarily join such suit at Licensee's reasonable expense, but Penn may not thereafter commence suit against the infringer for the acts of infringement that are the subject of Licensee's suit or any judgment rendered in such suit. Licensee may not join Penn in a suit initiated by Licensee without Penn's prior written consent, such consent not to be unreasonably withheld. If in a suit initiated by Licensee, Penn is involuntarily joined, then Licensee will pay any costs incurred by Penn arising out of such suit, including any legal fees of counsel that Penn selects and retains to represent it in the suit. Licensee shall be free to enter into a settlement, consent judgment or other voluntary disposition, provided that any settlement, consent judgment or other voluntary disposition that (i) limits the scope, validity or enforcement of Penn Patent Rights or (ii) admits fault or wrongdoing on the part of Licensee or Penn must be approved in advance by Penn in writing. Licensee's request for such approval shall include complete copies of final settlement documents, a detailed summary of such settlement, and any other information material to such settlement. Penn shall provide Licensee notice of its approval or denial within [***] of any request for such approval by Licensee, provided that (x) in the event Penn wishes to deny such approval, such notice shall include a detailed written description of Penn's reasonable objections to the proposed settlement, consent judgment, or other voluntary disposition and (y) Penn shall be deemed to have approved of such proposed settlement, consent judgment, or other voluntary disposition in the event it fails to provide such notice within such [***] period in accordance herewith.

5.4.3 If, within [***] following the date the Infringement Notice was provided, infringing activity of potential commercial significance has not been abated and if Licensee has not brought suit against the infringer, then Penn may institute suit for patent infringement against the infringer. If Penn institutes such suit, then Licensee may not join such suit without the prior written consent of Penn and may not thereafter commence suit against the infringer for the acts of infringement that are the subject of Penn's suit or any judgment rendered in such suit.

5.4.4 Notwithstanding Sections 5.4.2 and 5.4.3, in the event that any Penn Patent Rights are infringed by a Third Party (a) prior to the First Commercial Sale of a Product in the United States or (b) if any of the infringed Penn Patent Rights are also licensed by Penn to a Third Party prior to any enforcement action being taken by either Party regarding such infringement, the Parties shall discuss, and will mutually agree, in writing, as to how to handle such infringement by such Third Party. Notwithstanding anything in this Section 5.4, Licensee shall not provide notice of infringement or potential infringement to a Third Party (including the infringer) or engage in any enforcement action or activities, or have any rights under this Agreement related thereto, with regard to any Carve-Out Patent Rights.

5.4.5 Any recovery or settlement received in connection with any suit will first be shared by Penn and Licensee equally to cover any litigation costs each incurred and next shall be paid to Penn or Licensee to cover any litigation costs it incurred in excess of the litigation costs of the other. Any remaining recoveries shall be allocated as follows:

5.4.6 [***] Each Party will reasonably cooperate and assist with the other in litigation proceedings instituted hereunder but at the expense of the Party who initiated the suit (unless such suit is being jointly prosecuted by the Parties). For clarity, such requirement does not require a Party to join a suit unless otherwise specifically required under this Agreement. If Penn is subjected to third party discovery related to the Penn Patent Rights or Products licensed to Licensee hereunder, Licensee will pay Penn's documented out of pocket expenses with respect to same.

5.5 Patent Marking. Licensee shall place in a conspicuous location on any Product (or its packaging where appropriate and practicable) made, imported and/or Sold under this Agreement a patent notice that is not in contravention of Laws concerning the marking of patented articles where such Product is made, used, imported and/or sold, as applicable. Upon request from Penn, Licensee shall provide evidence of proper marking.

5.6 Confidentiality.

5.6.1 Each Party agrees that, for the Term and for [***] thereafter, such Party shall (a) use the same degree of care to maintain the secrecy of the Confidential Information of the other Party that it uses to maintain the secrecy of its Confidential Information of like kind, (b) use the Confidential Information of the other Party only to accomplish the purpose of this Agreement or for audit or management purposes and (c) ensure that any employees, customers, and distributors are bound to it by similar obligations of confidence and to make sure such disclosure occurs only as required to accomplish the purposes of this Agreement.

5.6.2 A Party may disclose the Confidential Information of the other Party to the extent required by Law or court order; provided, however, that the recipient promptly provides to the disclosing Party prior written notice of such disclosure and provides reasonable assistance in obtaining an order or other remedy protecting the Confidential Information from public disclosure.

ARTICLE 6
REPRESENTATIONS, WARRANTIES AND COVENANTS

6.1 Mutual Representations and Warranties. Each Party represents and warrants to the other Party that, as of the Effective Date:

6.1.1 such Party is duly organized and validly existing under the Laws of the jurisdiction of its incorporation or organization;

6.1.2 such Party has taken all action necessary to authorize the execution and delivery of this Agreement and the performance of its obligations under this Agreement;

6.1.3 this Agreement is a legal and valid obligation of such Party, binding upon such Party and enforceable against such Party in accordance with the terms of this Agreement, except as enforcement may be limited by applicable bankruptcy, fraudulent conveyance, insolvency, reorganization, moratorium and other laws relating to or affecting creditors' rights generally and by general equitable principles; and

6.1.4 such Party has all right, power and authority to enter into this Agreement, to perform its obligations under this Agreement.

6.2 [***]

6.3 Disclaimer of Representations and Warranties.

6.3.1 Other than the representations and warranties provided in Section 6.1 and Section 6.2 above, PENN MAKES NO REPRESENTATIONS AND WARRANTIES, WHETHER EXPRESS OR IMPLIED, AND EXPLICITLY DISCLAIMS ANY REPRESENTATION AND WARRANTY, INCLUDING WITH RESPECT TO ANY ACCURACY, COMPLETENESS, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, COMMERCIAL UTILITY, NON-INFRINGEMENT OR TITLE FOR THE INTELLECTUAL PROPERTY, PATENT RIGHTS, LICENSED INFORMATION, LICENSE AND ANY PRODUCT.

6.3.2 Furthermore, nothing in this Agreement will be construed as:

(a) A representation or warranty by Penn as to the validity or scope of any Penn Patent Right;

(b) A representation or warranty that anything made, used, sold or otherwise disposed of under the License is or will be free from infringement of patents, copyrights, trademarks or any other forms of intellectual property rights or tangible property rights of Third Parties;

(c) Obligating Penn to bring or prosecute actions or suits against Third Parties for patent, copyright or trademark infringement;

(d) Conferring by implication, estoppel or otherwise any license or rights under any Patent Rights of Penn other than Penn Patent Rights as defined herein, regardless of whether such Patent Rights are dominant or subordinate to Penn Patent Rights; and,

(e) Obligating Penn to furnish any know-how.

6.4 Covenants of Licensee.

6.4.1 Licensee and its Affiliates will not, directly or indirectly (including where such is done by a Third Party on behalf of Licensee or its Affiliates, at the urging of Licensee or its Affiliates or with the assistance of the Licensee or its Affiliates) challenge the validity, scope, or enforceability of or otherwise oppose any Penn Patent Right , provided that if any Penn Patent Right is asserted against Licensee or its Affiliate for activities authorized under this Agreement, then Licensee or such Affiliate is entitled to all and any defenses available to it including challenging the validity or enforceability of such Patent Right.

6.4.2 Licensee will comply with all Laws that apply to its activities or obligations under this Agreement. For example, Licensee will comply with applicable United States export laws and regulations. The transfer of certain technical data and commodities may require a license from the applicable agency of the United States government and/or written assurances by Licensee that Licensee will not export data or commodities to certain foreign countries without prior approval of the agency.

6.4.3 Licensee will not grant a security interest in the License or this Agreement.

6.4.4 [***]

6.5 Participation Rights. If the Licensee proposes to sell any equity securities or securities that are convertible into equity securities of the Licensee, then Penn and/or its Assignee (as defined below) will be offered the same terms and conditions as are offered to the other purchasers in each such financing, the right to purchase up to such number of the securities in the offering as will cause Penn and its Assignee to own collectively stock representing at least Penn's then current fully diluted percentage of the securities of Licensee. For example, if Penn owned [***] of the securities of Licensee on a fully diluted basis before the offering of equity securities, then if Penn and/or Penn's Assignee fully exercised its participation rights hereunder, Penn and its Assignee will collectively own [***] of the securities of Licensee on a fully diluted basis after the offering of equity securities and Penn and/or its Assignee's exercise of its participation rights in full. Penn shall exercise its rights within [***] of receiving notice from Licensee of the applicable terms and conditions with respect to each financing round covered by this section, and failing that, such offer shall expire. The term "Assignee" means (a) any entity to which Penn's participation rights under this section have been assigned either by Penn or another entity, or (b) any entity that is an Affiliate of Penn. This section shall survive the termination of this Agreement.

ARTICLE 7
INDEMNIFICATION; INSURANCE AND LIMITATION OF LIABILITY

7.1 Indemnification by Licensee.

7.1.1 Penn Indemnification.

7.1.1.1 Licensee shall defend, indemnify and hold Penn and its respective trustees, officers, faculty, students, employees, contractors and agents (the "**Penn Indemnitees**") harmless from and against any and all liability, damage, loss, cost or expense (including reasonable attorneys' fees), including, without limitation, bodily injury, risk of bodily injury, death and property damage to the extent arising out of Third Party claims or suits related to (a) the Original Agreement, this Agreement or any Sublicense, including (i) the development, testing, use, manufacture, promotion, sale or other disposition of any Product (including any product liability claim), (ii) any enforcement action or suit brought by Licensee against a Third Party for infringement of Penn Patent Rights, (iii) any claim by a Third Party that the practice of Penn Patent Rights or use of Licensed Information or the design, composition, manufacture, use, sale or other disposition of any Product infringes or violates any patent, copyright, trade secret, trademark or other intellectual property right of such Third Party, (iv) any breach of the Original Agreement or this Agreement or Laws by Licensee, its Affiliates or Sublicensees and (b) Licensee's gross negligence, omissions or willful misconduct, provided that Licensee's obligations pursuant to this Section 7.1 shall not apply to the extent such claims or suits result from the exercise by Penn of its retained rights under the Penn Patent Rights pursuant to Section 2.2 of this Agreement or the gross negligence or willful misconduct of any of the Penn Indemnitees, in each case as determined by a court of law.

7.1.1.2 As a condition to a Penn Indemnitee's right to receive indemnification under this Section 7.1, Penn shall: (a) promptly notify Licensee as soon as it becomes aware of a claim or suit for which indemnification may be sought pursuant hereto (provided, that the failure to do so in a timely manner shall not affect the Licensee's indemnification obligations hereunder); (b) reasonably cooperate, and cause the individual Penn Indemnitees to reasonably cooperate, with Licensee in the defense, settlement or compromise of such claim or suit (at the expense of the Licensee); and (c) permit the Licensee to control the defense, settlement or compromise of such claim or suit, including the right to select defense counsel. In no event, however, may Licensee compromise or settle any claim or suit in a manner which (a) admits fault or negligence on the part of Penn or any other Penn Indemnitee; (b) commits Penn or any other Penn Indemnitee to take, or forbear to take, any action, without the prior written consent of Penn, or (c) grant any rights under the Penn Patent Rights except for Sublicenses permitted under Article 2. Penn shall reasonably cooperate with Licensee and its counsel in the course of the defense of any such suit, claim or demand, such cooperation to include without limitation using reasonable efforts to provide or make available documents, information and witnesses.

7.1.1.3 Notwithstanding Section 7.1.1.2 above, in the event that a bona fide conflict exists between Licensee and Penn or any other Penn Indemnitee with respect to a claim or suit subject to indemnification hereunder, such that the same counsel cannot represent the parties, then Penn or any other Penn Indemnitee shall have the right to defend against any such claim or suit itself, including by selecting its own counsel, with any documented attorney's fees and litigation expenses being paid for by [***]. [***].

7.1.2 [***]

7.2 Insurance.

7.2.1 Licensee, at its sole cost and expense, must insure its activities in connection with the exercise of its rights under this Agreement and obtain, and keep in force and maintain Commercial Form General Liability Insurance (contractual liability included) with limits as follows:

7.2.1.1 Each occurrence	$[***];
7.2.1.2 General aggregate	$[***]

Prior to the commencement of clinical trials, if applicable, involving Product:

7.2.1.3 Clinical trials liability insurance $[***]

Prior to the First Commercial Sale of a Product:

7.2.1.4 Products liability insurance $[***]

Penn may review periodically the adequacy of the minimum amounts of insurance for each coverage required by this Section 7.2.1, and has the right to require Licensee to adjust the limits in Penn's reasonable discretion.

7.2.2 If the above insurance is written on a claims-made form, it shall continue for [***] following termination or expiration of this Agreement. The insurance shall have a retroactive date of placement prior to or coinciding with the Original Agreement Effective Date, the date of commencement of clinical trials, or the date of First Commercial Sale, as applicable to the types of insurance required pursuant to Section 7.2.1.

7.2.3 Licensee expressly understands, however, that the coverages and limits in Section 7.2.1 do not in any way limit Licensee's liability or indemnification obligations. Licensee's insurance will:

7.2.3.1 Be issued by an insurance carrier with an A.M. Best rating of "A" or better;

7.2.3.2 Provide for [***] advance written notice to Penn of any reduction in such insurance;

7.2.3.3 State that Penn is endorsed as an additional insured with respect to the coverages in Section 7.2.1; and

7.2.3.4 Include a provision that the coverages will be primary and will not participate with nor will be excess over any valid and collective insurance or program of self insurance carried or maintained by Penn.

7.2.4 Licensee must furnish to Penn with (a) valid certificate of insurance evidencing compliance with all requirements of this Agreement and (b) additional insured endorsements for Licensee's applicable policies naming "The Trustees of the University of Pennsylvania" as an additional insured. Licensee must furnish both documents within [***] of the Effective Date (to the extent not previously provided under the Original Agreement), once per year thereafter and at any time there is a modification in such insurance.

7.3 **LIMITATION OF LIABILITY**. IN NO EVENT SHALL EITHER PARTY OR ANY OF ITS AFFILIATES BE LIABLE TO THE OTHER PARTY OR ANY OF ITS AFFILIATES FOR SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES, INCLUDING LOSS OF PROFITS, WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE ARISING OUT OF OR RELATING TO THIS AGREEMENT, THE TRANSACTIONS CONTEMPLATED HEREIN OR ANY BREACH HEREOF. NOTWITHSTANDING THE FOREGOING, NOTHING IN THIS AGREEMENT SHALL LIMIT LICENSEE'S INDEMNIFICATION OBLIGATIONS UNDER SECTION 7.1 OR SHALL LIMIT PENN'S REMEDIES OR ABILITY TO RECOVER DAMAGES, INCLUDING INCREASED DAMAGES, FOR WILLFUL INFRINGEMENT IN THE EVENT PENN ASSERTS ITS INTELLECTUAL PROPERTY RIGHTS.

ARTICLE 8
TERM AND TERMINATION

8.1 **Term**. The term of this Agreement (the "**Term**") shall commence on the Effective Date and, unless terminated sooner as provided below, shall continue in full force and effect until the later of (i) expiration or abandonment of the last Penn Patent Right or (ii) ten (10) years from the First Commercial Sale of a Product.

8.2 **Termination of the Agreement by Licensee for Convenience**. At any time during the Term, Licensee may, at its convenience, terminate this Agreement upon providing at least [***] prior written notice to Penn of such intention to terminate, provided that Licensee ceases using the License or making, using, or selling Products following the effective date of such termination.

8.3 **Termination For Cause**.

8.3.1 If Licensee fails to fulfill its obligations under Section 3.2 (i.e. use Commercially Reasonable Efforts to develop and commercialize a Product), Penn may provide written notice to Licensee of such failure. If Licensee fails to address such failure to the reasonable satisfaction of Penn within [***] of receiving such written notice, Penn may terminate this Agreement upon written notice to Licensee.

8.3.2 In the event Licensee fails to achieve any Diligence Event by the corresponding Achievement Date in accordance to Section 3.3.1, Penn has the right and option to terminate this Agreement, upon written notice, with immediate effect.

8.3.3 If Licensee materially breaches any of its material obligations under this Agreement, Penn may give to Licensee a written notice specifying the nature of the default, requiring it to cure such breach, and stating its intention to terminate this Agreement. If such breach is not cured within [***] of such notice, such termination shall become effective upon a notice of termination by Penn thereafter. For clarity, a breach of a material obligation includes:

8.3.4 [***] In addition to all other remedies available to it, Penn may terminate this Agreement, upon written notice, with immediate effect, upon a breach of [***], provided, however, that in the event that, in the sole discretion of Penn, such breach is curable without adverse effect on Penn, Licensee will have [***] from receipt of such written notice to cure any breach under [***] and, if so cured, the Agreement shall not terminate.

8.3.5 Penn may terminate this Agreement, upon written notice, with immediate effect if, at any time, Licensee is unable to pay its debts, including any debts related to exclusive Sublicensees, when they come due, or files in any court or agency pursuant to any statute or regulation of any state, country or jurisdiction, a petition in bankruptcy or insolvency or for reorganization or for an arrangement or for the appointment of a receiver or trustee of Licensee or of its assets, or if Licensee proposes a written agreement of composition or extension of its debts, or if Licensee is served with an involuntary petition against it, filed in any insolvency proceeding, and such petition is not dismissed within [***] after the filing thereof, or if Licensee proposes or is a party to any dissolution or liquidation, or if Licensee makes an assignment for the benefit of its creditors of all or substantially all its assets (in each case, "**Bankruptcy Action**").

8.4 Effects of Termination.

8.4.1 Notwithstanding the termination of this Agreement, the following provisions shall survive: Sections 4.8-4.13, inclusive, 5.6, 6.3, and 8.4 and Articles 7 and 9.

8.4.2 Termination of this Agreement shall not relieve the Parties of any obligation or liability that, at the time of termination, has already accrued hereunder, or which is attributable to a period prior to the effective date of such termination. Termination of this Agreement shall not preclude either Party from pursuing all rights and remedies it may have hereunder or at Law or in equity with respect to any breach of this Agreement nor prejudice either Party's right to obtain performance of any obligation.

8.4.3 If this Agreement is terminated for any reason, all outstanding Sublicenses (including all Sublicense Documents for each Sublicense) not in default will be assigned by Licensee to Penn, and such assignment will be accepted by Penn. Each assigned Sublicense will remain in full force and effect with Penn as the licensor or sublicensor instead of Licensee, but the duties and obligations of Penn under the assigned Sublicenses will not be greater than the duties of Penn under this Agreement, and the rights of Penn under the assigned Sublicenses will not be less than the rights of Penn under this Agreement, including all financial consideration and other rights of Penn. Penn may, at its sole discretion, amend such outstanding Sublicenses to contain the terms and conditions found in this Agreement.

ARTICLE 9
ADDITIONAL PROVISIONS

9.1 Relationship of the Parties. Nothing in this Agreement is intended or shall be deemed, for financial, tax, legal or other purposes, to constitute a partnership, agency, joint venture or employer-employee relationship between the Parties. The Parties are independent contractors and at no time will either Party make commitments or incur any charges or expenses for or on behalf of the other Party.

9.2 Expenses. Except as otherwise provided in this Agreement, each Party shall pay its own expenses and costs incidental to the preparation of this Agreement and to the consummation of the transactions contemplated hereby

9.3 Third Party Beneficiary. The Parties agree that each Sublicensee is a third party beneficiary of this Agreement with respect to Section 8.4.3. [***]

9.4 **Use of Names**. Licensee, its Affiliates and Sublicensees may not use the name, logo, seal, trademark, or service mark (including any adaptation of them) of Penn or any Penn school, organization, employee, student or representative, without the prior written consent of Penn. Notwithstanding the foregoing, Licensee may use the name of Penn in a non-misleading and factual manner solely in (a) executive summaries, business plans, offering memoranda and other similar documents used by Licensee for the purpose of raising financing for the operations of Licensee as related to Product, or entering into commercial contracts with Third Parties, but in such case only to the extent necessary to inform a reader that the Penn Patent Rights has been licensed by Licensee from Penn, and to inform a reader of the identity and published credentials of Inventors of the Intellectual Property, and (b) any securities reports required to be filed with the Securities and Exchange Commission.

9.5 **No Discrimination**. Neither Penn nor Licensee will discriminate against any employee or applicant for employment because of race, color, sex, sexual or affectional preference, age, religion, national or ethnic origin, handicap, or veteran status.

9.6 **Successors and Assignment**.

9.6.1 The terms and provisions hereof shall inure to the benefit of, and be binding upon, the Parties and their respective successors and permitted assigns.

9.6.2 Licensee may not assign or transfer this Agreement or any of Licensee's rights or obligations created hereunder, by operation of law or otherwise, without the prior written consent of Penn, provided that Penn shall not unreasonably withhold, condition or delay its consent. Licensee may assign or transfer this Agreement in its entirety without the consent of Penn in connection with a merger, consolidation, or sale or transfer of all or substantially all of its assets without any requirement to obtain Penn's consent, to unrelated third party entity provided that: (i) [***]; (ii) there exists no breach by Licensee or its Affiliates of any term of this Agreement, including those caused by a Sublicensee, and Licensee is not in breach of payment or diligence obligations hereunder that has not been cured as of the consummation of such transaction; (iii) the Licensee delivers to Penn [***] written notice of the proposed assignment when such notice may be provided in accordance with applicable securities laws and non-disclosure agreements, (iv) the assignee agrees in writing to be legally bound by this Agreement and to deliver to Penn an updated Development Plan within [***] after the closing of the proposed transaction and (v) the assignment is made as a part of and in connection with an asset sale, stock sale, merger or other combination, or any other transfer of Licensee's entire business. Any permitted assignment will not relieve Licensee of responsibility for performance of any obligation of Licensee that has accrued at the time of the assignment. For the avoidance of doubt, it is understood and agreed that this Section 9.6.2 shall not include the grant of a sublicense.

9.6.3 Any assignment not in accordance with this Section 9.6 shall be void.

9.7 **Further Actions**. Each Party agrees to execute, acknowledge and deliver such further instruments and to do all such other acts as may be necessary or appropriate in order to carry out the purposes and intent of this Agreement.

9.8 **Entire Agreement of the Parties; Amendments**. This Agreement, the Exhibits and Appendices or Schedules hereto, Equity Issuance Agreement and, to the extent entered into, the Client & Billing Agreement constitute and contain the entire understanding and agreement of the Parties respecting the subject matter hereof and cancel and supersede any and all prior negotiations, correspondence, understandings and agreements between the Parties, whether oral or written, regarding such subject matter. No waiver, modification or amendment of any provision of this Agreement shall be valid or effective unless made in a writing referencing this Agreement and signed by a duly authorized officer of each Party.

9.9 **Governing Law**. This Agreement shall be governed by and interpreted in accordance with the laws of the Commonwealth of Pennsylvania, excluding application of any conflict of laws principles that would require application of the law of a jurisdiction outside of the Commonwealth of Pennsylvania.

9.10 **Dispute Resolution**. If a dispute arises between the Parties concerning this Agreement, then the Parties will confer, as soon as practicable, in an attempt to resolve the dispute. If such dispute remains unresolved, it will be escalated to Licensee's Chief Executive Officer and Penn Center for Innovation's Managing Director or their respective designee(s), for discussion in good faith. If the Parties are not able to resolve the dispute within [***] of submission to such officers, then the Parties will submit to the exclusive jurisdiction of, and venue in, the state and Federal courts located in the Eastern District of Pennsylvania.

9.11 **Notices and Deliveries**. Any notice, request, approval or consent required or permitted to be given under this Agreement shall be in writing and directed to a Party at its address or facsimile number shown below or such other address or facsimile number as such Party shall have last given by notice to the other Party. A notice will be deemed received: if delivered personally, on the date of delivery; if mailed, five (5) days after deposit in the United States mail; if sent via courier, one (1) business day after deposit with the courier service; or if sent via facsimile, upon receipt of confirmation of transmission provided that a confirming copy of such notice is sent by certified mail, postage prepaid, return receipt requested.

For Penn:

Penn Center for Innovation
University of Pennsylvania
3600 Civic Center Blvd.,
9th Floor
Philadelphia, PA 19104-4310
Attention: Managing Director

with a copy to:

University of Pennsylvania
Office of General Counsel
2929 Walnut Street, Suite 400
Philadelphia, PA 19104-5509
Attention: General Counsel

For Licensee:

Opus Genetics, Inc.
223 S. West Street, Suite 900
Raleigh, NC 27603
Attention: [***]

with a copy to:

Smith, Anderson, Blount, Dorsett, Mitchell
& Jernigan, LLP
150 Fayetteville Street, Suite 2300
Raleigh, NC 27601
Attention: [***]

9.12 ***Waiver***. A waiver by either Party of any of the terms and conditions of this Agreement in any instance shall not be deemed or construed to be a waiver of such term or condition for the future, or of any other term or condition hereof. All rights, remedies, undertakings, obligations and agreements contained in this Agreement shall be cumulative and none of them shall be in limitation of any other remedy, right, undertaking, obligation or agreement of either Party.

9.13 **Severability**. When possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under law, but if any provision of this Agreement is held to be prohibited by or invalid under law, such provision will be ineffective only to the extent of such prohibition or invalidity, without invalidating the remainder of this Agreement. The Parties shall make a good faith effort to replace the invalid or unenforceable provision with a valid one which in its economic effect is most consistent with the invalid or unenforceable provision.

9.14 **Interpretation**. The words "include," "includes" and "including" shall be deemed to be followed by the phrase "without limitation." All references herein to Articles, Sections, Schedules, Appendices and Exhibits shall be deemed references to Articles and Sections of, Schedules, Appendices and Exhibits to, this Agreement unless the context shall otherwise require. Except as otherwise expressly provided herein, all terms of an accounting or financial nature shall be construed in accordance with GAAP, as in effect from time to time. Unless the context otherwise requires, countries shall include territories. References to any specific Law or article, section or other division thereof, shall be deemed to include the then-current amendments or any replacement Law thereto.

9.15 **Counterparts**. This Agreement may be executed in counterparts, each of which will be deemed an original, and all of which together will be deemed to be one and the same instrument. A facsimile or a portable document format (PDF) copy of this Agreement, including the signature pages, will be deemed an original.

9.16 **Timely Countersignature**. The terms and conditions of this Agreement shall, at Penn's sole option, be considered by Penn to be withdrawn from Licensee's consideration and the terms and conditions of this Agreement, and the Agreement itself to be null and void, unless this Agreement is executed by Licensee and a fully executed original is received by Penn within thirty (30) days from the date of Penn's signature found below.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, duly authorized representatives of the Parties have executed this Agreement as of the Effective Date.

THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA		**OPUS GENETICS INC.**	
By:	/s/ Benjamin C. Dibling, Ph.D.	By:	/s/ Joe Schachle
Name:	Benjamin C. Dibling, Ph.D.	Name:	Joe Schachle
Title:	Deputy Managing Director, Penn Center for Innovation	Title:	Chief Operating Officer
Date:	6/17/2022	Date:	6/23/2022

[Signature Page to License Agreement]

Exhibit A-1
Penn Patent Rights

[***]

Exhibit A-2
Licensed Information

[***]

Exhibit B-1
Diligence Events

[***]

Exhibit B-2
Milestones

[***]

Exhibit B-3
Royalties

[***]

Exhibit B-4
Minimum Annual Royalties

[***]

Exhibit B-5
Penn Sublicense Income

[***]

Appendix I
Equity Issuance Agreement

[***]

Appendix II
Form of Financial Report

[***]

Appendix III
Client & Billing Agreement

[***]

Appendix IV
Development Plan

[***]

Appendix V
Sublicense Development Report

[***]

EXHIBIT 10.32

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL. OMITTED INFORMATION HAS BEEN REPLACED WITH ASTERISKS [***]

EXECUTION VERSION
CONFIDENTIAL

ASSET PURCHASE AGREEMENT

BY AND BETWEEN

IVERIC BIO GENE THERAPY LLC

AND

OPUS GENETICS INC.

TABLE OF CONTENTS

ASSET PURCHASE AGREEMENT

This ASSET PURCHASE AGREEMENT (together with all Schedules, this "**Agreement**"), effective as of December 23, 2022 (the "**Effective Date**"), is by and between IVERIC bio Gene Therapy LLC, a Delaware limited liability company with a place of business at 8 Sylvan Way, Parsippany, NJ 07054 ("**Iveric**") and Opus Genetics Inc. a Delaware corporation with a place of business at 8 Davis Drive, Suite 220, Durham, NC 27709 ("**Opus**").

RECITALS

WHEREAS, Opus is engaged in the research, development and commercialization of gene therapy products for inherited retinal diseases ("**IRDs**");

WHEREAS, Iveric has been developing the gene therapy product candidates known as IC-100 and IC-200 (as further defined below, the "**Product Candidates**") for the treatment of certain IRDs; and WHEREAS, Iveric has agreed to sell, and Opus has agreed to purchase, the Product Candidates and all related assets (as defined below, the "**Purchased Assets**") on the terms and subject to the conditions set forth in this Agreement.

NOW, THEREFORE, in consideration of the premises and mutual covenants set forth in this Agreement, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

ARTICLE I
DEFINITIONS

The following terms as used in this Agreement will have the meanings set forth in this ARTICLE I:

1.1 "**AAA**" has the meaning set forth in Section 8.2.

1.2 "**AAA Rules**" has the meaning set forth in Section 8.2.

1.3 "**Acquirer**" means: (a) any Third Party that controls (within the meaning set forth in the definition of Affiliate) Iveric pursuant to a Change of Control of Iveric; and (b) the Affiliates of any such Third Party other than any such Affiliate that was, immediately prior to such Change of Control, an Affiliate of Iveric.

1.4 "**Acting Party**" has the meaning set forth in Section 3.7.1.

1.5 "**Affiliate**" means any Person that, directly or indirectly through one or more intermediaries, controls, is controlled by, or is under common control with the specified Person. For purposes of this definition, "control" (including, with correlative meanings, "controlled by", "controlling" and "under common control with") means the direct or indirect ownership of at least fifty percent (50%) of the shares or other equity interests of the subject entity entitled to vote in the election of directors, or in any case of an entity that is not a corporation, for the election of the corresponding managing authority.

1.6 "**Agreement**" has the meaning set forth in the preamble.

1.7 "**Annual Net Sales**" means, in relation to a Product, the total Net Sales of such Product sold by Opus or its Affiliates or Product Licensees during the applicable Earn-out Period in a particular Calendar Year.

1.8 "**Anti-Dilution Shares**" has the meaning set forth in Section 3.2.2.

1.9 "**Assigned License Agreements**" means the IC-100 License Agreement, the IC- 100 Short Promoter License Agreement and the IC-200 License Agreement.

1.10 "**Assumed Liabilities**" has the meaning set forth in Section 2.2.

1.11 "**Auditor**" has the meaning set forth in Section 3.6.1.

1.12 "**Autosomal Dominant BEST1-Related IRD**" means a BEST1-Related IRD in which the deficiency in BEST1 is autosomal dominant.

1.13 "**Autosomal Recessive BEST1-Related IRD**" means a BEST1-Related IRD in which the deficiency in BEST1 is autosomal recessive.

1.14 "**BEST1-Related IRD**" means an IRD characterized by one or more mutations in the bestrophin-1 ("**BEST1**") gene.

1.15 "**BEST1**" has the meaning set forth in Section 1.14.

1.16 "**BEST1 Sponsored Research Agreement**" means: (a) the Sponsored Research Agreement between Iveric and the University of Florida Board of Trustees dated March 3, 2020, as amended; and (b) the Master Sponsored Research Agreement between Iveric and The Trustees of the University of Pennsylvania dated October 30, 2018, as amended by the Amendment No. 1 to Master Sponsored Research Agreement, dated October 1, 2019.

1.17 "**Business Day**" means a day other than Saturday, Sunday or a holiday regularly recognized by either Party.

1.18 "**Calendar Quarter**" means any of the respective periods of three (3) consecutive calendar months ending on March 31, June 30, September 30 or December 31 of any Calendar Year.

1.19 "**Calendar Year**" means each interim period of twelve (12) months commencing on January 1 and ending on December 31.

1.20 "**Change of Control**" means, with respect to a Party, that: (a) any Third Party acquires directly or indirectly the beneficial ownership of any voting security of such Party, or if the percentage ownership of such Third Party in the voting securities of such Party is increased through stock redemption, cancellation, or other recapitalization, and immediately after such acquisition or increase such Third Party is, directly or indirectly, the beneficial owner of voting securities representing more than 50% of the total voting power of all of the then outstanding voting securities of such Party, other than any acquisition of any voting security directly from the Company for bona fide capital raising purposes; (b) a merger, consolidation, recapitalization, or reorganization of such Party is consummated that would result in shareholders or equity holders of such Party immediately prior to such transaction, owning less than 50% of the outstanding voting securities of the surviving entity (or its parent entity) immediately following such transaction; or (c) there is a sale or transfer to a Third Party of all or substantially all of such Party's consolidated assets taken as a whole, through one or more related transactions.

1.21 "**Claim**" has the meaning set forth in Section 7.1.

1.22 "**Clinical Trial**" means any human clinical trial in which a Product is administered and generally consistent with 21 C.F.R. § 312.21 (or the non-U.S. equivalent thereof).

1.23 "**Commercialization**" means all activities related to the commercial exploitation of products for treatment, prevention, palliation and cure of human diseases or conditions, including importation, exportation, marketing, promotion, distribution, pre-launch, launch, sale, offering for sale of a product. When used as a verb, "**Commercialize**" or "**Commercializing**" means to engage in Commercialization.

1.24 "**Confidentiality Agreement**" means that certain Mutual Confidential Disclosure Agreement by and between IVERIC bio, Inc., a Delaware corporation, and Opus dated as of April 27, 2022.

1.25 "**Control**" or "**Controlled**" means, with respect a Person and any Information or other Intellectual Property, that such Person owns or has the ability (whether by license or otherwise) to grant a license, sublicense, access or right to use under or to such Information or other Intellectual Property.

1.26 "**Cover**" means, with respect to any Patent and a Product or Product Candidate, that the Exploitation of such Product or Product Candidate would infringe a claim of such Patent (with claims in patent applications treated as if issued) in the applicable country where such activity occurred without a license thereunder. "**Covering**" and "**Covered by**" have correlating meanings.

1.27 "**Damages**" means any and all debts, obligations and other liabilities (whether absolute, accrued, contingent, fixed or otherwise, or whether known or unknown, or due or to become due or otherwise), diminution in value, monetary damages, fines, fees, penalties, interest obligations, deficiencies, losses and expenses (including amounts paid in settlement, interest, court costs, costs of investigators, fees and expenses of attorneys, accountants, financial advisors and other experts, and other expenses of litigation).

1.28 "**Deal**" means the occurrence of any of the following with respect to Opus: (a) any sale, transfer or other disposition of all or substantially all of the assets of Opus primarily relating to either or both of the Product Candidates or Products; or (b) any license or transfer of rights pursuant to which a Person (other than a distributor or similar Person) obtains the right to Commercialize any Product in (x) the EU, provided that at such time Iveric or any Iveric Affiliate has an ophthalmic salesforce in the EU or (y) the United States (in each case, ((x) and (y)), whether alone or including other countries or jurisdictions); or (c) any other transaction or series of transactions that has the substantial effect of any of the foregoing; provided, however, that "Deal" excludes a Change of Control of Opus.

1.29 "**Deal Disclosure**" has the meaning set forth in Section 5.3.1.

1.30 "**Defense Election Notice**" has the meaning set forth in Section 7.3.1.

1.31 "**Development**" means all activities related to the development of a product for treatment, prevention, palliation and cure of human diseases or conditions and obtaining Marketing Authorization(s) for a product, including all activities related to research, development, pre-clinical testing, pre-clinical toxicology, pre-clinical pharmacokinetics, pre-clinical pharmacodynamics, stability testing, toxicology, formulation, clinical trials, regulatory affairs, statistical analysis, report writing, Manufacturing process scale up (including registration batches/process validation, engineering studies qualification and validation, process validation, characterization and stability, scale and technology transfer to CMOs), qualification and validation activities, quality assurance/quality control development and Regulatory Filing creation and submission related to obtaining Marketing Authorization(s) for a product, and all other all activities directed to obtaining Marketing Authorization(s) or Reimbursement Approval(s). "**Develop**" has correlating meaning.

1.32 "**Disclosure Schedule**" has the meaning set forth in Section 6.2.

1.33 "**Dispute**" has the meaning set forth in Section 8.1.

1.34 "**Dominant Disease**" means Autosomal Dominant BEST1-Related IRD or RHO-adRP.

1.35 "**Earn-out Period**" means, on a Product-by-Product and country-by-country basis, the period beginning on the Effective Date and ending on that latest to occur of: (a) fifteen (15) years following First Commercial Sale of such Product in such country; and (b) the expiration of all applicable Regulatory Exclusivity periods with respect to such Product in such country.

1.36 "**Effective Date**" has the meaning set forth in the preamble.

1.37 "**Election Time Period**" has the meaning set forth in Section 7.3.1.

1.38 "**EMA**" means the European Medicines Agency or any successor agency or agencies thereto.

1.39 "**Encumbrance**" means any charge, community property interest, pledge, equitable interest, lien (statutory or other), option, security interest, mortgage, license, right of first refusal, or restriction of any kind, including any restriction on use, voting, transfer, receipt of income or exercise of any other attribute of ownership. For purposes of this Agreement, the Assigned License Agreements are not deemed to be Encumbrances.

1.40 "**European Union**" or "**EU**" means all countries of the European Union, as may be included from time to time; provided, however, that, as used in this Agreement, EU will at all times be deemed to include France, Germany, Italy, Spain and the United Kingdom.

1.41 "**Excluded Assets**" means those assets set forth in Schedule 1.41.

1.42 "**Executive Officers**" means: (a) Iveric's Chief Business & Strategy Officer; or (b) Opus' Chief Executive Officer; or, in either case, another individual of equal or greater seniority in such Party's organization as designated by a Party by written notice.

1.43 "**Existing Inventory**" has the meaning set forth in Section 4.4.

1.44 "**Exploit**" or "**Exploitation**" means to make, have made, use, sell, offer for sale, import, distribute, have distributed, export, Develop, Manufacture, Commercialize or otherwise exploit.

1.45 "**FCPA**" means the Foreign Corrupt Practices Act, as amended (15 U.S.C. §§ 78dd-1, et. Seq.).

1.46 "**FDA**" means the U.S. Food and Drug Administration or any successor agency or agencies thereto.

1.47 "**FDCA**" means the United States Food, Drug and Cosmetic Act, as amended (21 U.S.C. §§ 301, et seq.).

1.48 "**Financing Threshold**" has the meaning set forth in Section 3.2.2.

1.49 "**First Commercial Sale**" means the first transfer or sale of any Product by Opus or any of its Affiliates or Product Licensees to a Third Party that is not a Product Licensee following the grant of a valid and enforceable Regulatory Approval.

1.50 "**Governmental Authority**" means any nation or government, any state, local or other political subdivision thereof, and any entity, department, commission, bureau, agency, authority, board, court, official or officer, domestic or foreign, exercising executive, judicial, regulatory or administrative governmental functions.

1.51 "**IC-100**" means any product candidate described in Schedule 1.51, including any improvement, enhancement, modification or derivative of any such product candidate.

1.52 "**IC-100 License Agreement**" means the Exclusive License Agreement with Know-How by and among Institution Licensors and Iveric (formerly, Ophthotech Corporation) dated June 6, 2018, as amended.

1.53 "**IC-100 Patent Rights**" means "Patent Rights" as defined in the IC-100 License Agreement and IC-100 Short Promoter License Agreement.

1.54 "**IC-100 Product**" means any Product comprising IC-100 as the Product Candidate.

1.55 "**IC-100 Short Promoter License Agreement**" means the Non-Exclusive License Agreement by and between The University of Florida Research Foundation, Incorporated, and Iveric dated as of August 17, 2022.

1.56 "**IC-200**" means any product candidate described in Schedule 1.56, including any improvement, enhancement, modification or derivative of any such product candidate.

1.57 "**IC-200 License Agreement**" means the Exclusive License Agreement with Know-How by and among Institution Licensors and Iveric (formerly, Ophthotech Corporation) dated April 10, 2019, as amended.

1.58 "**IC-200 Patent Rights**" means "Patent Rights" as defined in the IC-200 License Agreement.

1.59 "**IC-200 Product**" means any Product comprising IC-200 as the Product Candidate.

1.60 "**Indebtedness**" of any Person means, without duplication: (a) the principal of and accrued interest, premiums, penalties and other fees and expenses (if any) required to be paid by a borrower to a lender pursuant to a customary payoff letter, in each case, in respect of (i) indebtedness of such Person for money borrowed or (ii) indebtedness evidenced by notes, debentures, bonds or other similar instruments for the payment of which such Person is responsible or liable; (b) all obligations of the type referred to in clause (a) of other Persons for the payment of which such Person is responsible or liable, directly or indirectly, as obligor, guarantor or surety, including any guarantee of such obligations; (c) any indebtedness for the deferred purchase price of property or services with respect to which a Person is liable, contingently or otherwise, as obligor or otherwise; (d) any obligations under finance leases with respect to which a Person is liable, contingently or otherwise, as obligor, guarantor or otherwise, or with respect to which obligations a Person assures a creditor against loss; and (e) all Liabilities related to any defined benefit pension, multiemployer pension, post-retirement health and welfare benefit, accrued annual or other bonus obligations, any unpaid severance liabilities currently being paid or payable in respect of any employee and deferred compensation Liabilities, together in each case, with any associated employer payroll Taxes.

1.61 "**Indemnitee**" has the meaning set forth in Section 7.3.1.

1.62 "**Indemnitor**" has the meaning set forth in Section 7.3.1.

1.63 "**Information**" means any data, results, technology, business information and information of any type whatsoever, in any tangible or intangible form, including know-how, trade secrets, practices, techniques, methods, processes, inventions, developments, specifications, formulations, formulae, materials or compositions of matter of any type or kind (patentable or otherwise), regulatory dossiers and submissions, dosing information, marketing reports, expertise, test data (including pharmacological, biological, chemical, biochemical, toxicological, pre-clinical and clinical test data), Manufacturing know-how and data, analytical and quality control data, stability data, clinical study data, other study data and procedures.

1.64 "**Initial Public Offering**" means (a) the initial public offering by Opus of its common stock, (b) a business combination involving Opus and a publicly listed company, whether by merger, consolidation, stock purchase, asset sale or otherwise that results in shares of common stock or similar securities of Opus, its successor, the combined company or a new parent company or other entity that owns or controls Opus and issued to Opus shareholders being listed on a national securities exchange, or (c) the listing of Opus' common stock on a national securities exchange).

1.65 "**Institution Licensor**" means, as the context requires, The Trustees of the University of Pennsylvania or The University of Florida Research Foundation, Incorporated.

1.66 "**Institution Licensors**" means both The Trustees of the University of Pennsylvania and The University of Florida Research Foundation, Incorporated.

1.67 "**Intellectual Property**" means all intellectual property rights and other proprietary rights in any jurisdiction throughout the world including: (a) Patents; (b) inventions, trade secrets, know-how and other confidential or proprietary Information; (c) copyrights and copyright applications, copyrightable works, moral rights, rights of paternity or integrity or similar rights; (d) Trademarks; (e) registrations and applications for any of the foregoing; (f) data, results and reports related to any clinical trial, whether published or unpublished; (g) any additions, advances, changes, derivatives, improvements, enhancements, refinements or modifications made to any of the foregoing; and (h) all other intellectual property, including all applications for (and rights to apply for and be granted) renewals or extensions of, and rights to claim priority from, such rights.

1.68 "**Iveric Indemnitees**" has the meaning set forth in Section 7.2.

1.69 "**Knowledge**" means the actual knowledge of: (a) with respect to Opus, its Chief Executive Officer; and (b) with respect to Iveric, its President and General Counsel; in either case, (a) or (b), after performing reasonable inquiry of the employees of the specified Party having responsibilities with respect to the relevant subject matters.

1.70 "**Law**" means all laws, statutes, rules, regulations, ordinances, orders, judgments and other pronouncements having the effect of law of any federal, national, multinational, state, provincial, county, city or other political subdivision, domestic or foreign, including all such laws, statutes, rules, regulations, ordinances, orders, judgments and other pronouncements pertaining to the pharmaceutical industry or the healthcare industry and all anti-bribery or anti-corruption laws, including the FDCA and the FCPA and their implementing regulations and all foreign equivalents thereof.

1.71 "**Less Favorable Terms**" means [***].

1.72 "**Liabilities and Obligations**" means all known or unknown losses, liabilities and obligations, including any and all claims for Damages.

1.73 "**Manufacture**" means all activities related to the production, manufacture, processing, formulation, filling, finishing, packaging, labeling, shipping and holding of a product or any intermediate thereof, including process development, process qualification and validation, scale-up, pre-clinical, clinical and commercial manufacture and analytic development, product characterization, stability testing, quality assurance and quality control, in each case as applicable to a product. "**Manufacturing**" has correlating meaning.

1.74 "**Manufacturing and Storage Agreements**" means: (a) the GMP Manufacturing and Testing Services Agreement between Catalent Maryland, Inc. (formerly, Paragon Bioservices, Inc.) ("**Catalent**") and Iveric dated as of February 5, 2019 ("**Catalent MSA**"); (b) the agreement between Catalent and Iveric dated October 30, 2019, entitled "Analytical Testing of Non-GMP rAAV Material"; (c) the Biostorage Master Services Agreement between Azenta US (formerly Biostorage Technologies, Inc.) and IVERIC bio, Inc. (formerly Ophthotech Corporation) dated October 30, 2013 (the "**Azenta Agreement**"); and (d) Master Services Agreement between Fisher BioServices, Inc. and IVERIC bio, Inc., dated July 16, 2021.

1.75 "**Manufacturing Patent**" has the meaning set forth in Section 5.2.

1.76 "**Marketing Authorization**" means the authorizations and approvals of the applicable Regulatory Authority or other Governmental Authority in such country or regulatory jurisdiction (including the FDA and EMA) that are necessary to market, sell or otherwise Commercialize a product for treatment, prevention, palliation and cure of human diseases or conditions in such country or regulatory jurisdiction.

1.77 Net Sales Definition.

1.78 1.77.1 "**Net Sales**" means [***]."**Non-Acting Party**" has the meaning set forth in Section 3.7.1.

1.79 "**Opus**" has the meaning set forth in the preamble.

1.80 "**Opus Indemnitees**" has the meaning set forth in Section 7.1.

1.81 "**Opus Initiated Process**" has the meaning set forth in Section 5.3.1.

1.82 "**Party**" and "**Parties**" has the meaning set forth in the preamble.

1.83 "**Patent**" means: (a) letters patent (or other equivalent legal instrument), including utility and design patents, and including any extension, substitution, registration, confirmation, reissue, re-examination, supplementary protection certificate or renewal thereof; (b) applications for letters patent, a provisional application, a reissue application, a continuation application, a continuation-in-part application, a divisional application or any equivalent of the foregoing applications; and (c) all foreign or international equivalents of any of the foregoing in any country.

1.84 "**Person**" means any individual, firm, corporation, partnership, limited liability company, trust, business trust, joint venture, association or other entity.

1.85 "**Pivotal Clinical Trial**" means a Clinical Trial that: (a) is designed to establish that a Product has an acceptable safety and efficacy profile for its intended use, and to determine warnings, precautions, and adverse reactions that are associated with such Product in the dosage range to be prescribed; and (b) is a registrational trial designed to, alone or with one or more additional Clinical Trials, be sufficient to support the filing of an application for a Regulatory Approval for such Product in an applicable country or jurisdiction or some or all of an extra-national territory.

1.86 "**Product**" means any product comprising a Product Candidate, in any form, dose, formulation or method of administration, whether alone or in combination with other substances.

1.87 "**Product Candidate**" means IC-100 or IC-200. "**Product Candidates**" means both IC-100 and IC-200.

1.88 "**Product Candidate SOWs**" has the meaning set forth in Section 4.4.2.

1.89 "**Product Data and Documentation**" means: (a) all Information Controlled by Iveric as of the Effective Date that is exclusively used by Iveric for the Exploitation of Products and Product Candidates; and (b) all Regulatory Documentation related to the Product Candidates.

1.90 "**Product License**" means any agreement or arrangement, whether oral or written, pursuant to which Opus or any of its Affiliates or Product Licensees grants a Third Party any express or implied right (including any assignment of rights in the Product Candidates or Products, license, sublicense or covenant not to sue) to Commercialize any Product. Without limiting the foregoing, a Product License includes any further license, sublicense, assignment or other transfer of any Product Licensee's rights with respect to the Products.

1.91 "**Product Licensee**" means any Third Party that receives a license, sublicense, assignment or other right to Commercialize any Product under a Product License.

1.92 "**Product Patent Rights**" means all Patents Controlled by Iveric as of the Effective Date that Cover Exploitation of Product Candidates in any country or region throughout the world. Without limiting the foregoing, Product Patent Rights include the IC-100 Patent Rights and the IC-200 Patent Rights.

1.93 "**Proposed Deal**" has the meaning set forth in Section 5.3.2(a).

1.94 "**Purchased Assets**" means all assets Controlled by Iveric as of the Effective Date that are used by Iveric as of the Effective Date exclusively for the Exploitation of the Product Candidates. Without limiting the foregoing, Purchased Assets include: (t) the Product Candidates; (u) the Product Patent Rights; (v) the Existing Inventory; (w) the Assigned License Agreements; (x) the BEST1 Sponsored Research Agreements; (y) the Manufacturing and Storage Agreements (as and to the extent described in Section 4.4.2); and (z) the Product Data and Documentation. Notwithstanding anything to the contrary set forth in this Agreement, the Purchased Assets exclude the Excluded Assets.

1.95 "**Regulatory Approval**" means the approvals (including Reimbursement Approvals), licenses, registrations or authorizations of any Regulatory Authority, necessary to commercially distribute, sell or market a product in a country.

1.96 "**Regulatory Authority**" means any national, supranational, regional, state or local regulatory agency, department, bureau, commission, council or other governmental entity and any other agencies in any country involved in the granting or receipt of Regulatory Approvals.

1.97 "**Regulatory Exclusivity**" means any exclusive marketing rights or data exclusivity rights conferred by any governmental authority with respect to a Product other than a patent right, including rights conferred in the U.S. under the Section 351(k) of the Public Health Service Act (42 U.S.C. 262(k)), the Orphan Drug Act (21 U.S.C. 360bb(a)(2)(A)), or the FDA Modernization Act of 1997 (21 U.S.C. 355a(b)), or rights similar thereto outside the United States, including in the European Union, European Commission Regulation (EC) No 726/2004 and European Commission Directive 2001/83/EC (as amended).

1.98 "**Regulatory Documentation**" means: all (a) applications (including all investigational new drug applications ("INDs")), registrations, licenses, authorizations and approvals (including Marketing Authorizations); (b) correspondence and reports submitted to or received from Regulatory Authorities (including minutes and official contact reports relating to any communications with any Regulatory Authority) and all supporting documents with respect thereto, including all adverse event files and complaint files; and (c) clinical and other data contained or relied upon in any of the foregoing; in each case ((a), (b) and (c)) relating to a product for treatment, prevention, palliation and cure of human diseases or conditions.

1.99 "**Regulatory Filings**" means any application for Marketing Authorization, any application for Reimbursement Approval, and any notification or other submission made to or with a Regulatory Authority that is necessary to Develop (including to conduct pre-clinical or clinical trials), use, Manufacture, transport, store or Commercialize a particular product for treatment, prevention, palliation and cure of human diseases or conditions in a particular country or regulatory jurisdiction, whether made before or after receipt of Marketing Authorization in the country or regulatory jurisdiction. The term "Regulatory Filings" includes all amendments and supplements to any of the foregoing and all proposed labels, labeling, package inserts, monographs and packaging.

1.100 "**Reimbursement Approval**" means with respect to a particular country or regulatory jurisdiction, any pricing and reimbursement approvals of the applicable Regulatory Authority or other Governmental Authority in such country or regulatory jurisdiction for a product for treatment, prevention, palliation and cure of human diseases or conditions in such country or regulatory jurisdiction at the relevant time.

1.101 "**Representatives**" means the employees, contractors, representatives and agents of the specified Person.

1.102 "**Required Patents and Information**" means: (a) any Patents Controlled by Iveric (or any of its Affiliates) as of the Effective Date, other than the Product Patent Rights, that Cover or are otherwise necessary for the Exploitation of the Product Candidates or Products; and (b) any Information Controlled by Iveric (or any of its Affiliates) as of the Effective Date, other than the Product Data and Documentation, that is necessary for the Exploitation of Product Candidates or Products.

1.103 "**Retained Liabilities**" has the meaning set forth in Section 2.3.

1.104 "**RHO-adRP**" means rhodopsin-mediated autosomal dominant retinitis pigmentosa.

1.105 "**ROFR Period**" has the meaning set forth in Section 5.3.1.

1.106 "**Series Seed Stock**" has the meaning set forth in Section 3.2.1.

1.107 "**Subsequent Financing Round**" means [***].

1.108 "**Tax Action**" has the meaning set forth in Section 3.7.1.

1.109 "**Tail Period**" has the meaning set forth in Section 5.3.3(a).

1.110 "**Taxes**" means all federal, state, local, foreign and other income, gross receipts, sales, use, production, ad valorem, transfer, documentary, franchise, registration, profits, license, escheat. lease, service, service use, withholding, payroll, employment, unemployment, estimated, excise, severance, environmental, stamp, occupation, premium, property (real or personal), real property gains, windfall profits, customs, duties or other taxes, fees, assessments or charges of any kind whatsoever, and including any tax liability incurred or borne as a result either of being a member of a combined, consolidated, unitary or affiliated group, as a transferee or successor or by contract, by operation of Law or otherwise, together with any interest, additions or penalties with respect thereto and any interest in respect of such additions or penalties.

1.111 "**Transition Work Order**" has the meaning set forth in Section 4.1.

1.112 "**Trademarks**" means trademarks, service marks, trade names, trade dress, corporate names, logos, slogans, brand names and other source identifiers (and all translations, adaptations, derivations and combinations of the foregoing) and Internet domain names, together with all goodwill associated with each of the foregoing.

1.113 "**Third Party**" means any Person other than Iveric and Opus and their respective Affiliates.

1.114 "**Third Party Initiated Process**" has the meaning set forth in Section 5.3.1.

1.115 "**Upfront Fee**" has the meaning set forth in Section 3.1.

1.116 "**U.S.**" means the United States of America, its territories and possessions.

1.117 "**U.S. GAAP**" means U.S. Generally Accepted Accounting Principles, as consistently applied.

1.118 "**USD**" means U.S. Dollars.

1.119 "**Valid Claim**" means: (a) a claim of an issued Patent that has not expired or been dedicated to the public, abandoned, disclaimed or rendered unenforceable through disclaimer or otherwise, nor been revoked, held invalid, unpatentable or unenforceable or revoked by a patent office, court or other Governmental Authority of competent jurisdiction in a final and non-appealable judgment (or judgment from which no appeal was taken within the allowable time period); or (b) a claim within a pending Patent that has not been pending for more than [***] from the date of its priority filing date and that has not been irretrievably revoked, irretrievably cancelled, irretrievably withdrawn, held invalid or irretrievably abandoned by a patent office, court or other governmental agency of competent jurisdiction in a final and non-appealable judgment (or judgment from which no appeal was taken within the allowable time period), or finally determined to be unallowable in a decision from which an appeal cannot or can no longer be taken.

1.120 "**VAT**" has the meaning set forth in Section 3.7.2.

ARTICLE II
PURCHASE AND SALE

2.1 Purchase and Sale of Assets. Subject to the terms and conditions set forth in this Agreement, Opus hereby purchases from Iveric, and Iveric hereby sells, transfers, conveys, assigns and delivers to Opus, all rights, title and interests in, to and under the Purchased Assets, free and clear of all Encumbrances, effective as of the Effective Date. In furtherance of the foregoing, the Parties agree that, effective as of the Effective Date, "Licensee" under the Assigned License Agreements and "Sponsor" under the BEST1 Sponsored Research Agreements will be deemed to refer to Opus, and Iveric will no longer have any rights or obligations under the Assigned License Agreements and BEST1 Sponsored Research Agreements except as set forth in Section 2.3.

2.2 Assumption of Liabilities. Subject to the terms and conditions set forth in this Agreement, Opus hereby assumes and agrees to perform, pay, satisfy, or discharge when due, all Liabilities and Obligations relating to the Purchased Assets other than the Retained Liabilities ("**Assumed Liabilities**").

2.3 Retained Liabilities. Notwithstanding any other provision in this Agreement to the contrary, Opus shall not assume and shall not be responsible to pay, perform or discharge the following Liabilities and Obligations: (a) any Liabilities and Obligations of Iveric with respect to assets other than the Purchased Assets, including the Excluded Assets; (b) any Indebtedness of Iveric; (c) any Liability for (i) Taxes of Iveric, (ii) Taxes relating to the Purchased Assets or the Assumed Liabilities for any Tax period ending on or prior to the Effective Date or (iii) Taxes that arise out of the consummation of the transactions contemplated by this Agreement which are the responsibility of Iveric; and (d) any other Liabilities and Obligations, of any kind or nature whatsoever (including Liabilities and Obligations relating to labor matters, employment (or consulting services) and employee benefits), to the extent arising out of or relating to Iveric 's ownership of the Purchased Assets on or prior to the Effective Date (collectively, the "**Retained Liabilities**").

2.4 Purchase Price. As consideration for the Purchased Assets, Opus will make the payments to Iveric set forth in ARTICLE III.

2.5 Confidentiality Obligations. From and after the Effective Date, information regarding the Purchased Assets that was IVERIC Confidential Information under the Confidentiality Agreement will be deemed to be Opus Confidential Information under the Confidentiality Agreement.

2.6 Freedom to Operate License. From and after the Effective Date, Iveric (on behalf of itself and its Affiliates) hereby grants to Opus a worldwide, non-exclusive, fully paid-up, royalty-free, perpetual, irrevocable (except, on a Product Candidate-by-Product Candidate basis, as set forth in Section 5.1.2), transferable (solely in connection with a transfer of the Purchased Assets), sublicensable (through multiple tiers) license, under any Required Patents and Information, to Exploit Product Candidates and Products. Notwithstanding anything to the contrary, the foregoing license set forth in this Section 2.6 is intended to provide Opus a "freedom to operate" license with respect to the Required Patents and Information solely for the Exploitation of Product Candidates and Products and not on a standalone basis or in connection with any other product, process or service. Upon Opus' request [***], Iveric will provide reasonable cooperation to ensure that Information within subclause (b) of the definition of Required Patents and Information is disclosed to Opus as required for Opus to Exploit Product Candidates and Products.

ARTICLE III
PAYMENTS

3.1 Upfront Fee. On December 27, 2022, Opus will pay to Iveric a one-time, non- refundable, non-creditable fee equal to Five Hundred Thousand USD ($500,000) (the "**Upfront Fee**").

3.2 Equity.

3.2.1 As of the Effective Date, Opus will issue to Iveric 2,632,720 shares of series seed preferred stock of Opus, par value $0.00001 per share (the "**Series Seed Stock**"). Concurrently with this Agreement, the Parties have also entered into the Stock Issuance Agreement attached hereto as Schedule 3.2.1.

3.2.2 [***]

3.2.3 [***]

3.3 Milestones.

3.3.1 Development and Regulatory Milestones. Upon the first achievement by Opus or its Affiliates or Product Licensees of each of the milestone events set forth below with respect to the first IC-100 Product and the first IC-200 Product to achieve each such milestone event during the applicable Earn-out Period, then Opus will pay Iveric the corresponding one-time, non-refundable, non-creditable milestone payment in the amount set forth below:

Milestone Event	Milestone Payment IC-100 Product	Milestone Payment IC-200 Product
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]

Opus will notify Iveric of the achievement of any such milestone event and pay the corresponding milestone payment amount within [***] after achievement of the applicable milestone event.

3.3.2 Sales Milestones. Upon the first achievement of Annual Net Sales in the amount set forth below with respect to the first IC-100 Product and the first IC-200 Product to achieve each such milestone event, then Opus will pay Iveric the corresponding one-time, non-refundable, non-creditable milestone payment in amount set forth below:

Annual Net Sales	Milestone Payment IC-100 Product	Milestone Payment IC-200 Product
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]

Opus will notify Iveric of the achievement of any such milestone event and pay the corresponding milestone payment amount within [***] after the end of the Calendar Quarter in which such milestone event was achieved.

3.4 Earn-out.

3.4.1 Earn-out Rate. On a country-by-country and Product-by-Product basis, during the applicable Earn-out Period, Opus will pay to Iveric [***] of Net Sales of such Product in such country. The Parties acknowledge and agree that the earn-out described in the previous sentence is provided as consideration for advancement of the Purchased Assets by Iveric prior to the Effective Date and are not consideration for a license or other right under Patents.

3.4.2 Earn-out Reports; Payments. Within [***] after the end of each Calendar Quarter during the applicable Earn-out Period, Opus will provide to Iveric a report for each country in which Net Sales of any Product occurred in the Calendar Quarter covered by such statement, specifying for such Calendar Quarter: [***]. Opus will pay earn-out payments owed under Section 3.4.1 within [***] after the end of each Calendar Quarter. Such payments will be paid without setoff, counterclaim or deduction.

3.5 Financial Records. Opus will keep, and will require its Affiliates and Product Licensees to keep, complete and accurate books and records relating to this Agreement in accordance with its U.S. GAAP. Opus will keep, and will require its Affiliates and Product Licensees to keep, such books and records for at least [***] following the end of the Calendar Year to which they pertain. Such books of accounts will be kept at the principal place of business of the financial personnel with responsibility for preparing and maintaining such records. Such records will be in sufficient detail to support calculations of all payments due to Iveric under this Agreement.

3.6 Audits.

3.6.1 Audit Right. Iveric may, upon request and at its expense (except as provided for herein), cause an internationally recognized independent accounting firm selected by the Iveric (except one to whom Opus has a reasonable objection) (the "**Auditor**") to audit, during ordinary business hours, the books and records of Opus and the correctness of any payment made or required to be made, and any report underlying such payment (or lack thereof), pursuant to the terms of this Agreement. Prior to commencing its work pursuant to this Agreement, the Auditor will enter into a confidentiality agreement with Opus obligating the Auditor to be bound by reasonable obligations of confidentiality and restrictions on use with respect any confidential or proprietary information learned by the Auditor.

3.6.2 Limitations. In respect of each audit of Opus's books and records: (a) Opus may be audited only [***] unless an audit reveals any material underpayment, in which case Iveric may have an addition audit performed in such Calendar Year; (b) no records for any given Calendar Year may be audited more than once (but Opus's records will still be made available if such records impact another financial year which is being audited); and (c) Iveric will only be entitled to audit books and records of Opus from the [***] prior to the Calendar Year in which the audit request is made.

3.6.3 Audit Notice. In order to initiate an audit for a particular Calendar Year, Iveric must provide written notice to Opus. Iveric will provide Opus with notice of one or more proposed dates of the audit not less than [***] prior to the first proposed date. Opus will reasonably accommodate the scheduling of such audit. Opus will provide such Auditor(s) with full and complete access to the applicable books and records and otherwise reasonably cooperate with such audit.

3.6.4 Payments. If an audit shows any under-reporting or underpayment by Opus, then Opus will promptly remit such underpayment within [***] after receiving the audit report. Further, if an audit for an annual period shows an underpayment by Opus for that period in excess of [***] of the amounts properly determined, then Opus will reimburse Iveric for its out-of-pocket costs in connection with such audit, which reimbursement will be made within [***] after receiving appropriate invoices and other support for such audit-related costs. If an audit shows any over-reporting or overpayment by Opus, then Iveric will promptly refund such overpayment within [***] after receiving the audit report.

3.7 Tax Matters.

3.7.1 Withholding and Indirect Taxes. Except as expressly set forth in this Section 3.7, each Party will pay any and all Taxes levied on account of all payments it receives under this Agreement. Each Party will provide such information and documentation to the other Party as are reasonably requested by such other Party to determine if any withholding Taxes apply to any payments to be made by such other Party under this Agreement and to establish qualification for a reduced withholding rate or an exemption from such withholding Tax under the applicable bilateral income Tax treaty or relevant statutory provision. The Parties understand and agree that it is contemplated that any applicable withholding Tax percentage under this Agreement is 0% (zero percent), however, if a Party believes that it is required to withhold Taxes on a payment to the other Party hereunder, the paying Party will use commercially reasonable efforts to notify the other Party of such determination at least [***] prior to making such payment. To the extent that applicable Laws require that Taxes be withheld with respect to any payments to be made by a Party to the other Party under this Agreement, the paying Party will: (A) deduct those Taxes from the remittable payment; (B) pay the Taxes to the proper taxing authority; and (C) promptly send evidence of the obligation together with proof of Tax payment to the other Party on a reasonable and timely basis following such tax payment. Each Party agrees to use commercially reasonable efforts to cooperate with the other Party in claiming refunds, reductions, or exemptions from such deductions or withholdings under any relevant agreement or treaty that is in effect. Notwithstanding anything to the contrary in this Agreement, in the event a Party redomiciles or assigns its rights or obligations under this Agreement in accordance with Section 9.2 (each, a "**Tax Action**," and such Party, the "**Acting Party**"), and, as a result of such Tax Action, the amount of Tax required to be withheld under this Section 3.7.1 in respect of a payment to the other Party (the "**Non-Acting Party**") is greater than the amount of such Tax that would have been required to have been withheld absent such Tax Action, then any such amount payable to the Non-Acting Party will be adjusted to take into account such withholding Taxes as may be necessary so that, after making all required withholdings or credits, the Non-Acting Party receives an amount equal to the sum it would have received under this Agreement, taking into account applicable Tax rates imposed on such income and any Tax credits available as a result of the withholding or credits, had no such Tax Action occurred (but in no case will any payment under this Agreement be an amount less than the remittable payment due without regard to this Section 3.7.1). The obligation to adjust payments pursuant to the preceding sentence will not apply, however, to the extent such increased withholding tax: (x) would not have been imposed but for a Tax Action taken by the Party receiving the payment subject to withholding under this Section 3.7.1; or (y) is attributable to the failure by the Non-Acting Party to comply with the requirements of this Section 3.7.1.

3.7.2 Notwithstanding anything to the contrary in this Agreement (including anything to the contrary in this Section 3.7), this Section 3.7.2 will apply with respect to value added Tax or any similar Tax ("**VAT**"). All amounts agreed by the Parties under this Agreement are exclusive of VAT. If, under applicable Law, any VAT is required to be paid in respect of any supply of goods or services under this Agreement, the Party receiving such supply of goods or services will pay VAT at the applicable rate either: (A) to the other Party; or (B) if provided under applicable Law, directly to the relevant Tax authorities. In each case, the Party providing such supply of goods or services will issue valid VAT invoice to the other Party in respect of the supply of goods or services.

3.7.3 Each Party has provided a properly completed and duly executed IRS Form W-9 to the other Party. Each Party will provide to the other Party, at the time or times reasonably requested by such other Party or as required by applicable Law, such properly completed and duly executed documentation (for example, IRS Form W-9) as will permit payments made under this Agreement to be made without, or at a reduced rate of, withholding for Taxes, and the applicable payment will be made without (or at a reduced rate of) withholding to the extent permitted by such documentation, as reasonably determined by the paying Party. Each Party agrees to reasonably assist the other Party in claiming exemption from such deductions, credits or withholdings under any double taxation or similar agreement or treaty from time to time in force and in minimizing the amount required to be so withheld or deducted.

3.8 Foreign Derived Intangible Income Deduction. Each Party will use commercially reasonable efforts to provide, and to cause its Affiliates, subcontractors, Product Licensees, customers, and applicable Third Parties to provide, any information and documentation reasonably requested by the other Party to obtain the benefits of Section 250 of the Internal Revenue Code of 1986, as amended and the applicable Treasury Regulations, including information required to demonstrate the extent to which the Products will be sold, consumed, used, or manufactured outside the United States.

3.9 Currency Exchange. Unless otherwise expressly stated in this Agreement, all amounts specified in, and all payments made under, this Agreement will be in USD. If any currency conversion will be required in connection with the calculation of amounts payable under this Agreement, such conversion will be performed in a manner consistent with the paying Party's normal practices used to prepare its audited financial statements for internal and external reporting purposes.

3.10 Late Payments. Any payments that are not paid on or before the date such payments are due under this Agreement will bear interest, to the extent permitted by applicable Law at an annual rate equal to the lesser of: (a) [***]; or (b) the highest rate permitted by applicable Law; in each case calculated on the number of days such payment is delinquent, compounded monthly; except that, with respect to any disputed payments, no interest payment will be due until such dispute is resolved and the interest which will be payable thereon will be based on the finally-resolved amount of such payment, calculated from the original date on which the disputed payment was due through the date on which payment is actually made.

3.11 Blocked Payments. In the event that, by reason of applicable Law in any country, it becomes impossible or illegal for Opus (or any of its Affiliates or Product Licensees) to transfer, or have transferred on its behalf, payments owed to Iveric hereunder, Opus will promptly notify Iveric of the conditions preventing such transfer and such payments will be deposited in local currency in the relevant country to the credit of Iveric in a recognized banking institution designated by Iveric or, if none is designated by Iveric within a period of [***], in a recognized banking institution selected by Opus or any of its Affiliates or its Product Licensees, as the case may be, and identified in a written notice given to Iveric.

3.12 Prohibitions on Payments. When, in any country, applicable Law prohibits both the transmittal and the deposit of payments based on a percentage of sales in such country, earn-out payments due on Net Sales will be suspended for as long as such prohibition is in effect and as soon as such prohibition ceases to be in effect, all earn-out payments that Opus would have been under an obligation to transmit or deposit but for the prohibition will forthwith be deposited or transmitted, to the extent allowable. The Parties will cooperate in good faith to overcome, to the extent reasonably possible, any prohibition described in this Section 3.12 within a reasonable period of time.

ARTICLE IV
IVERIC COVENANTS

4.1 Technology Transfer; Transition Assistance. Iveric will transfer to Opus all Product Data and Documentation and will use commercially reasonable efforts to complete such transfer within [***] following the Effective Date. Upon reasonable request by Opus during [***] following the Effective Date, Iveric will also: (a) provide Opus or its designee with reasonable technical assistance to transfer the Manufacturing process for the Product Candidates; and (b) provide any other reasonably requested Information and assistance as required in order to transfer technology required for the further Development of the Product Candidates; in each case ((a) and (b)) in the manner and scope set forth in a written statement of work executed by both Parties referencing this Agreement (each a "**Transition Work Order**"). [***].

4.2 Patent Matters. Within [***] after the Effective Date, Iveric will: (a) transfer the existing, complete patent files for all applicable Product Patent Rights for which Iveric has prosecution control to Opus; (b) file all documents necessary to transfer correspondence with the U.S. Patent and Trademark Office and other applicable patent authorities to Opus with respect thereto; (c) give Opus's patent counsel power of attorney thereto; and (d) otherwise cooperate with Opus in the transfer of all prosecution and maintenance responsibilities relating to the Product Patent Rights for which Iveric had prosecution control prior to the Effective Date.

4.3 Regulatory Documentation. Within [***] after the Effective Date, Iveric will provide to Opus electronic copies of all Regulatory Documentation.

4.4 Manufacturing.

4.4.1 Existing Inventory. As of the Effective Date, Iveric is in possession of the quantities of Product Candidates and other materials set forth in Schedule 4.4.1 (the "**Existing Inventory**"). As of and from the Effective Date, Opus shall have title to, be responsible for all costs for and bear all risk of loss with the Existing Inventory. To the extent available under the Manufacturing and Storage Agreements, Iveric will pass through to Opus (or exercise on Opus' behalf) any available warranties and other rights and remedies with respect to the Existing Inventory. NOTWITHSTANDING THE FOREGOING, EXCEPT AS EXPRESSLY SET FORTH IN SECTION 6.2.2, AS BETWEEN IVERIC AND OPUS THE EXISTING INVENTORY IS PROVIDED "AS IS" WITHOUT ANY WARRANTY OF ANY KIND, AND IVERIC WILL NOT BE RESPONSIBLE FOR ANY DAMAGES ARISING OUT OF OR RELATING TO THE EXISTING INVENTORY.

4.4.2 Manufacturing Agreement. Prior to the Effective Date, Iveric entered into the statements of work under the Manufacturing and Storage Agreements attached to this Agreement as Schedule 4.4.2 with respect to services relating to Manufacture and storage of IC-100 and IC-200 (the "**Product Candidate SOWs**"). Contemporaneous with the Effective Date, Iveric will use commercially reasonable efforts to partially assign each of the Manufacturing and Storage Agreements to Opus with respect to the Product Candidate SOWs and to the extent necessary under the Azenta Agreement such that Opus may exercise its rights under the Manufacturing and Storage Agreements with respect to the Product Candidate SOWs and as necessary under the Azenta Agreement and enter new statements of work with respect to the Product Candidates as if it were Iveric, [***].

4.5 Noncompetition Covenant.

4.5.1 For a period of five (5) years following the Effective Date, Iveric agrees that it and its Affiliates (excluding an Acquirer) will not, directly or indirectly, clinically Develop, seek Regulatory Approval for or Commercialize any gene therapy product for the treatment of BEST1-Related IRD or RHO-adRP.

4.5.2 Neither Iveric nor any of its Affiliates (excluding an Acquirer) shall directly or indirectly: (a) initiate, request or participate in an interference or opposition proceeding with respect to any of the Product Patent Rights; (b) make, file, maintain or participate in any claim, demand, lawsuit, cause of action or any other administrative, judicial or similar proceeding to challenge the validity, enforceability or patentability of any of the Product Patent Rights; or (c) oppose any extension of, or the grant of a supplementary protection certificate with respect to, any of the Product Patent Rights (in each case, (a), (b) or (c)), other than in response to a threat of an infringement claim by Opus, its Affiliates or any Third Party (including a Product Licensee) making a claim under the Product Patent Rights.

Deliverables. Within [***] following the Effective Date, Iveric will cause to be executed and deliver to Opus the assignment of patent rights document for the Manufacturing Patents in substantially the form set forth in Schedule 4.6.

Debarment. At any time after the Effective Date, if Iveric becomes aware that its representation and warranty in Section 6.1.7 would not be true as of such date, it will promptly notify Opus.

ARTICLE V
OPUS COVENANTS

5.1 Diligence.

5.1.1 Development and Commercialization Efforts. As set forth therein, Opus will, and will cause its Affiliates and Product Licensees to meet the level of diligence required with respect to the Development and Commercialization of IC-200 Product as required pursuant to the IC-200 License Agreement. Opus will deliver to Iveric all reports owed to the Institution Licensors under the Assigned License Agreements. Section 5.1.2 sets forth Iveric's sole remedy for breach of this Section 5.1.1.

5.1.2 Certain Remedies. If: (a) on a Product Candidate-by-Product Candidate basis, one of the following occurs during the applicable Earn-out Period (i) Opus materially breaches its obligations under Section 5.1.1 with respect to the applicable Product Candidate and such breach, if undisputed, is not cured within [***] after receipt of written notice thereof from Iveric, (ii) the Assigned License Agreements with respect to such Product Candidate are terminated for any reason, or (iii) Opus ceases all efforts to Exploit all Product Candidates for a period exceeding [***], other than, in each case (i) – (iii), for safety reasons or as a result of any breach, gross negligence, or willful misconduct of Iveric or any Institution Licensor; then (b) upon Iveric's written request provided within [***] after the date that any of the foregoing occurs, the licenses set forth in Sections 2.6 and 5.2 will terminate with respect to such Product Candidate and Product and Opus will (i) assign and otherwise transfer to Iveric (A) all Patents Controlled by Opus or its Affiliates as of such date that Cover Exploitation of the applicable Product Candidate and Product in the applicable country(ies) or region(s), except that Opus will not be required to assign any Patent if an owner thereof has the right to consent to such assignment and declines to give consent despite Opus' good faith efforts to obtain such consent, (B) all contracts (including license agreements, clinical trial agreements and manufacturing agreements) to which any of Opus or its Affiliates is a party and that are exclusively related to the Exploitation of the applicable Product Candidate and Product, except that Opus will not be required to assign any contract if a counterparty thereto has the right to consent to such assignment and declines to give consent despite Opus' good faith efforts to obtain such consent, (C) all inventory of the applicable Product Candidates and Product existing at such time, (D) all Information Controlled by Opus or its Affiliates at such time that is exclusively used for the Exploitation of such Product Candidate or Product, and (E) all Regulatory Documentation related to the applicable Product Candidate or Product, and (ii) grant to Iveric a worldwide, fully paid-up, royalty-free, non-exclusive, perpetual, transferable, sublicensable (through multiple tiers) license, under any Patents and Information Controlled by Opus, to Exploit the applicable Product Candidate and Product; notwithstanding anything to the contrary, the foregoing license set forth in this Section 5.1.2(b)(ii) is intended to provide Iveric a "freedom to operate" license with respect to the Exploitation of such Product Candidate and Product and not on a standalone basis or in connection with any other product, process or service. If Iveric elects by providing the above-described written notice to receive such assignment and transfer, Iveric will pay for the cost of the applicable inventory at Opus's cost of manufacture therefor.

5.2 Discontinuation of Manufacturing Patent. If Opus decides to discontinue preparation, filing, prosecution, protection or maintenance of any Product Patent Right owned by Iveric prior to the Effective Date that Covers Manufacturing of the Product Candidates (each, a "**Manufacturing Patent**"), Opus will provide Iveric with prompt written notice thereof (in any event, sufficiently in advance of any deadlines to enable Iveric to continue preparation, filing, prosecution, protection or maintenance of such Manufacturing Patent), and Opus will promptly assign the applicable Manufacturing Patent to Iveric upon written request thereof (received within [***]) without further consideration. Opus will sign any documentation requested by Iveric in order to evidence such assignment. In such event, Iveric hereby grants and agrees to grant to Opus a worldwide, fully paid-up, royalty-free, non-exclusive, perpetual, irrevocable (except, on a Product Candidate-by-Product Candidate basis, as set forth in Section 5.1.2), transferable (solely in connection with a transfer of the Purchased Assets), sublicensable (through multiple tiers) license, under the applicable assigned Manufacturing Patent, to Exploit Product Candidates and Products. Notwithstanding anything to the contrary, the foregoing license set forth in this Section 5.2 is intended to provide Opus a "freedom to operate" license with respect to the assigned Manufacturing Patent solely for the Exploitation of Product Candidates and Products and not on a standalone basis or in connection with any other product, process or service.

5.3 Right of First Refusal.

5.3.1 Disclosure of Potential Deal. During the period commencing on the Effective Date and ending on the earlier of (a) the eighth (8th) anniversary of the Effective Date, and (b) the sixth (6th) anniversary of the Effective Date if there has been a Change of Control of IVERIC bio, Inc. (the "**ROFR Period**"), Opus will provide Iveric with written notice (such notice, a "**Deal Disclosure**") in the event that: (y) Opus intends (in good faith and not with an intent to trigger the terms of this Section 5.3) to seek or pursue a Deal (an "**Opus Initiated Process**"); or (z) Opus receives an unsolicited bona fide proposal or offer from a Third Party relating to a Deal that Opus desires to pursue (a "**Third Party Initiated Process**"). [***].

5.3.2 Review and Response; Negotiation.

(a) If the Deal Disclosure is provided as a result of an Opus Initiated Process, the Parties will exclusively negotiate [***] to reach mutually agreeable terms for a Deal involving the same the Product Candidate(s) or Product(s) and geographic territory specified in the Deal Disclosure (the "**Proposed Deal**").

(b) If the Deal Disclosure is provided as a result of a Third Party Initiated Process, the Parties will exclusively [***] to reach mutually agreeable terms for the Proposed Deal. [***].

(c) During the applicable negotiation period, Opus will provide Iveric and its designees reasonable access to documents and personnel as reasonably requested by Iveric in connection with its due diligence related to the Deal being negotiated.

5.3.3 Negotiation with Third Parties.

(a) Opus will not solicit any offers for, or enter into any negotiations relating to (other than as permitted under Section 5.3.2(b)), any Deal during the ROFR Period unless: [***]. In such event, for a period of [***] (the "**Tail Period**"), Opus may (x) negotiate with one or more Third Parties with respect to the Proposed Deal and (y) enter into such a Deal with a Third Party as long as such Deal is not on Less Favorable Terms.

(b) If Opus desires to enter into a Deal with a Third Party for any Proposed Deal on Less Favorable Terms during the Tail Period, Opus must provide Iveric with written notice. Upon receipt of such written notice, Iveric will have [***] to elect to enter into the Proposed Deal on the terms last offered by Iveric. [***].

ARTICLE VI
REPRESENTATIONS AND WARRANTIES; COVENANTS

6.1 The Parties' Representations and Warranties. Each Party hereby represents and warrants to the other Party, as of the Effective Date, as follows:

6.1.1 Such Party: (a) is a corporation or other entity duly organized and subsisting under the applicable Laws of its jurisdiction of incorporation or organization; and (b) has full power and authority and the legal right to own and operate its property and assets and to carry on its business as it is now being conducted and as it is contemplated to be conducted by this Agreement.

6.1.2 Such Party has the power, authority and legal right, and is free to, enter into and perform its obligations under this Agreement and, in so doing, will not violate or conflict with: (a) any other agreement to which such Party is a party; or (b) any instrument or binding understanding, oral or written, to which such Party is a party or by which it is otherwise bound.

6.1.3 This Agreement has been duly executed and delivered on behalf of such Party and constitutes a legal, valid, and binding obligation of such Party and is enforceable against it in accordance with its terms.

6.1.4 Such Party has taken all corporate action necessary to authorize the execution and delivery of this Agreement.

6.1.5 The execution and delivery of this Agreement and the performance of such Party's obligations hereunder: (a) do not conflict with or violate any requirement of applicable Laws or any provision of the articles of incorporation, bylaws, limited partnership agreement, or any similar instrument of such Party, as applicable, in any material way; and (b) do not conflict with, violate, or breach or constitute a default or require any consent (except as required under the Assigned License agreements) under, any applicable Laws or any contractual obligation or court or administrative order by which such Party is bound.

6.1.6 Such Party is neither a party to nor bound by any corporate integrity agreement or similar compliance agreement to which any Governmental Authority or Third Party payor is a counterparty.

6.1.7 None of such Party or any of its Affiliates, in each case with respect to Product, or to such Party's Knowledge, any of such Party's officers, shareholders, members, directors, managers, managing employees or agents (as those terms are defined in 42 C.F.R. § 1001.1001), or any other Person described in 42 C.F.R. § 1001.1001(a)(1)(ii) has engaged in any activity that is in violation of, or is cause for civil penalties or mandatory or permissive exclusion under, any applicable laws that govern any Health Care Programs or the health-care industry generally. None of such Party or any of its Affiliates, or any of such Party's officers, shareholders, members, directors, managers, managing employees or agents is or ever has been: (a) debarred, excluded or suspended from participating in any "federal health care program" as defined in 42 U.S.C. § 1320a-7b(f); (b) debarred from submitting applications to the FDA under 21 U.S.C. § 335a(k); (c) disqualified from conducting clinical trials or related activities under 21 C.F.R. §§321.70 or 812.119 or the FDA's Application Integrity Policy; (d) subject to a civil monetary penalty assessed under Section 1128A of the Social Security Act, sanctioned, indicted or convicted of a crime, or pled nolo contendere or to sufficient facts, in connection with any allegation of violation of any "federal health care program" requirement or Health Care Law; (e) listed on the General Services Administrative published list of parties excluded from federal procurement programs and non-procurement programs; or (f) designated a Specially Designated National or Blocked Person by the Office of Foreign Asset Control of the U.S. Department of Treasury.

6.1.8 Such Party has not entered into any agreement, arrangement or understanding with any Person which will result in the obligation to pay any finder's fee, brokerage commission or similar payment in connection with the transactions contemplated hereby.

6.2 Iveric's Representations and Warranties. Iveric hereby represents and warrants to Opus that, except as set forth in Schedule 6.2 (the "**Disclosure Schedule**"), as of the Effective Date:

6.2.1 the Product Patent Rights listed in Section 6.2.1 of the Disclosure Schedule constitute all of the Patents Controlled by Iveric or any of its Affiliates as of the Effective Date that Cover Exploitation of any Product Candidate in any country or region;

6.2.2 (a) Iveric owns the Existing Inventory, free and clear of all Encumbrances that would have a material adverse effect on the transactions contemplated by this Agreement; and (b) to Iveric's Knowledge, the cGMP material within the Existing Inventory is (i) usable for Exploitation of the applicable Product Candidate in the manner conducted by Iveric as of the Effective Date and (ii) conforms in all material respects to the specifications established therefor;

6.2.3 Iveric is the sole and exclusive owner of, or otherwise Controls, the Purchased Assets, all of which are free and clear of any Encumbrances, except such Encumbrances that do not adversely affect or diminish Opus's ability to Exploit the Product Candidates;

6.2.4 to Iveric's Knowledge: (a) the Product Patent Rights are valid and enforceable Patents; (b) no Third Party has challenged or threatened in writing to challenge the extent, ownership, validity or enforceability of any Product Patent Right; and (c) nothing has been done or omitted to be done which would justify cancellation, rectification or other modification of a registration of any of the Product Patent Rights; (d) no Third Party is infringing any Product Patent Right; and (e) with respect to all applicable Product Patent Rights for which Iveric has prosecution control, have been filed and maintained in accordance with applicable Law, including (i) payment of all applicable fees applicable thereto on or before any final due date for payment and (ii) presenting all material references, documents and information to the relevant patent office in respect of such Patent to the extent required by such patent office;

6.2.5 to Iveric's Knowledge, there is no: (a) claim, demand, suit, proceeding, arbitration, inquiry, investigation or other legal action of any nature, civil, criminal, regulatory or otherwise, pending or, to the Knowledge of Iveric, threatened in a received writing, against Iveric; or (b) judgment or settlement against or owed by Iveric; in each case in connection with Purchased Assets; and

6.2.6 the Assigned License Agreements, Manufacturing and Storage Agreements, and BEST1 Sponsored Research Agreements are each valid, enforceable, and binding on the parties thereto, and Iveric has provided true, accurate, and complete copies thereof to Opus;

6.2.7 Iveric has complied in all material respects with its obligations under the Assigned License Agreements, Manufacturing and Storage Agreements, and BEST1 Sponsored Research Agreements; and, to Iveric's Knowledge, no circumstances exist that would give rise to a right by a counterparty under the Assigned License Agreements, Manufacturing and Storage Agreements, or BEST1 Sponsored Research Agreements to terminate any such agreement;

6.2.8 (a) the Purchased Assets (i) constitute all of the assets, rights and properties of Iveric and any of its Affiliates used exclusively for Exploitation of any Product Candidate, and (ii) are sufficient to conduct the Exploitation of the Product Candidates in all material respects as currently conducted by Iveric; and (b) Catalent Maryland, Inc., does not possess any Designated Equipment (as defined in the Catalent MSA);

6.2.9 Iveric is and has been in compliance in all material respects with and is not and has not been in default under or in violation of any Laws, in each case, as applicable to the Purchased Assets or the Exploitation of the Product Candidates;

6.2.10 (a) all pre-clinical studies that resulted in or generated Product Data and Documentation have been (and are as of the Effective Date being) conducted in compliance in all respects with the required experimental protocols, procedures and controls and in all material respects with applicable good laboratory practice and good clinical practice standards, human subject protection and animal welfare standards, environmental impact standards, and all applicable Laws, provided that the representation in this subclause (a) is made to Iveric's Knowledge with respect to studies conducted by Third Parties; (b) none of the studies, tests, development or trials performed by Iveric or its Affiliates prior to the Effective Date, and to Iveric's Knowledge no information regarding the conduct of the studies or the qualifications or financial interests of the individuals conducting the studies, reasonably calls into question the reliability or results of the preclinical studies, tests, development and trials conducted by or on behalf of Iveric with respect to any Product Candidate prior to the Effective Date; (c) Iveric has not received any written or oral notices or other correspondence from any Regulatory Authority or other Governmental Authority or any institutional review board or comparable authority requiring the termination, suspension or modification of any studies, tests, preclinical development or clinical trials conducted by or on behalf of Iveric with respect to any Product Candidate; (d) the Product Data and Documentation was not generated through the conduct of any clinical trial; and (e) other than as previously provided to Opus, no material written correspondence between Iveric and any Regulatory Authority exists with respect to any Product Candidate; and

6.2.11 Iveric is solvent and has sufficient assets to undertake its obligations hereunder.

ARTICLE VII
INDEMNIFICATION

7.1 Iveric Indemnity. Iveric will defend and hold harmless Opus and its Affiliates, successors and permitted assignees and each of its and their respective Representatives (collectively, the "**Opus Indemnitees**") from and against any claim, suit, action, demand or other proceeding (each, a "**Claim**") brought against one or more Opus Indemnitees by a Third Party arising out of or resulting from: (a) the Excluded Assets or Retained Liabilities; (b) any inaccuracy in or breach of any of the representations or warranties of Iveric contained in this Agreement; (c) any breach or non-fulfillment of any covenant, agreement or obligation to be performed by Iveric or its Affiliates pursuant to this Agreement; or (d) the gross negligence or willful misconduct of Iveric or any Iveric Indemnitee. In addition, Iveric will indemnify the Opus Indemnitees for and pay all Damages finally awarded or agreed to as part of a settlement of any of the foregoing Claims or enforcement of this Section 7.1. Notwithstanding the foregoing, Iveric will have no responsibility under this Section 7.1 to the extent such Claims and Damages result from any of Opus's or any Opus Indemnitee's gross negligence, willful misconduct, or breach of this Agreement.

7.2 Opus Indemnity. Opus will defend and hold harmless Iveric and its Affiliates, successors and permitted assignees and each of its and their respective Representatives (collectively, the "**Iveric Indemnitees**") from and against any Claim brought against one or more Iveric Indemnitees by a Third Party arising out of or resulting from: (a) the Exploitation of Product by Opus, its Affiliates or Product Licensees (including through their respective distributors and Representatives) after the Effective Date, including (i) death or personal injury related to the use of Product or (ii) any statements, representations or submissions made by Opus, its Affiliate, or Product Licensee to any Regulatory Authority concerning or related to Product or any Marketing Authorization; (b) any inaccuracy in or breach of any of the representations or warranties of Opus contained in this Agreement; (c) any breach or non-fulfillment of any covenant, agreement or obligation to be performed by Opus or its Affiliates pursuant to this Agreement; (d) any failure of Opus or any Opus Indemnitee to comply with its obligations (including payment obligations) under the Manufacturing and Storage Agreements for services provided thereunder to Opus or such Opus Indemnitee following assignment of such agreement to Opus; or (e) the gross negligence or willful misconduct of Opus or any Opus Indemnitee. In addition, Opus will indemnify Iveric Indemnitees for and pay all Damages finally awarded or agreed to as part of a settlement of any of the foregoing Claims or enforcement of this Section 7.2. Notwithstanding the foregoing, Opus will have no responsibility under this Section 7.2 to the extent such Claims and Damages result from any of Iveric's or any Iveric Indemnitee's gross negligence, willful misconduct, or breach of this Agreement.

7.3 Indemnification Procedure.

7.3.1 Notice; Election of Control by Indemnitor. Each Party (in such capacity, inclusive of each indemnified party with respect to such Party, "**Indemnitee**") will notify the responsible Party pursuant to Section 7.1 or 7.2 (in such capacity "**Indemnitor**") in the event Indemnitee becomes aware of a Claim for which Indemnitee seeks defense or indemnification pursuant to pursuant to Section 7.1 or 7.2; provided, that any delay or failure to promptly provide any such notice will not relieve Indemnitor of its obligations except to the extent that Indemnitor is actually prejudiced in its ability to defend the Claim by such delay or failure. Indemnitor and Indemnitee may promptly meet to discuss how to respond to any Claims. At its option, Indemnitor may assume the defense of any Claim for which it is responsible under Section 7.1 or 7.2 with competent counsel free of any material and unwaivable conflict of interest with Indemnitee by giving written notice (a "**Defense Election Notice**") to Indemnitee within thirty (30) days after its receipt of Indemnitee's notice set forth above (the "**Election Time Period**"), in which case Indemnitor will be solely obligated to satisfy and discharge the claim in full. If Indemnitor does not deliver a Defense Election Notice to Indemnitee during the applicable Election Time Period, Indemnitee will have the right to assume responsibility for and control such defense and, without limiting Indemnitor's obligations under Section 7.1 or 7.2, Indemnitor will reimburse Indemnitee for all costs and expenses and other Damages, including reasonable attorneys' fees, incurred by Indemnitee in undertaking such defense.

7.3.2 Appointment of Counsel; Responsibility for Expenses. Upon assuming the defense of a Claim in accordance with this Section 7.3, Indemnitor will appoint competent counsel free of any material, unwaivable conflict of interest with Indemnitee in the defense of the Claim. Should Indemnitor assume and continue the defense of a Claim, except as otherwise set forth in this Section 7.3, Indemnitor will not be liable to Indemnitee for any legal expenses subsequently incurred by such Indemnitee after the date of assumption of defense in connection with the analysis, defense, countersuit or settlement of the Claim. Without limiting this Section 7.3, any Indemnitee will be entitled to participate in, but not control, the defense of a Claim for which it has sought indemnification hereunder and to engage counsel of its choice for such purpose; provided, however, that such engagement will be at Indemnitee's own cost and expense unless: (a) the engagement thereof has been specifically requested by Indemnitor in writing; or (b) Indemnitor has failed to assume and actively further the defense and engage counsel in accordance with this Section 7.3 (in which case Indemnitee will control the defense). If any of the foregoing (a) though (b) apply, Indemnitor will reimburse Indemnitee's costs and expenses in defending or settling the Claim arising with respect thereto.

7.3.3 Consent Judgments and Settlements.

(a) Indemnitor will have the sole right to consent to the entry of any judgment, enter into any settlement or otherwise dispose of such Damages, on such terms as Indemnitor, in its reasonable discretion, will deem appropriate provided that such settlement and judgment: (a) includes a complete and unconditional release of Indemnitee from all liability; (b) does not contain any admission of fault by, or impose any liability or obligation on, Indemnitee; and (c) Indemnitor is solely responsible for, and will timely pay, any amounts payable pursuant to such judgement or settlement. With respect to all other entries of judgment, entries into settlements or other dispositions of Claims or Damages in for which Indemnitor has assumed the defense in accordance with this Section 7.3, Indemnitor will only have authority to consent to the entry of such judgment, entry into such settlement or such other disposition of Damages if it has obtained the Indemnitee's prior written consent, such consent not to be unreasonably withheld, conditioned or delayed.

(b) If Indemnitor has assumed the defense of the Claim in accordance with this Section 7.3 (and continues to maintain control of such defense pursuant to this Section 7.3), Indemnitor will not be liable for any settlement or other disposition of any Damages by Indemnitee that is reached without the prior written consent of Indemnitor. If Indemnitor chooses to defend or prosecute any Claim, Indemnitee will cooperate in the defense or prosecution thereof and will furnish such records, information and testimony, provide such witnesses including to the extent possible, former employees and attend such conferences, discovery proceedings, hearings, trials and appeals as may be reasonably requested in connection with such Claim. Such cooperation will include access during normal business hours afforded to Indemnitor to, and reasonable retention by Indemnitee of, records and information that are reasonably relevant to such Claim, and making Representatives available on a mutually convenient basis to provide additional information and explanation of any material provided hereunder. Indemnitor will reimburse Indemnitee for all its reasonable out of pocket expenses incurred in connection with such cooperation.

7.4 Limitation of Liability; Exclusion of Damages; Disclaimer.

7.4.1 EXCEPT WITH RESPECT TO A PARTY'S INDEMNIFICATION OBLIGATION UNDER SECTION 7.1 OR SECTION 7.2, AND WITHOUT LIMITING THE LIABILITY OF A PARTY FOR FRAUD, GROSS NEGLIGENCE OR WILLFUL MISCONDUCT (INCLUDING WILLFUL BREACH), NEITHER PARTY WILL BE LIABLE TO THE OTHER PARTY FOR SPECIAL, INDIRECT, INCIDENTAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES (INCLUDING DAMAGES RESULTING FROM LOSS OF USE, LOSS OF PROFITS, INTERRUPTION OR LOSS OF BUSINESS, DIMINUTION OF VALUE, OR OTHER ECONOMIC LOSS) ARISING OUT OF THIS AGREEMENT OR WITH RESPECT TO A PARTY'S PERFORMANCE OR NON PERFORMANCE HEREUNDER.

7.4.2 IN NO EVENT WILL IVERIC'S MAXIMUM AGGREGATE LIABILITY UNDER THIS AGREEMENT EXCEED [***]; PROVIDED THAT THE FOREGOING LIMITATIONS WILL NOT APPLY TO (a) LIMIT IVERIC'S LIABILITY WITH RESPECT TO THE EXCLUDED ASSETS AND RETAINED LIABILITIES; AND (b) LIMIT IVERIC'S LIABILITY FOR (i) ANY DAMAGES RESULTING FROM IVERIC'S OR ITS AFFILIATES' FRAUD, INTENTIONAL MISREPRESENTATION, GROSS NEGLIGENCE, OR WILLFUL MISCONDUCT (INCLUDING WILLFUL BREACH), (ii) IVERIC'S OR ANY OF ITS AFFILIATE'S BREACH OF SECTION 4.5, OR (iii) IVERIC'S INDEMNIFICATION OBLIGATION UNDER SECTION 7.1(a) or (d).

7.4.3 Other Limitations. Opus acknowledges, on behalf of itself and its Affiliates, that: (a) it has had the opportunity to obtain information about Product in order to evaluate the risks associated therewith; (b) it has made its own independent assessment and evaluation of the prospects and future performance of Product; (c) in making its decision to enter into this Agreement and the other agreements contemplated hereby and to consummate the transactions contemplated hereby and thereby Opus has relied solely upon its own investigation and the express representations and warranties of Iveric set forth in ARTICLE VI (as qualified by the Disclosure Schedule); (d) neither Iveric nor any other Person has made any representation or warranty as to Product, the Product Data and Documentation, this Agreement or the rights acquired hereunder or the transactions contemplated hereby, except as expressly set forth in ARTICLE VI (as qualified the Disclosure Schedule); and (e) as of the Effective Date, neither Opus nor any of its Affiliates has any Knowledge that Iveric has breached or otherwise failed to comply with any of its representations, warranties, covenants or obligations set forth herein. In furtherance and not in limitation of the foregoing, Opus and its Affiliates are relinquishing any right to any claim based on the inaccuracy or breach of any representation, warranty, covenant or obligation to the extent Opus had Knowledge of such inaccuracy or breach (or Knowledge of a factual basis for such inaccuracy or breach) as of the Effective Date. EXCEPT AS EXPRESSLY PROVIDED IN THIS AGREEMENT, NEITHER PARTY PROVIDES ANY WARRANTIES, WHETHER WRITTEN OR ORAL, EXPRESS OR IMPLIED, REGARDING ANY SUBJECT MATTER OF THIS AGREEMENT AND EACH PARTY HEREBY DISCLAIMS ALL OTHER WARRANTIES, WHETHER WRITTEN OR ORAL, EXPRESS AND IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND FREEDOM FROM INFRINGEMENT OF THIRD-PARTY RIGHTS.

ARTICLE VIII
DISPUTE RESOLUTION

8.1 Resolution by Executives. Any controversy or claim arising out of or relating to this Agreement, including the breach, termination or validity thereof ("**Dispute**"), will first be referred to the Parties' respective Executive Officers, and such Executive Officers will attempt in good faith to resolve such dispute within [***]. The Party claiming a Dispute will notify the other Party in writing of the Dispute, which will trigger the [***] period for amicable resolution. If the Executive Officers are unable to resolve such Dispute within such [***] period, the Dispute will be referred to binding arbitration pursuant to Section 8.2.

8.2 Arbitration. Any Dispute that remains following the period set forth in Section 8.1 above, including any questions of arbitrability, will be finally resolved by binding arbitration administered by the administered by the American Arbitration Association ("**AAA**") in accordance with its Commercial Arbitration Rules ("**AAA Rules**").

8.2.1 Number of Arbitrators. Disputes will be resolved by [***] arbitrators. Each Party will appoint [***]. If a Party fails to appoint an arbitrator within [***] of the commencement of the arbitration, such appointment will be made by the AAA. The [***] arbitrators appointed in accordance with the preceding sentences will appoint the [***] arbitrator, who will be the chairperson of the tribunal. If the [***] arbitrators fail to appoint the [***] arbitrator within [***] of the appointment of the [***] of the arbitrators, the appointment of the [***] arbitrator will be made by the AAA.

8.2.2 Seat of Arbitration & Language. The place, or legal seat of arbitration, will be New York, New York, and the language of the arbitration will be English.

8.2.3 Interim Measures & Damages. The arbitrators will have the power to grant any interim or provisional measures that the arbitrators deem appropriate, including, but not limited to, injunctive relief and specific performance, and any interim or provisional measures ordered by the arbitrators may be specifically enforced by any court of competent jurisdiction as a final award. Nothing herein, however, will authorize the arbitrators to act as *amiable compositeurs* or to proceed *ex aequo et bono*. Each Party hereto retains the right to seek interim measures from a judicial authority or competent jurisdiction, and any such request will not be deemed incompatible with the agreement to arbitrate or a waiver of the right to arbitrate. The arbitrators will be bound by the limitations set forth in Sections 7.4 in awarding damages.

8.2.4 Cost Awards. The arbitrators will have the right (but will not be obligated to) award the prevailing Party, if any as determined by the arbitrators, its reasonable costs, including reasonable attorneys' fees. Judgment on any award rendered by the arbitrators may be entered in any court of competent jurisdiction.

8.2.5 Confidentiality. No information concerning an arbitration, beyond the names of the Parties, their counsel or the relief requested, may be unilaterally disclosed to a Third Party by any Party, unless required by applicable Law. Any documentary or other evidence given by any Party or witness in any arbitration will be treated as confidential by any Party whose access to such evidence arises exclusively because of its participation in the arbitration, and will not be disclosed to any Third Party (other than a witness or expert), except as may be required by applicable Law. Any Party who commences any judicial proceeding in connection with an arbitration initiated hereunder will endeavor to have the judicial record of any such proceeding sealed to the extent permitted by applicable Law. This Section 8.2.5 will not be interpreted to preclude a Party from seeking to enforce an arbitral award in any court of competent jurisdiction.

ARTICLE IX
GENERAL PROVISIONS

9.1 Governing Law. This Agreement and any obligations arising out of or in connection with it will be governed by and interpreted in accordance with the laws of the State of New York without regard to conflict of law principles thereof and excluding the United National Convention on Contracts for the International Sales of Goods. Subject to ARTICLE VIII, each of the Parties hereby irrevocably commit to the sole jurisdiction of the state and federal courts sitting in the State of New York, and irrevocably waives any objection at any time to the laying or maintaining of the venue in any of the specified courts.

9.2 Assignment. This Agreement is binding upon and will inure to the benefit of the Parties and their respective permitted assignees or successors in interest, including those that may succeed by assignment, transfer or otherwise to the ownership of either of the Parties or of the assets necessary to the conduct of the business to which this Agreement relates. This Agreement may not be assigned or otherwise transferred by either Party (including by transfer of sale of all or any portion of such Party's assets, equity or business) without the prior written consent of the other Party; provided, however, that, notwithstanding anything to the contrary in this Agreement: (a) either Party may, without such consent, assign this Agreement, together with all of its rights and obligations hereunder, to its Affiliates, or to a successor in interest in connection with the transfer or sale of all or substantially all of its business to which this Agreement relates, or in the event of a merger or consolidation or similar transaction, subject to the assignee agreeing to be bound by the terms of this Agreement; and (b) nothing herein will prevent Opus from assigning its rights in the Purchased Assets. Any purported assignment in violation of the preceding sentences in this Section 9.2 will be void. Any permitted assignee or successor will assume and be bound by all obligations of its assignor or predecessor under this Agreement.

9.3 Headings; Rules of Construction. Headings are inserted for convenience and will not affect the meaning or interpretation of this Agreement. Each Party agrees that this Agreement will be interpreted without regard to any presumption or rule requiring construction against the Party causing this Agreement to be drafted. Except as otherwise explicitly specified to the contrary in this Agreement: (a) the words "hereof," "herein," "hereby," "hereunder" and words of similar import will refer to this Agreement as a whole and not to any particular section or subsection of this Agreement and reference to a particular section of this Agreement will include all subsections thereof; (b) references to a section or Schedule means a section of, or Schedule to, this Agreement; (c) definitions will be equally applicable to both the singular and plural forms of the terms defined, and references to the masculine, feminine or neuter gender will include each other gender; (d) the words "include," "includes" and "including" will be deemed to be followed by the words "without limitation"; (e) references to a rule, statute or regulation (including CPR rules and procedures) include all rules and regulations thereunder and any successor statute, rule or regulation, in each case as amended or otherwise modified from time to time; (f) references to a particular governmental authority include any successor agency or body to such governmental authority; (g) references to "dollars" or "$" means USD; and (h) unless the context clearly requires otherwise, when used herein "or" will not be exclusive (i.e., "or" will mean "and/or").

9.4 No Implied Waiver. No waiver of any default hereunder by either Party or any failure to enforce, or delay in enforcing, any rights hereunder will be deemed to constitute a waiver of any subsequent default with respect to the same or any other provision hereof.

9.5 Notices. All notices that are required or permitted hereunder will be in writing and sufficient if delivered personally, sent by email, addressed as follows.

If to Iveric: IVERIC bio, Inc.
Attention: [***]
Email: [***]

with a copy to: Wilmer Cutler Pickering Hale and Dorr LLP
60 State Street
Boston, MA 02109
Attention: [***]
Email: [***]

If to Opus: Opus Genetics Inc.
8 Davis Drive
Durham, NC 27709
Attention: [***]
Email: [***]

with a copy to: Smith, Anderson, Blount, Dorsett, Mitchell & Jernigan, LLP
Wells Fargo Capitol Center
150 Fayetteville Street, Suite 2300 Raleigh, NC 27601
Attention: [***]
Email: [***] and [***]

or to such other address(es) as the Party to whom notice is to be given may have furnished to the other Party in writing in accordance herewith. Any such notice will be deemed to have been given: (a) when delivered if personally delivered on a Business Day (or if delivered or sent on a non-Business Day, then on the next Business Day); (b) on the Business Day after dispatch if sent by nationally recognized overnight courier; or (c) on the fifth Business Day following the date of mailing, if sent by mail.

9.6 Severability. Whenever possible, each term and provision of this Agreement will be interpreted in such manner as to be valid and effective under applicable Laws, but, if any term or provision of this Agreement is held to be invalid or unenforceable under applicable Laws, such term or provision will be invalid and ineffective only to the extent of such invalidity or unenforceability, without invalidating or making unenforceable the remainder of this Agreement. In the event of such invalidity or unenforceability, the Parties will use reasonable efforts to seek and agree on an alternative valid and enforceable provision that preserves the original purpose and intent of the Agreement.

9.7 Entire Agreement. This Agreement, the Stock Issuance Agreement, the Assignment Consent Agreement by and among Iveric, Opus and the Institution Licensors for the assignment of the IC-100 License Agreement, dated as of the date hereof, the Assignment Consent Agreement by and among Iveric, Opus and the Institution Licensors for the assignment of the IC-200 License Agreement, dated as of the date hereof, and the Assignment Consent Agreement by and among Iveric, Opus and The University of Florida Research Foundation, Incorporated for the assignment of the IC-100 Short Promoter License Agreement, dated as of the date hereof constitutes the entire agreement between the Parties and will cancel and supersede any and all prior and contemporaneous negotiations, correspondence, understandings and agreements, whether oral or written, between the Parties respecting the subject matter hereof; excluding the Confidentiality Agreement, which will survive in accordance with it terms.

9.8 Amendment; Waiver. Any amendment or modification to this Agreement will only be made in writing and will only be valid when signed by each Party. No term or provision of this Agreement, including the Parties' respective obligations, may be waived except by a writing signed by the Party against which such waiver is sought to be enforced.

9.9 Counterparts. This Agreement may be executed in more than one (1) counterpart (including by electronic transmission), each of which will be deemed an original, but all of such counterparts taken together will constitute one and the same agreement.

9.10 Agency. Neither Party is, nor will be deemed to be, an employee, agent, co-venturer, or legal representative of the other Party for any purpose. Neither Party will be entitled to enter into any contracts in the name of, or on behalf of the other Party, nor will either Party be entitled to pledge the credit of the other Party in any way or hold itself out as having the authority to do so.

9.11 Further Actions. Each Party agrees to execute, acknowledge, and deliver such further instruments, and to do all such other acts, as may be necessary or appropriate in order to effectuate the assignment of the Purchased Assets and to carry out the purpose and intent of this Agreement. Following the Effective Date, each of the Parties hereto shall execute and deliver such additional documents, instruments, conveyances and assurances and take such further actions as may be reasonably required to carry out the provisions hereof and give effect to the transactions contemplated by this Agreement and the documents to be delivered hereunder. Without limiting the generality of the other provisions hereof, if at any time or from time to time after the Effective Date any Party (or any Affiliate thereof) shall discover that it is in possession of an asset or Liability and Obligation that is allocated to another Party (or any of its Affiliates) pursuant to this Agreement or any agreement or other instrument delivered pursuant hereto, such first Party shall promptly notify the other Party and shall use commercially reasonable efforts to deliver, transfer and make available, at such other Party's expense, such asset or Liability and Obligation to the other Party (or Affiliate thereof) to which such asset or Liability and Obligation is otherwise allocated hereunder.

9.12 Compliance with Laws. Each Party will comply with all applicable Laws in performing its obligations and exercising its rights hereunder, including all applicable Laws relating to the export, re export or other transfer of any Information transferred pursuant to this Agreement.

9.13 Press Release. Neither Party, nor any of its Affiliates, shall issue any press release or public statement disclosing information relating to this Agreement or the transactions contemplated hereby or the terms hereof without the prior written consent of the other Party, not to be unreasonably withheld, conditioned, or delayed; provided however, that (a) neither Party will be prevented from complying with any duty of disclosure it may have pursuant to applicable Laws or pursuant to the rules of any recognized stock exchange or quotation system and (b) either Party may make subsequent public disclosure of the contents of any such issued press release or public statement.

[Signature page follows.]

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their respective duly authorized representatives as of the Effective Date.

IVERIC bio Gene Therapy LLC

By: /s/ Tony Gibney
Name: Tony Gibney
Title: Chief Business and Strategy Officer

[*Signature page to Asset Purchase Agreement*]

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their respective duly authorized representatives as of the Effective Date.

Opus Genetics Inc.

By: /s/ Ben Yerxa
Name: Ben Yerxa
Title: CEO

[*Signature page to Asset Purchase Agreement*]

Schedule 1.41
Excluded Assets

[***]

Schedule 1.51
IC-100

[***]

Schedule 1.56
IC-200

[***]

Schedule 3.2.1
Stock Issuance Agreement

[***]

Schedule 4.4.1
Existing Inventory

[***]

Schedule 4.4.2
Product Candidate SOWs

[***]

[***]

Schedule 6.2
Disclosure Schedule

[***]

Exhibit 10.33

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL. OMITTED INFORMATION HAS BEEN REPLACED WITH ASTERISKS [***]

NON-EXCLUSIVE LICENSE AGREEMENT

DATED AS OF MARCH 2, 2023

BY AND BETWEEN

THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA

AND

OPUS GENETICS, INC.

TABLE OF CONTENTS

UNIVERSITY OF PENNSYLVANIA

NON-EXCLUSIVE LICENSE AGREEMENT

This License Agreement (this "**Agreement**") is dated as of March 2, 2023 (the "**Effective Date**") by and between The Trustees of the University of Pennsylvania, a Pennsylvania nonprofit corporation ("**Penn**"), and Opus Genetics Inc., a Delaware corporation ("**Licensee**"). Penn and Licensee may be referred to herein as a **"Party"** or, collectively, as "**Parties**".

RECITALS:

WHEREAS, Penn owns and controls certain innovative technology for testing visual function using simulated living situations in individuals with visual disorders as further defined herein and described in [***], that was developed at Penn by Jean Bennett and others (as identified on the patents and patent applications) (the "**Inventor(s)**");

WHEREAS, Penn filed patent application(s) listed in **Exhibit A** covering the technology; WHEREAS, Penn owns certain copyrights relating to the technology, as listed in **Exhibit B**;

WHEREAS, Penn desires to license, to Licensee, Penn's intellectual property rights in such technology, in a manner that will benefit the public and best facilitate the distribution of useful products and the utilization of new technology, consistent with Penn's educational and research missions and goals; and

WHEREAS, Licensee desires to license, from Penn, Penn's intellectual property rights in such technology, to use such technology in connection with certain clinical trials, all on the terms and conditions of this Agreement.

NOW, THEREFORE, in consideration of the various promises and undertakings set forth herein, the Parties agree as follows:

ARTICLE 1
DEFINITIONS

Unless otherwise specifically provided herein, the following terms shall have the following meanings:

1.1 "**Administration**" means a visit, of a particular enrolled subject of a Clinical Trial, during which the Product collects Results from such enrolled subject as part of such Clinical Trial. As used in this definition, "visit" is intended to align with the use of such term in the applicable Clinical Trial Protocol.

1.2 "**Affiliate**" means a Person that controls, is controlled by or is under common control with a Party, but only for so long as such control exists and, with respect to Licensee, that signs a Joinder Agreement consistent with the form set forth in **Exhibit C.** For the purposes of this Section 1.2, the word "control" (including, with correlative meaning, the terms "controlled by" or "under the common control with") means the actual power, either directly or indirectly through one or more intermediaries, to direct the management and policies of such Person or entity, whether by the ownership of more than fifty percent (50%) of the voting stock of such entity, or by contract or otherwise.

1.3 "**Clinical Trial**" means a clinical trial (whether denominated phase I, phase II, phase III or a combination of the foregoing) for the evaluation of treatments for retinal disorders caused by a mutation or mutations in the lebercilin (LCA5) gene resulting in Leber congenital amaurosis 5 (such treatments, "**LCA5 Therapy**"), conducted pursuant to an applicable Clinical Trial Protocol.

1.4 "**Clinical Trial Protocol**" means the project protocol applicable to a particular clinical trial, which shall have been approved by an applicable Institutional Review Board or equivalent ethics committee, and which applies with respect to such clinical trial.

1.5 "**Commercially Reasonable Efforts**" means [***].

1.6 "**Confidential Information**" of a Party, means (a) information relating to the business, operations or products of a Party or any of its Affiliates, including any know-how, that such Party discloses to the other Party under this Agreement, or otherwise becomes known to the other Party by virtue of this Agreement, and (b) the terms of this Agreement; provided that Confidential Information shall not include information that:

i. is or becomes generally available to the public other than as a result of disclosure by the recipient;

ii. is already known by or in the possession of the recipient at the time of disclosure by the disclosing Party;

iii. is independently developed by recipient without use of or reference to the disclosing Party's Confidential Information; or

iv. is obtained by recipient from a Third Party that has not breached any obligations of confidentiality.

1.7 "**Controlled**" means, with respect to intellectual property rights, that a Party or one of its Affiliates owns or has a license or sublicense to such intellectual property rights and has the ability to provide to, grant a license or sublicense to, or assign its right, title and interest in and to, such intellectual property rights as provided for in this Agreement without violating the terms of any agreement or other arrangement with any Third Party.

1.8 "**Copyright(s)**" means any (a) copyright rights in the written materials, software, computer programs, documentation, algorithms, or other materials subject to copyright protection listed in **Exhibit B** Controlled by Penn as of the Effective Date, and (b) copyright rights in the written materials, software, computer programs, documentation, algorithms, or other materials subject to copyright protection Controlled by Penn after the Effective Date with respect to any Derivative Work(s).

1.9 "**Derivative Works**" means any modifications, adaptations, translations, abridgements of, or collective works of the written materials, software, computer programs, documentation, algorithms, or other materials subject to copyright protection listed in **Exhibit B** as defined by US copyright law.

1.10 "**Field of Use**" means the Administration of the Product and/or evaluation of one or more subjects enrolled in a Clinical Trial, including, without limitation, data collection therefrom, preparation and maintenance of regulatory filings relating thereto, and any analysis or follow-up arising from such Clinical Trial.

1.11 "**GAAP**" means United States generally accepted accounting principles applied on a consistent basis.

1.12 "**Governmental Approval**" means, with respect to a Product in a country or region, the approval, clearance, license, registration or authorization (including but not limited to emergency use authorization) by the relevant Governmental Body, if applicable, for the commercialization of such Product in such country.

1.13 "**Governmental Body**" means any: (a) nation, principality, state, commonwealth, province, territory, county, municipality, district or other jurisdiction of any nature; (b) federal, provincial, state, local, municipal, foreign or other government; (c) governmental or quasi-governmental authority of any nature (including any governmental division, subdivision, department, agency, bureau, branch, office, commission, council, board, instrumentality, officer, official, representative, organization, unit, body or entity and any court or other tribunal); (d) multi-national or supranational organization or body; or (e) individual, entity, or body exercising, or entitled to exercise, any executive, legislative, judicial, administrative, regulatory, police, military or taxing authority or power of any nature.

1.14 "**Intellectual Property**" means the Penn Patent Rights and the Copyrights.

1.15 "**Law**" or "**Laws**" means all applicable laws, statutes, rules, regulations, ordinances and other pronouncements having the binding effect of law of any Governmental Body.

1.16 "**Patent Rights**" means any of the following, whether existing now or in the future anywhere in the world: issued patent, including inventor's certificates, substitutions, extensions, confirmations, reissues, re-examination, renewal or any like governmental grant for protection of inventions, and any pending application for any of the foregoing.

1.17 "**Penn Patent Rights**" means (a) the Patent Rights listed in **Exhibit A** Controlled by Penn as of the Effective Date, (b) any continuations, provisionals, continued prosecution applications, substitutions, extensions and term restorations, registrations, confirmations, reexaminations, renewals or reissues thereof, including divisions, but excluding continuations-in-part except to the extent of claims entirely supported in the specification and entitled to the priority date of the parent application, and (c) any corresponding foreign Patent Rights to the foregoing. Notwithstanding the above, Penn Patent Rights does not include the Carve-Out Patent Rights.

1.18 "**Person**" means any natural person, corporation, firm, business trust, joint venture, association, organization, company, partnership or other business entity, or any government or agency or political subdivision thereof.

1.19 "**Product**" means: (a) any application, program, software, device, apparatus, product, process, service or method covered by a Valid Claim or whose use or practice would, absent the License, constitute an infringement, inducement of infringement or contributory infringement of any Valid Claim **(**"**Method**"**)** (b) any application, program, software, device, article, apparatus, product, process or any other material covered by a Valid Claim or whose manufacture, import, use offer for sale or sale would, absent the License, constitute an infringement, inducement of infringement or contributory infringement of any Valid Claim; (c) any application, program, software, device, service, article, apparatus, product, process or any other material imported, made, used or sold by or utilizing or practicing a Method; or (d) any application, program, software, device, apparatus, product, process, service or method, article, or any other material which incorporates, consists of, makes use of or is made through the use of Copyrights or constitutes an infringement, inducement of infringement or contributory infringement of any Copyright (this subsection (d), the "**Copyright Product**").

1.20 "**Result**" means any observations or results of any Clinical Trial, including data, and the records created by or on behalf of Licensee pertaining thereto.

1.21 "**Service Provider**" means any Third Party providing services to Licensee in connection with or in preparation for a Clinical Trial, including but not limited to a contract research organization.

1.22 "**Tax**" means all taxes, duties, fees, premiums, assessments, imposts, levies, rates, withholdings, dues, government contributions and other charges of any kind whatsoever, whether direct or indirect, together with all interest, penalties, fines, additions to tax or other additional amounts, imposed by any Governmental Body.

1.23 "**Third Party**" means any Person other than Penn, Licensee or any of their respective Affiliates.

1.24 "**United States**" or "**US**" means the United States of America, its territories and possessions.

1.25 "**USD**" or "**$**" means the lawful currency of the United States of America.

1.26 "**Use**" means Administration of the Product in a Clinical Trial.

1.27 "**Valid Claim**" means a claim of (a) an issued and unexpired patent in Penn Patent Rights which claim has not been revoked or held unenforceable or invalid by a decision of a court or governmental agency of competent jurisdiction from which no further appeal can be taken or has been taken within the time allowed for appeal, and has not been abandoned, disclaimed, denied or admitted to be invalid or unenforceable through reissue or disclaimer; or (b) a pending patent application that is included in Penn Patent Rights which was filed and is being prosecuted in good faith, and has not been abandoned or finally disallowed without the possibility of appeal or re-filing of the application.

1.28 **Other Terms.** The definition of each of the following terms is set forth in the section of the Agreement indicated below:

Defined Term	Section
Advance Payment	5.2(c)
Agreement	Preamble
Bankruptcy Action	8.3.3
Carve-Out Patent Rights	5.1(b)
Copyright Product	1.19
Effective Date	Preamble
Fees	4.2(a)
Financial Report	4.4
Historic Patent Cost	5.2(a)
Inventor(s)	Recitals
Issue Fee	4.1
LCA5 Therapy	1.3
License	2.1
Licensee	Preamble
Method	1.19
Ongoing Patent Costs	5.2(b)
Parties	Preamble
Party	Preamble
Patent Costs	5.2(a)
Patent Counsel	5.1(a)
Patent Termination Notice	5.3
PCI	6.2
Penn	Preamble
Penn Indemnitees	7.1.1
Progress Reports	3.2(a)
Pro Rata Share	5.2(b)
Prosecution Request	5.1(b)
Provider Agreement	2.3
Providers	2.3
Term	8

ARTICLE 2
LICENSES AND OTHER RIGHTS

2.1 **Grant of License.** Subject to the terms and conditions of this Agreement, Penn hereby grants to Licensee (i) a non-exclusive, non-sublicensable (except as extended to Providers as set forth in Section 2.3) license under Penn Patent Rights, in all jurisdictions where Penn Patent Rights exist, to make, have made, use, and import Product in the Field of Use during the Term and (ii) a non-exclusive, non-sublicensable (except as extended to Providers as set forth in Section 2.3) license under the Copyrights, in all jurisdictions where Copyrights exist, to, copy, reproduce, (as expressly authorized herein), distribute, publicly display (including to subjects enrolled in Clinical Trials), and publicly perform the Copyright Product in the Field of Use during the Term (collectively, the **"License").** Except as set forth in Section 2.3, the License does not include the right to sublicense.

2.2 Except as expressly permitted in this Agreement, Licensee shall not create Derivative Works of the Copyright Products in any manner or form; provided that Licensee may request prior written permission from Penn to make any material changes to the Copyright Products, including Derivative Works, which permission shall not be unreasonably withheld. Licensee shall provide a copy to Penn of any Derivative Works created by, on behalf of, or for the benefit of Licensee for purposes of Penn ensuring compliance with this Agreement. For clarity any Derivative Works created by, on behalf of, or for the benefit of Licensee (including by any Provider) are owned by Penn. In the event, any Derivative Works are created, Licensee shall assign, and ensure that any third party assigns all right, title and interest in and to such Derivative Works to Penn.

2.3 Notwithstanding anything to the contrary herein, Licensee is permitted to extend its rights under the License to and contract with its Affiliates and/or Service Providers (collectively, "**Providers**") for research and development purposes only and may grant rights to such Providers solely to copy, display, perform, make, have made, or use Products, but shall not grant any rights to distribute, make derivatives works of, sell or have sold Products, provided that, in each case, (i) any work performed by Providers shall only be on behalf of and solely for the benefit of the Licensee, and (ii) Licensee enters into a written agreement with such Providers ("**Provider Agreement**") requiring the Providers to comply with the terms and conditions of this Agreement, and (iii) Licensee shall provide Penn a copy of such Provider Agreement within [***] of such agreement's execution, which may be redacted to the extent the terms thereof are not necessary to determine compliance with this Agreement, and (iv) Licensee remains primarily liable to Penn for any acts or omissions of Providers, and (v) any acts or omissions of Providers that would be a breach of this Agreement if performed or omitted by Licensee will be deemed a breach of this Agreement by Licensee, and (vi) Providers are prohibited from granting any rights to, distributing or otherwise transferring, the Copyrights or Penn Patent Rights to any party. Notwithstanding the foregoing, Penn reserves the right in its sole discretion to review redacted information in any Provider Agreement, which Licensee shall promptly provide following Penn's written request.

2.4 **Retained Rights. Penn** retains the right under the Intellectual Property rights to: (a) conduct educational, research and clinical activities itself and (b) authorize non-commercial Third Parties to conduct educational, research and clinical activities.

2.5 **U.S. Government Rights.** The License is expressly subject to all applicable provisions of any license to the United States Government executed by Penn and is subject to any overriding obligations to the United States Federal Government under 35 U.S.C. §§200-212, applicable governmental implementing regulations, and the U.S. Government sponsored research agreement or other guidelines, including that products that result from intellectual property funded by the United States Federal Government that are sold in the United States be substantially manufactured in the United States. In the event that Licensee believes in good faith that substantial manufacture of such product is not commercially feasible in the United States and makes a request to Penn in writing to assist in obtaining a waiver of such requirement from the United States Government, then Penn shall, at the expense of Licensee, use reasonable efforts to assist in obtaining such waiver.

2.6 **No Implied License.** Each Party acknowledges that the rights and licenses granted in this Agreement are limited to the scope expressly granted. Accordingly, except for the rights expressly granted under this Agreement, no right, title, or interest of any nature whatsoever is granted whether by implication, estoppel, reliance, or otherwise, by either Party to the other Party. All rights with respect to any know-how, patent or other intellectual property rights that are not specifically granted herein are reserved to the owner thereof.

2.7 **Restrictions on Use.** Licensee acknowledges that THE PRODUCT MAY NOT BE USED BY LICENSEE OR PROVIDERS OR ANY THIRD PARTY FOR PATIENT CARE OR DIAGNOSIS OR TREATMENT OF PATIENTS. USE IS LIMITED TO INTERNAL NON-COMMERCIAL INVESTIGATIONAL RESEARCH PURPOSES ONLY. For clarity, the foregoing is not intended to restrict the Use of the Product with respect to any Clinical Trial as authorized hereunder.

ARTICLE 3
DILIGENCE

3.1 **General Diligence.** Licensee shall use Commercially Reasonable Efforts to Use the Product in the Field of Use during the Term, in accordance with the terms and conditions of this Agreement.

3.2 **Progress Reports**.

(a) On an annual basis, but in no event later than December 1st of each calendar year, Licensee shall submit to Penn a progress report (each, a "**Progress Report**") covering Licensee's (and any Providers') activities related to the Use of all Products and the obtaining of Governmental Approvals necessary for Use of Products.

(b) Each Progress Report must include all of the following for each annual period: [***].

ARTICLE 4
FINANCIAL PROVISIONS

4.1 **Issue Fee.** In partial consideration of the License, Licensee will pay to Penn on the Effective Date a license issue fee of [***]**.** The Issue Fee is non-refundable and non-creditable against any other amounts due by Licensee.

4.2 **Fees**

(a) As further consideration for the License, Licensee shall pay to Penn a non-refundable, non-creditable fee of [***] per Administration of the Product to an enrolled subject in a Clinical Trial. **("Fees").**

For clarity, [***].

(b) Licensee must pay Fees owed to Penn on a calendar quarter basis on or before the following dates:

i. [***] for any Administration that took place on or before the last day of the calendar quarter ending December 31, of the prior year;

ii. [***] for any Administration that took place on or before the last day of the calendar quarter ending March 31 of such calendar year;

iii. [***] for any Administration that took place on or before the last day of the calendar quarter ending June 30 of such calendar year; and

iv. [***] for any Administration that took place on or before the last day of the calendar quarter ending September 30 of such calendar year.

4.3 **Mode of Payment and Currency.** All payments to Penn hereunder shall be made by deposit of USD in the requisite amount to the "The Trustees of the University of Pennsylvania" and will be made by delivery to any one of the following: [***]

Payments under this Agreement shall be made in USD. All Fees payable shall be calculated first in the currency of the jurisdiction in which payment was made, and if not in the United States, then converted into USD. The exchange rate for such conversion shall be the average of the rate quoted in The Wall Street Journal for the last business day of each month in the calendar quarter for such Fee payment made.

4.4 **Fee Reports.** Within [***] after the end of each calendar quarter [***], Licensee shall deliver to Penn a report ("**Financial Report**") setting out all details necessary to calculate the Fee due under this Article 4 for such calendar quarter, including:

[***]Each Financial Report shall be in the form of the sample report attached hereto as **Appendix I.**

4.5 **Late Payments.** In addition to any other remedies available to Penn, including the right to terminate this Agreement, any failure by Licensee to make a payment within [***] after the date when due shall obligate Licensee to pay computed interest, the interest period commencing on the due date and ending on the actual payment date, to Penn at a rate per annum equal to [***], or the highest rate allowed by Law, whichever is lower.

4.6 **Default Payment.** In the event of default in payment of any payment owing to Penn under the terms of this Agreement, and if it becomes necessary for Penn to undertake legal action to collect said payment, Licensee shall pay reasonable, documented out-of-pocket legal fees and costs incurred in connection therewith.

4.7 **Accounting.** Each Party shall calculate all amounts, and perform other accounting procedures required, under this Agreement and applicable to it in accordance with GAAP.

4.8 **Books and Records.** Licensee will keep, and, as applicable, cause its Affiliates to keep, accurate books and records of all Use of Products and all Provider Agreements and any agreements that involved Penn Patent Rights and/ or Copyrights. Licensee will preserve, and, as applicable, cause its Affiliates to preserve, these books and records for at least [***] from the date of the Financial Report to which they pertain. Upon reasonable notice and to the extent not prohibited by applicable privacy laws, key personnel, books and records will be made reasonably available and will be open to examination by representatives or agents of Penn during regular office hours to determine their accuracy and assess Licensee's and, as applicable, its Affiliates' compliance with the terms of this Agreement, provided that Licensee and, as applicable, its Affiliates shall not have an obligation to provide access to any given records more than once in any given [***] period.

4.9 **Audits.** In addition to the right of Penn to examine the books and records and interview key personnel as provided in Section 4.8 above, Penn, at its own cost, through an independent auditor reasonably acceptable to Licensee (and who has executed an appropriate confidentiality agreement reasonably acceptable to Licensee that requires the auditor to keep any information learned by it confidential except as needed to report its audit conclusions to Penn), may inspect and audit the relevant records of Licensee and its Affiliates, pertaining to the calculation of any Fees due to Penn under this Agreement. Licensee and, as applicable, its Affiliates shall provide such auditors with access to the records during reasonable business hours. Such access need not be given to any such set of records more often than [***] or more than [***] after the date of any report to be audited. Penn shall provide Licensee and, as applicable, its Affiliates with written notice of its election to inspect and audit the records related to the Fees due hereunder not less than [***] prior to the proposed date of review of Licensee's and, as applicable, its Affiliates' records by Penn's auditors. Should the auditor find any underpayment of Fees by Licensee, Licensee shall (a) promptly pay Penn the amount of such underpayment; (b) shall reimburse Penn for the cost of the audit, if such underpayment equals or exceeds the higher of (i) [***] or (ii) [***]; and (c) provide such auditors with an audit right exercisable within [***] after Penn receives the audit report. If the auditor finds overpayment by Licensee, then Licensee shall have the right to deduct the overpayment from any future Fees due to Penn by Licensee. Licensee may designate competitively sensitive information which such auditor may see and review but which it may not disclose to Penn; provided, however, that such designation shall not restrict the auditor's investigation or conclusions.

4.10 **Taxes.** All payments made by Licensee or its Affiliates to Penn under the Agreement shall be made free and clear of and without any deduction for or on account of any Taxes on or with respect to such payments.

ARTICLE 5
INTELLECTUAL PROPERTY

5.1 **Patent Filing Prosecution and Maintenance**.

(a) Penn Patent Rights will be held in the name of Penn and obtained with counsel selected by Penn and reasonably acceptable to Licensee ("**Patent Counsel**"). Penn shall control all actions and decisions with respect to the filing, prosecution and maintenance of Penn Patent Rights and will consider any reasonable comments or suggestions by Licensee with respect to same. Penn will instruct Patent Counsel to copy Licensee on all correspondence related to Penn Patent Rights (including copies of each patent application, office action, response to office action, request for terminal disclaimer, and request for reissue or reexamination of any patent or patent application) and to interact with Licensee with respect to the preparation, filing, prosecution and maintenance of Penn Patent Rights. Penn has the right to take action to preserve rights and minimize cost whether or not Licensee has commented, and will use reasonable efforts to not allow any Penn Patent Rights for which Licensee is licensed and is underwriting the costs to lapse or become abandoned without Licensee's written authorization under this Agreement, except for filing of continuations, divisionals, or the like that substitute for the lapsed application, provided that, Penn shall have no requirement to file, prosecute, or maintain Penn Patent Rights if Licensee is not current with the Patent Cost obligations as set forth in this Agreement. For the purposes of this Agreement, "maintenance" of the Penn Patent Rights includes inter partes patent review proceedings before the USPTO or a similar patent administration outside the US.

(b) Licensee has the right to request that a patent application be filed in a country or territory via a written request to Penn [***] prior to the deadline set by the patent office in the territory in which filing is to take place ("**Prosecution Request**"). [***].

5.2 **Patent Costs**.

(a) Within [***] of the Effective Date, Licensee will reimburse Penn for all out-of pocket costs for the filing, prosecution and maintenance of Penn Patent Rights, including all accrued attorney fees, expenses, official and filing fees **("Patent Costs"),** incurred prior to the Effective Date **("Historic Patent Costs"),** which are estimated to be approximately [***] as of the Effective Date.

(b) Licensee will bear a Pro Rata Share of all Patent Costs incurred during the Term **("Ongoing Patent Costs").** The **"Pro Rata Share"** will be calculated by [***].

(c) At any time, at Penn's request, Licensee shall pay in advance the Patent Counsel's estimated costs for undertaking material patent actions before Penn authorizes the Patent Counsel to proceed **("Advance Payment").** Notwithstanding whether Licensee makes an Advance Payment for any patent action, Licensee shall bear all Patent Costs incurred during the Term and shall pay such amounts within [***] of receipt of invoice for such patent actions. For clarity, the term "Patent Costs" means and includes Historic Patent Costs and Ongoing Patent Costs.

5.3 **Termination of Rights in, and Obligations with respect to, Certain Penn Patent Rights**. Licensee may terminate its rights in, and obligations with respect to any or all of Penn Patent Rights by providing written notice to Penn **("Patent Termination Notice").** Termination of Licensee's rights in and obligation with respect to such Penn Patent Right will be effective [***] after receipt of such Patent Termination Notice by Penn. Penn will use reasonable efforts to curtail Patent Costs chargeable to Licensee under this Agreement after the receipt of the Patent Termination Notice is received. Penn may continue prosecution and maintenance of such Patent Rights at its sole discretion and expense, and such Patent Rights will then be Carve-Out Patent Rights and therefore not subject to this Agreement, including the License, and Licensee will have no further rights or license to them.

5.4 **Infringement**.

(a) **Notice.** Each party will notify the other promptly of any infringement of the Intellectual Property rights that may come to its attention. Both Penn and Licensee will use their diligent efforts to cooperate with each other to terminate such infringement without litigation.

(b) **Control.** As between Licensee and Penn, Penn shall have the exclusive right to initiate litigation with respect to infringement of the Intellectual Property rights.

(c) **Cooperation.** In any litigation under this Paragraph 5.4, each Party, at the request and sole expense of the other Party, will provide reasonable cooperation to such other Party. This Paragraph 5.4 will not be construed to require either Party to undertake any activities, including legal discovery, at the request of any Third Party, except as may be required by lawful process of a court of competent jurisdiction.

5.5 **Marking**.

(a) **Patent.** Licensee shall maintain any patent notice included by Penn on any Product (or its packaging where appropriate and practicable) Used under this Agreement.

(b) **Copyright.** Licensee shall maintain markings included by Penn on any Product (or its packaging where appropriate and practicable) Used under this Agreement, including the following:

© 2022. The Trustees of the University of Pennsylvania.

5.6 **Confidentiality**.

(a) Each Party agrees that, for the Term and for [***] thereafter, such Party shall (i) use the same degree of care to maintain the secrecy of the Confidential Information of the other Party that it uses to maintain the secrecy of its Confidential Information of like kind, (ii) use the Confidential Information of the other Party only to accomplish the purpose of this Agreement or for audit or management purposes and (iii) ensure that any employees, customers, and distributors are bound to it by similar obligations of confidence and to make sure such disclosure occurs only as required to accomplish the purposes of this Agreement.

(b) A Party may disclose the Confidential Information of the other Party to the extent required by Law or court order; provided, however, that the recipient promptly provides to the disclosing Party prior written notice of such disclosure and provides reasonable assistance in obtaining an order or other remedy protecting the Confidential Information from public disclosure.

ARTICLE 6
REPRESENTATIONS, WARRANTIES AND COVENANTS

6.1 **Mutual Representations and Warranties.** Each Party represents and warrants to the other Party that, as of the Effective Date:

(a) such Party is duly organized and validly existing under the Laws of the jurisdiction of its incorporation or organization;

(b) such Party has taken all action necessary to authorize the execution and delivery of this Agreement and the performance of its obligations under this Agreement;

(c) this Agreement is a legal and valid obligation of such Party, binding upon such Party and enforceable against such Party in accordance with the terms of this Agreement, except as enforcement may be limited by applicable bankruptcy, fraudulent conveyance, insolvency, reorganization, moratorium and other laws relating to or affecting creditors' rights generally and by general equitable principles; and

(d) such Party has all right, power and authority to enter into this Agreement, to perform its obligations under this Agreement.

6.2 [***]**.**

6.3 **Disclaimer of Representations and Warranties**.

(a) Other than the representations and warranties provided in Section 6.1 and representations in Section 6.2 above, **PENN MAKES NO REPRESENTATIONS AND WARRANTIES, WHETHER EXPRESS OR IMPLIED, AND EXPLICITLY DISCLAIMS ANY REPRESENTATION AND WARRANTY, INCLUDING WITH RESPECT TO ANY ACCURACY, COMPLETENESS, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, COMMERCIAL UTILITY, NON-INFRINGEMENT OR TITLE FOR THE INTELLECTUAL PROPERTY, PATENT RIGHTS, COPYRIGHT RIGHTS, LICENSE AND ANY PRODUCT.**

(b) Furthermore, nothing in this Agreement will be construed as:

i. A representation or warranty by Penn as to the validity or scope of any Intellectual Property rights;

ii. A representation or warranty that anything made, used, sold or otherwise disposed of under the License is or will be free from infringement of patents, copyrights, trademarks or any other forms of intellectual property rights or tangible property rights of Third Parties;

iii. Obligating Penn to bring or prosecute actions or suits against Third Parties for patent, copyright or trademark infringement;

iv. Conferring by implication, estoppel or otherwise any license or rights under any Intellectual Property rights of Penn other than as set forth herein, regardless of whether such Intellectual Property rights are dominant or subordinate to the Intellectual Property rights under the License; and

v. Obligating Penn to furnish any know-how.

6.4 **Covenants** .

6.4.1 Licensee and its Affiliates will not, directly or indirectly (including where such is done by a Third Party on behalf of Licensee or its Affiliates, at the urging of Licensee or its Affiliates or with the assistance of the Licensee or its Affiliates) challenge the validity, scope, or enforceability of or otherwise oppose any Intellectual Property right, provided that if any Intellectual Property rights are asserted against Licensee or its Affiliate for activities authorized under this Agreement, then such Licensee or its Affiliates is entitled to all and any defenses available to it including challenging the validity or enforceability of such Intellectual Property rights.

6.4.2 Licensee and its Affiliates will comply with all Laws that apply to its activities or obligations under this Agreement. For example, Licensee and its Affiliates will comply with applicable United States export laws and regulations. The transfer of certain technical data and commodities may require a license from the applicable agency of the United States government and/or written assurances by Licensee and/or its Affiliates that Licensee and/or its Affiliates will not export data or commodities to certain foreign countries without prior approval of the agency.

6.4.3 Licensee will not grant a security interest in the License or this Agreement.

ARTICLE 7
INDEMNIFICATION; INSURANCE AND LIMITATION OF LIABILITY

7.1 **Indemnification by Licensee**.

7.1.1 Licensee shall defend, indemnify and hold Penn and its respective trustees, officers, faculty, students, employees, contractors and agents (the "**Penn Indemnitees**") harmless from and against any and all liability, damage, loss, cost or expense (including reasonable attorneys' fees), including, without limitation, bodily injury, risk of bodily injury, death and property damage to the extent arising out of Third Party claims or suits related to (a) this Agreement, Provider Agreements, or Joinder Agreements, including (i) the use or other disposition of any Product (including any product liability claim), (ii) any claim by a Third Party that the practice of Intellectual Property rights or creation of any Derivative Works or the design, use, or other disposition of any Product infringes or violates any patent, copyright, trade secret, trademark or other intellectual property right of such Third Party, or (iii) any breach of this Agreement or Laws by Licensee or its Affiliates or Service Providers and (b) Licensee's or its Affiliates' or its Service Providers' negligence, omissions or willful misconduct, provided that Licensee's obligations pursuant to this Section 7.1 shall not apply to the extent such claims or suits result from (1) the gross negligence or willful misconduct of any of Penn Indemnitees as determined by a court of law or (2) any exercise of Penn's retained rights pursuant to Section 2.4.

7.1.2 As a condition to a Penn Indemnitee's right to receive indemnification under this Section 7.1, Penn shall: (a) promptly notify Licensee as soon as it becomes aware of a claim or suit for which indemnification may be sought pursuant hereto; (b) reasonably cooperate, and cause the individual Penn Indemnitees to reasonably cooperate, with Licensee in the defense, settlement or compromise of such claim or suit; and (c) permit the Licensee to control the defense, settlement or compromise of such claim or suit, including the right to select defense counsel. In no event, however, may Licensee compromise or settle any claim or suit in a manner which (i) admits fault or negligence on the part of Penn or any other Penn Indemnitee; (ii) commits Penn or any other Penn Indemnitee to take, or forbear to take, any action, without the prior written consent of Penn, or (iii) grant any rights under the Intellectual Property rights. Penn shall reasonably cooperate with Licensee and its counsel in the course of the defense of any such suit, claim or demand, such cooperation to include without limitation using reasonable efforts to provide or make available documents, information and witnesses.

7.1.3 Notwithstanding Section 7.1.2 above, in the event that a bona fide conflict exists between Licensee and Penn or any other Penn Indemnitee with respect to a claim or suit subject to indemnification hereunder, then Penn or any other Penn Indemnitee shall have the right to defend against any such claim or suit itself, including by selecting its own counsel, with any documented and reasonable attorney's fees and litigation expenses being paid for by [***]. [***].

7.2 **Insurance**.

7.2.1 Licensee, at its sole cost and expense, must insure Licensee's and its Providers' (if any) activities in connection with the exercise of rights and performance of obligations under this Agreement and obtain, and keep in force and maintain Commercial Form General Liability Insurance (contractual liability included) with limits as follows:

i. Each occurrence $[***];

ii. General aggregate $[***];

Prior to the commencement of Clinical Trials, if applicable, involving Product:

iii. Clinical trials liability insurance $[***]

Penn may review periodically the adequacy of the minimum amounts of insurance for each coverage required by this Section 7.2.1 and has the right to require adjustments to such limits in Penn's reasonable discretion.

7.2.2 If the above insurance is written on a claims-made form, it shall continue for [***] following termination or expiration of this Agreement. The insurance shall have a retroactive date of placement prior to or coinciding with the Effective Date of this Agreement (or the date of commencement of Clinical Trials, as applicable to the insurance required under Section 7.2.1.iii).

7.2.3 Licensee expressly understands, however, that the coverages and limits in Section 7.2.1 do not in any way limit Licensee's liability or indemnification obligations. The insurance will:

i. Be issued by an insurance carrier with an A.M. Best rating of "A" or better;

ii. Provide for [***] advance written notice to Penn of any cancellation or termination of such coverages;

iii. State that Penn is endorsed as an additional insured with respect to the coverages in Section 7.2.1; and

iv. Include a provision that the coverages will be primary and will not participate with nor will be excess over any valid and collective insurance or program of self-insurance carried or maintained by Penn.

7.2.4 Licensee must furnish to Penn with (i) valid certificate of insurance evidencing compliance with all requirements of this Agreement and (ii) additional insured endorsements for applicable policies naming "The Trustees of the University of Pennsylvania" as an additional insured. Licensee must furnish all documents within [***] of the Effective Date, once per year thereafter and at any time there is a modification in such insurance.

7.3 **LIMITATION OF LIABILITY.** IN NO EVENT SHALL EITHER PARTY OR ANY OF ITS AFFILIATES BE LIABLE TO THE OTHER PARTY OR ANY OF ITS AFFILIATES FOR SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES, INCLUDING LOSS OF PROFITS, WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE ARISING OUT OF OR RELATING TO THIS AGREEMENT, THE TRANSACTIONS CONTEMPLATED HEREIN OR ANY BREACH HEREOF. NOTWITHSTANDING THE FOREGOING, NOTHING IN THIS AGREEMENT SHALL LIMIT LICENSEE'S INDEMNIFICATION OBLIGATIONS UNDER SECTION 7.1 ABOVE OR SHALL LIMIT PENN'S REMEDIES OR ABILITY TO RECOVER DAMAGES, INCLUDING INCREASED DAMAGES, FOR WILLFUL INFRINGEMENT IN THE EVENT PENN ASSERTS ITS INTELLECTUAL PROPERTY RIGHTS.

ARTICLE 8
TERM AND TERMINATION

8.1 **Term.** The term of this Agreement (the "Term") shall commence on the Effective Date and, unless terminated sooner as provided below, shall continue in full force and effect until six (6) months after the conclusion of all Clinical Trials.

8.2 **Termination of the Agreement for Convenience.** At any time during the Term, Licensee may, at its convenience, terminate this Agreement upon providing at least [***] prior written notice to Penn of such intention to terminate, provided that Licensee (i) ceases and causes its Affiliates to cease, using the License and any Product and (ii) terminates any Joinder Agreements and Provider Agreements.

8.3 **Termination For Cause**.

8.3.1 If Licensee fails to fulfill its obligations under Section 3.1 (i.e. use Commercially Reasonable Efforts to Use the Product), Penn may provide written notice to Licensee of such failure. If Licensee fails to address such failure to the reasonable satisfaction of Penn within [***] of receiving such written notice, Penn may terminate this Agreement upon written notice to Licensee.

8.3.2 If Licensee materially breaches any of its material obligations under this Agreement (other than Section 3.1), Penn may give to Licensee a written notice specifying the nature of the default, requiring it to cure such breach, and stating its intention to terminate this Agreement. If such breach is not cured within [***] of such notice, such termination shall become effective upon a notice of termination by Penn thereafter. For clarity, a breach of a material obligation includes: [***].

8.3.3 In addition to all other remedies available to it, Penn may terminate this Agreement, upon written notice, with immediate effect, upon a breach of [***], provided, however, that in the event that, in the sole discretion of Penn, such breach is curable without adverse effect on Penn, Licensee will have [***] from receipt of such written notice to cure any breach under [***] and, if so cured, the Agreement shall not terminate.

8.3.4 Penn may terminate this Agreement, upon written notice, with immediate effect if, at any time, Licensee is unable to pay its debts, when they come due, or files in any court or agency pursuant to any statute or regulation of any state, country or jurisdiction, a petition in bankruptcy or insolvency or for reorganization or for an arrangement or for the appointment of a receiver or trustee of Licensee or of its assets, or if Licensee proposes a written agreement of composition or extension of its debts, or if Licensee is served with an involuntary petition against it, filed in any insolvency proceeding, and such petition is not dismissed within [***] after the filing thereof, or if Licensee proposes or is a party to any dissolution or liquidation, or if Licensee makes an assignment for the benefit of its creditors of all or substantially all its assets (in each case, "**Bankruptcy Action**").

8.4 **Effects of Termination.**

8.4.1 Notwithstanding the termination of this Agreement, the following provisions shall survive: Sections 4.8 - 4.10, inclusive, 5.6, 6.1, 6.2, and 8.4 and Articles 7 and 9.

8.4.2 Termination of this Agreement shall not relieve the Parties of any obligation or liability that, at the time of termination, has already accrued hereunder, or which is attributable to a period prior to the effective date of such termination. Termination of this Agreement shall not preclude either Party from pursuing all rights and remedies it may have hereunder or at Law or in equity with respect to any breach of this Agreement nor prejudice either Party's right to obtain performance of any obligation.

ARTICLE 9
ADDITIONAL PROVISIONS

9.1 **Relationship of the Parties.** Nothing in this Agreement is intended or shall be deemed, for financial, tax, legal or other purposes, to constitute a partnership, agency, joint venture or employer-employee relationship between the Parties. The Parties are independent contractors and at no time will either Party make commitments or incur any charges or expenses for or on behalf of the other Party.

9.2 **Expenses.** Except as otherwise provided in this Agreement, each Party shall pay its own expenses and costs incidental to the preparation of this Agreement and to the consummation of the transactions contemplated hereby.

9.3 **Use of Names.** Licensee and its Providers may not use the name, logo, seal, trademark, or service mark (including any adaptation of them) of Penn or any Penn school, organization, employee, student or representative, without the prior written consent of Penn (except as required by Section 5.5). Notwithstanding the foregoing, Licensee may use the name of Penn in a non-misleading and factual manner solely in (a) executive summaries, business plans, offering memoranda and other similar documents used by Licensee for the purpose of raising financing for the operations of Licensee as related to Product, or entering into commercial contracts with Third Parties, but in such case only to the extent necessary to inform a reader that the Intellectual Property rights has been licensed by Licensee from Penn, and to inform a reader of the identity and published credentials of Inventors of the Intellectual Property, and (b) any securities reports required to be filed with the Securities and Exchange Commission.

9.4 **No Discrimination.** Neither Penn nor Licensee or its Affiliates will discriminate against any employee or applicant for employment because of race, color, sex, sexual or affectional preference, age, religion, national or ethnic origin, handicap, or veteran status.

9.5 Successors and Assignment.

9.5.1 The terms and provisions hereof shall inure to the benefit of, and be binding upon, the Parties and their respective successors and permitted assigns.

9.5.2 Licensee may not assign or transfer this Agreement or any of Licensee's rights or obligations created hereunder, by operation of law or otherwise, without the prior written consent of Penn, provided that Penn shall not unreasonably withhold, condition or delay its consent. Licensee may assign or transfer this Agreement in its entirety without the consent of Penn in connection with a merger, consolidation, or sale or transfer of all or substantially all of its assets, without any requirement to obtain Penn's consent, to an unrelated third party entity provided that: (i) [***]; (ii) there exists no breach by Licensee or its Affiliates of any term of this Agreement, including those caused by a Provider, and Licensee is not in breach of payment or diligence obligations hereunder that has not been cured as of the consummation of such transaction; (iii) the Licensee delivers to Penn [***] written notice of the proposed assignment when such notice may be provided in accordance with applicable securities laws and non-disclosure agreements, (iv) the assignee agrees in writing to be legally bound by this Agreement and to deliver to Penn an updated Clinical Trial Protocol within [***] after the closing of the proposed transaction and (v) the assignment is made as a part of and in connection with an asset sale, stock sale, merger or other combination, or any other transfer of Licensee's entire business. Any permitted assignment will not relieve Licensee of responsibility for performance of any obligation of Licensee that has accrued at the time of the assignment.

9.5.3 Any assignment not in accordance with this Section 9.5 shall be void.

9.6 **Further Actions.** Each Party agrees to execute, acknowledge and deliver such further instruments and to do all such other acts as may be necessary or appropriate in order to carry out the purposes and intent of this Agreement.

9.7 **Entire Agreement of the Parties; Amendments.** This Agreement, the Exhibits and Appendices or Schedules hereto constitute and contain the entire understanding and agreement of the Parties respecting the subject matter hereof and cancel and supersede any and all prior negotiations, correspondence, understandings and agreements between the Parties, whether oral or written, regarding such subject matter. No waiver, modification or amendment of any provision of this Agreement shall be valid or effective unless made in a writing referencing this Agreement and signed by a duly authorized officer of each Party.

9.8 **Governing Law.** This Agreement shall be governed by and interpreted in accordance with the laws of the Commonwealth of Pennsylvania, excluding application of any conflict of laws principles that would require application of the law of a jurisdiction outside of the Commonwealth of Pennsylvania.

9.9 **Dispute Resolution.** If a dispute arises between the Parties concerning this Agreement, then the Parties will confer, as soon as practicable, in an attempt to resolve the dispute. If such dispute remains unresolved, it will be escalated to Licensee's Chief Executive Officer and Penn Center for Innovation's Managing Director or their respective designee(s), for discussion in good faith. If the Parties are unable to resolve such dispute amicably within [***] of submission to such officers, then the Parties will submit to the exclusive jurisdiction of, and venue in, the state and Federal courts located in the Eastern District of Pennsylvania.

9.10 **Notices and Deliveries.** Any notice, request, approval or consent required or permitted to be given under this Agreement shall be in writing and directed to a Party at its address or facsimile number shown below or such other address or facsimile number as such Party shall have last given by notice to the other Party. A notice will be deemed received: if delivered personally, on the date of delivery; if mailed, five (5) days after deposit in the United States mail; if sent via courier, one (1) business day after deposit with the courier service; or if sent via facsimile, upon receipt of confirmation of transmission provided that a confirming copy of such notice is sent by certified mail, postage prepaid, return receipt requested.

For Penn

Penn Center for Innovation
University of Pennsylvania
3600 Civic Center Blvd.,
9th Floor
Philadelphia, PA 19104-4310
Attention: Managing Director

with a copy to:

University of Pennsylvania
Office of General Counsel
2929 Walnut Street, Suite 400
Philadelphia, PA 19104-5509
Attention: General Counsel

For Licensee:

Opus Genetics, Inc
223 S. West Street, Suite 900
Raleigh, NC 27603
Attention: Chief Executive Officer

with a copy to:

Smith, Anderson, Blount, Dorsett, Mitchel
& Jernigan, LLP
150 Fayetteville Street, Suite 2300
Raleigh, NC 27601
Attention: [***]

9.11 ***Waiver.*** A waiver by either Party of any of the terms and conditions of this Agreement in any instance shall not be deemed or construed to be a waiver of such term or condition for the future, or of any other term or condition hereof. All rights, remedies, undertakings, obligations and agreements contained in this Agreement shall be cumulative and none of them shall be in limitation of any other remedy, right, undertaking, obligation or agreement of either Party.

9.12 **Severability.** When possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under law, but if any provision of this Agreement is held to be prohibited by or invalid under law, such provision will be ineffective only to the extent of such prohibition or invalidity, without invalidating the remainder of this Agreement. The Parties shall make a good faith effort to replace the invalid or unenforceable provision with a valid one which in its economic effect is most consistent with the invalid or unenforceable provision.

9.13 **Interpretation.** The words "include," "includes" and "including" shall be deemed to be followed by the phrase "without limitation." All references herein to Articles, Sections, Schedules and Exhibits shall be deemed references to Articles and Sections of, Schedules and Exhibits to, this Agreement unless the context shall otherwise require. Except as otherwise expressly provided herein, all terms of an accounting or financial nature shall be construed in accordance with GAAP, as in effect from time to time. Unless the context otherwise requires, countries shall include territories. References to any specific Law or article, section or other division thereof, shall be deemed to include the then-current amendments or any replacement Law thereto.

9.14 **Counterparts.** This Agreement may be executed in counterparts, each of which will be deemed an original, and all of which together will be deemed to be one and the same instrument. A facsimile or a portable document format (PDF) copy of this Agreement, including the signature pages, will be deemed an original.

9.15 **Timely Countersignature.** The terms and conditions of this Agreement shall, at Penn's sole option, be considered by Penn to be withdrawn from Licensee's consideration and the terms and conditions of this Agreement, and the Agreement itself to be null and void, unless this Agreement is executed by Licensee and a fully executed original is received by Penn within thirty (30) days from the date of Penn's signature found below.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, duly authorized representatives of the Parties executed this Agreement as of the Effective Date.

THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA

By: /s/ Benjamin C. Dibling, Ph.D.

Name: Benjamin C. Dibling, Ph.D
Title: Deputy Managing Director, Penn Center for Innovation
Date: 3/2/2023

OPUS GENETICS, INC.

By: /s/ Ben Yerxa

Name: Ben Yerxa
Title: Chief Executive Officer
Date: Mar 3, 2023

[**Signature Page to License Agreement**]

Exhibit A

Patents and Patent Applications in Penn Patent Rights

[***]

Exhibit B

Copyrights

[***]

Exhibit C
Form of Joinder Agreement

[***]

Exhibit 19

OCUPHIRE PHARMA, INC.
INSIDER TRADING COMPLIANCE POLICY

Effective June 11, 2024

This Insider Trading Compliance Policy (this ***"Policy"***) consists of four sections:

Section I provides an overview; Section II sets forth the policies of Ocuphire Pharma, Inc., a Delaware corporation (the ***"Company"***) prohibiting insider trading; Section III explains insider trading; and Section IV consists of various procedures which have been put in place by the Company to prevent insider trading.

I. SUMMARY.

Preventing insider trading is necessary to comply with securities laws and to preserve the reputation and integrity of the Company as well as that of all persons affiliated with it. "Insider trading" occurs when any person purchases, sells or gifts a security while in possession of inside information relating to the security. A "trade" as referenced in this Policy generally refers to purchases, sales or gifts. As explained in Section III below, "inside information" is information which is considered to be both "material" and "non-public." Insider trading is a crime and the penalties for violating the law include imprisonment, disgorgement of profits, civil fines of up to three (3) times the profit gained or loss avoided, and criminal fines of up to $5,000,000 for individuals and $25,000,000 for entities. Insider trading is also prohibited by this Policy and could result in serious sanctions, including dismissal.

This Policy applies to all officers, directors and employees of the Company and extends to all activities within and outside an individual's duties at the Company. This Policy also applies to any consultant or contractor to the Company that receives or has access to material, non-public information regarding the Company (each such consultant or contractor, including such consultant's or contractor's representatives and agents, a ***"Subject Contractor"***). Every officer, director, employee and Subject Contractor must review and adhere to this Policy. The Company has appointed the Senior Vice President of Finance as the Company's Insider Trading Compliance Officer (the ***"Compliance Officer"***). Questions regarding the Policy should be directed to the Compliance Officer.

II. STATEMENT OF POLICIES PROHIBITING INSIDER TRADING.

A. No officer, director, employee or Subject Contractor shall purchase, sell or gift any type of security while in possession of material, non-public information relating to the security, whether the issuer of such security is the Company or any other company. The Company is also prohibited from trading in securities of the Company in violation of applicable securities laws or stock exchange listing standards.

B. Additionally, except as set forth in Section II.D. below and except for transactions effected under an approved Rule 10b5-1 Trading Plan as described in Section V below, **no officer, director, employee or Subject Contractor shall purchase, sell or gift any security of the Company during the period beginning on the last day of the fiscal quarter and ending two (2) full "trading days" after the public release of the Company's quarterly/annual report whether or not the Company or any of its officers, directors, employees or Subject Contractors is in possession of material, non-public information (the *"Black-Out Period"*).** For the purposes of this Policy, a "trading day" shall mean a day on which the Nasdaq Stock Market is open for trading. Further, from time to time, and upon prior notice to the persons affected, the Company may impose event-specific special "Black-Out Periods" during which some or all Company executive officers and directors will be prohibited from trading in or gifting the Company's securities.

C. No officer, director, employee or Subject Contractor shall directly or indirectly tip material, non-public information to anyone while in possession of such information. In addition, material, non-public information should not be communicated to anyone outside the Company under any circumstances (absent prior approval by the Compliance Officer and execution of an appropriate confidentiality agreement), or to anyone within the Company other than on a need-to- know basis.

D. This Policy does not apply in the case of the following transactions under Company plans, **except as set forth under Section IV.D. (Pre-Clearance)**:

1. This Policy does not apply to the exercise of stock options or the vesting of restricted stock units or restricted stock, in each case granted under Company's equity compensation plans. This Policy does apply, however, to any sale of Company stock as part of a broker-assisted cashless option exercise, or any other market sale of the Company Stock received upon exercise or vesting of any equity award, whether or not for the purpose of generating the cash needed to pay the exercise price of a stock option or to pay taxes. In addition, for purposes of this Policy, the Company considers sell-to-cover transactions solely for the purpose of paying withholding taxes upon the vesting and delivery of restricted stock units to be exempt from this Policy if such sale is required by the Company in accordance with the terms of the equity award and not upon the directive of the employee.

2. This Policy does not apply to the surrender of shares directly to the Company to satisfy tax withholding obligations as a result of the issuance of shares upon vesting or exercise of restricted stock units, stock options or other equity awards granted under the Company's equity compensation plans. Of course, any market sale of the Company 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 to pay the exercise price or pay taxes.

3. This Policy does not apply to acquisition of Company Stock on periodic designated dates in accordance with the Company's Non-Employee Directors' Compensation Policy (the ***"Directors' Compensation Policy"***). This Policy does apply, however, to a director's election to receive Company Stock in lieu of cash compensation under the Directors' Compensation Policy. Accordingly, such elections may not be effected during a Black-Out Period or when a director is otherwise in possession of material, non- public information relating to the Company or any of its securities.

E. This Policy continues to apply to transactions in the Company's securities or the securities of other public companies engaged in business transactions with the Company made by the Company's officers, directors and employees, even after such person's employment or directorship with the Company has terminated. If any such person is in possession of material non-public information when their relationship with the Company concludes, they may not trade in the Company's securities or the securities of such other company until the information has been publicly disseminated or is no longer material.

III. EXPLANATION OF INSIDER TRADING.

As noted above, "insider trading" refers to the purchase, sale or gift of a security while in possession of "material," "non-public" information relating to the security. "Securities" include not only stocks, bonds, notes and debentures, but also stock options, warrants and similar instruments. "Purchase" and "sale" are defined broadly under the federal securities laws. "Purchase" includes not only the actual purchase of a security, but any contract to purchase or otherwise acquire a security. "Sale" includes not only the actual sale of a security, but any contract to sell or otherwise dispose of a security. These definitions extend to a broad range of transactions including conventional cash-for-stock transactions, conversions, the grant and exercise of stock options and acquisitions and exercises of warrants or puts, calls or other options related to a security. It is generally understood that insider trading includes the following:

- Transactions by insiders while in possession of material, non-public information;
- Transactions by persons other than insiders while in possession of material, non-public information where the information either was given in breach of an insider's fiduciary duty to keep it confidential or was misappropriated; or
- Communicating or tipping material, non-public information to others, including recommending transactions in a security while in possession of such information.

A. Definition of "Material"

Information is considered "material" if there is a substantial likelihood that a reasonable investor would consider it important, as part of the total mix of available information, in making a decision to buy, sell or hold a security or where the information is likely to have a significant effect on the market price of the security. Material information can be positive or negative and can relate to virtually any aspect of a company's business or to any type of security, debt or equity. Information may be significant for this purpose even if it would not alone determine the investor's decision.

Examples of material information include (but are not limited to):

- significant clinical trial results;

- regulatory approvals and significant discussions with the U.S. Federal Drug Administration;
- significant safety incidents;
- internal financial information which departs in any way from what the market would expect;
- changes in sales, earnings or dividends;
- an important financing transaction;
- stock splits or other transactions relating to Company securities;
- mergers, tender offers or acquisitions of other companies, or major purchases or sales of assets;
- major management changes;
- sales or purchases by the Company of its own securities;
- major litigation or regulatory developments;
- significant process or product developments;
- gain or loss of a major supplier;
- major transactions with other companies or entities, such as joint ventures, collaboration agreements or licensing agreements;
- the extent to which external events, including but not limited to pandemics, have had or will have a material impact on the Company's operating results; and
- a major cybersecurity incident.

Note that this list is merely illustrative and not exhaustive.

A good general rule of thumb: **when in doubt, consider the information material.**

B. Definition of "Non-Public"

Information is "non-public" if it has not yet been disclosed generally to the marketplace. In order for information to be considered public, it must be widely disseminated in a manner making it generally available to investors through such media as Dow Jones, Reuters, The Wall Street Journal, Business Wire, Globe Newswire, Associated Press, PR Newswire or United Press International or filed with the United States Securities and Exchange Commission (the ***"SEC"***). The circulation of rumors, even if accurate and reported in the media, does not constitute effective public dissemination.

In addition, even after a public announcement, a reasonable period of time must lapse in order for the market to react to the information. Even after the Company has released information to the press or the information has been reported, at least one full trading day must elapse before you trade in Company Securities.. For example, if the Company issued a press release containing material information at 6:00 p.m. on a Tuesday, and the Nasdaq Stock Market is open for trading on Wednesday, persons subject to this Policy shall not be permitted to trade in Company Securities until market open on Thursday. If the Company instead issued the press release prior to market on a Tuesday, trading would be permitted at market open on Wednesday.

C. Who is an Insider?

"Insiders" include officers, directors and employees of a company and anyone else who has material inside information about a company, including Subject Contractors. All officers, directors, employees and Subject Contractors of the Company should consider themselves insiders with respect to material, non-public information about the Company's business, activities and securities. Officers, directors, employees and Subject Contractors may not trade the Company's securities while in possession of material, non-public information relating to the Company nor tip (or communicate except on a need-to-know basis) such information to others.

It should be noted that trading by members of an insider's household can be the responsibility of such insider under certain circumstances and could give rise to legal and Company-imposed sanctions. Therefore, the policy against trading in securities when in possession of material non-public information also applies to the family members of insiders (including spouses, minor children or any other family members living in the same household).

D. Trading by Persons Other than Insiders (Tipping).

Insiders may be liable for communicating or tipping material, non-public information to a third party (a ***"tippee"***), and insider trading violations are not limited to trading or tipping by insiders. Persons other than insiders also can be liable for insider trading, including tippees who trade on material, non-public information tipped to them or individuals who trade on material, non- public information which has been misappropriated.

Tippees inherit an insider's duties and are liable for trading on material, non-public information illegally tipped to them by an insider. Similarly, just as insiders are liable for the insider trading of their tippees, so are tippees who pass the information along to others who trade. In other words, a tippee's liability for insider trading is no different from that of an insider. Tippees can obtain material, non-public information by receiving overt tips from others or through, among other things, conversations at social, business or other gatherings.

E. Penalties for Engaging in Insider Trading.

Penalties for trading on or tipping material, non-public information can extend significantly beyond any profits made or losses avoided, both for individuals engaging in such unlawful conduct and their employers. The SEC and the Department of Justice have made the civil and criminal prosecution of insider trading violations a priority. Enforcement remedies available to the government or private plaintiffs under the federal securities laws include:

- SEC administrative sanctions;
- Securities industry self-regulatory organization sanctions;
- Civil injunctions;
- Damage awards to private plaintiffs;
- Disgorgement of all profits;

- Civil fines for the violator of up to three (3) times the amount of profit gained or loss avoided;
- Civil fines for the employer or other controlling person of a violator (i.e., where the violator is an employee or other controlled person) of up to the greater of $1,000,000 or three (3) times the amount of profit gained or loss avoided by the violator;
- Criminal fines for individual violators of up to $5,000,000 ($25,000,000 for an entity); and
- Jail sentences of up to twenty (20) years.

In addition, insider trading could result in serious sanctions by the Company, including dismissal. Insider trading violations are not limited to violations of the federal securities laws. Other federal and state civil or criminal laws, such as the laws prohibiting mail and wire fraud and the Racketeer Influenced and Corrupt Organizations Act, also may be violated upon the occurrence of insider trading.

F. Examples of Insider Trading.

The following are illustrations of insider trading violations. These illustrations are hypothetical and are not comprehensive, and, consequently, are not intended to reflect the actual activities or business of the Company or any other entity.

Trading by Insider

An officer of X Corporation learns that earnings to be reported by X Corporation will increase dramatically. Prior to the public announcement of such earnings, the officer purchases X Corporation's stock. The officer, an insider, is liable for all profits as well as penalties of up to three (3) times the amount of all profits. The officer also is subject to, among other things, criminal prosecution, including up to $5,000,000 in additional fines and twenty (20) years in jail. Depending upon the circumstances, X Corporation and the individual to whom the officer reports also could be liable as controlling persons.

Trading by Tippee

An officer of X Corporation tells a friend that X Corporation is about to publicly announce that it has concluded an agreement for a major acquisition. This tip causes the friend to purchase X Corporation's stock in advance of the announcement. The officer is jointly liable with his friend for all of the friend's profits and each is liable for all penalties of up to three (3) times the amount of the friend's profits. In addition, the officer and his friend are subject to, among other things, criminal prosecution, as described above.

G. Short-Swing Profits, Rule 144 and Short Sales.

Officers and directors subject to the reporting obligations under Section 16 of the Exchange Act should take care not to violate the prohibition on short-swing trading (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), and any notices of sale required by Rule 144.

Section 16(c) of the 1934 Act absolutely prohibits insiders from making short sales of the Company's Stock, i.e., sales of shares which the insider does not own at the time of sale or sales of the Company's Stock against which the insider does not deliver the shares within twenty (20) days after the sale. Under certain circumstances, the purchase or sale of put or call options, or the writing of such options, can result in a violation of Section 16(c). Insiders violating Section 16(c) face criminal liability.

The Compliance Officer should be consulted if you have any questions regarding reporting obligations, short-swing profits or short sales under Section 16.

IV. STATEMENT OF PROCEDURES PREVENTING INSIDER TRADING.

The following procedures have been established, and will be maintained and enforced by the Company to prevent insider trading. Every officer, director, employee and Subject Contractor is required to follow these procedures.

A. Pre-Clearance of Trades by Officers, Directors, Employees and Subject Contractors.

To provide assistance in preventing inadvertent violations of applicable securities laws and to avoid the appearance of impropriety in connection with the purchase.sale or gift of the Company securities, except as set forth in the paragraph below, all transactions in Company securities (including without limitation, the exercise of stock options, the sale of the Company's securities issued upon the exercise of stock options or the vesting of restricted stock units or restricted stock) by officers, directors, employees and Subject Contractors must be pre-cleared by the Compliance Officer. **A request for pre-clearance should be submitted to the Compliance Officer at least two (2) business days in advance of the proposed transaction.**

Additionally, except as set forth in Section II.D. above, neither the Company nor any of its officers, directors, employees or Subject Contractors may trade in any securities of the Company during the Black-Out Period, unless authorized by the Compliance Officer. Also, please consult the "Insider Trading Reminders" attached hereto as Attachment B.

The requirement for pre-clearance as set forth in the above paragraph does not apply to the following transactions:

- the vesting of restricted stock units or restricted stock;
- sell-to-cover transactions solely for the purpose of paying withholding taxes upon the vesting and delivery of restricted stock units, if such sale is required by the Company in accordance with the terms of the equity award and not upon the directive of the employee;

- purchases of Company Stock under on periodic designated dates in accordance with the Directors' Compensation Policy; and

- transactions effected under an approved Rule 10b5-1 Trading Plan as set forth in Section V below.

All other transactions in Company securities are subject to pre-clearance as set forth in the above paragraph. A request for pre-clearance must be made in writing, preferably by submission of a completed Request for Pre-Clearance in the form of ATTACHMENT C to this Policy. Pre-cleared transactions should be effected promptly. Requestors are required to refresh the request for pre-clearance if a pre-cleared transaction is not effected within three business days after pre-clearance is received. If the person becomes aware of material nonpublic information before the trade is executed, the pre-clearance is void and the trade must not be completed. Transactions not effected within the time limit become subject to pre-clearance again. If an insider seeks pre-clearance and permission to engage in the transaction is denied, then he or she should refrain from initiating any transaction in Company securities, and should not inform any other person of the restriction.

Furthermore, requestors must immediately notify the Chief Compliance Officer following the execution of any transaction.

B. AVOIDANCE OF CERTAIN AGGRESSIVE OR SPECULATIVE TRADING.

Officers, directors, employees and Subject Contractors, and their respective family members, as applicable, may not directly or indirectly participate in transactions involving trading activities which by their aggressive or speculative nature cause or even give the appearance of an impropriety, such as, for example, those listed in Nos. 1 and 2 below. If you are uncertain whether your proposed transaction may implicate these prohibitions, please contact the Compliance Officer for pre-approval.

1. **PROHIBITION OF SPECULATIVE TRADING/HEDGING.** All directors, officers, employees and Subject Contractors are prohibited from engaging in short sales; transactions in put or call options, hedging or monetization transactions, including the purchase or sale of puts or calls or the use of any other derivative instruments; or other inherently speculative transactions with respect to the securities of the Company at any time.

2. **PROHIBITION ON PLEDGING.** All directors, officers, employees and Subject Contractors are prohibited from holding any securities of the Company in a margin account or otherwise pledging any securities of the Company as collateral for any loan.

V. RULE 10B5-1 TRADING PLANS.

A. Overview.

SEC Rule 10b5-1 (***"Rule 10b5-1"***) protects directors, officers and employees from insider trading liability under Rule 10b5-1 for transactions under a previously established contract, plan or instruction to trade the Company's Stock (a ***"Trading Plan"***) entered into in good faith (and acted on in good faith for the duration of the Trading Plan) and in accordance with the terms of Rule 10b5-1 of the 1934 Act and all applicable state laws and shall be exempt from the trading restrictions set forth in the Policy. The initiation of, and any modification to, any such Trading Plan will be deemed to be a transaction in the Company's securities and such initiation or modification is subject to all limitations and prohibitions of transactions involving the Company's securities. Each such Trading Plan, and any modification thereof, or termination, shall be submitted to and pre-approved by the Compliance Officer, or such other person as the Company's Board of Directors may designate from time to time (the ***"Authorizing Officer"***), who may impose such conditions on the implementation and operation of the Trading Plan as the Authorizing Officer deems necessary or advisable.

Without limiting the generality of the foregoing, the Authorizing Officer may prescribe certain forms of Trading Plans to which each Trading Plan must conform. The Authorizing Officer may also require that Trading Plans be arranged with a specified broker. However, compliance of the Trading Plan to the terms of Rule 10b5-1 and the execution of transactions pursuant to the Trading Plan are the sole responsibility of the person initiating the Trading Plan, not the Company or the Authorizing Officer.

Rule 10b5-1 presents an opportunity for insiders to establish arrangements to trade in the Company's Stock without the restrictions of windows and blackout periods even when there is undisclosed material information (subject to the cooling-off period described below). A Trading Plan might also help reduce negative publicity that may result when key executives sell the Company's Stock. Rule 10b5-1 only provides an "affirmative defense" in the event there is an insider-trading lawsuit. It does not prevent someone from bringing a lawsuit. **Trading Plans do not exempt the Section 16 reporting person from the Section 16 six (6) month short-swing profit rules or liability.**

A director, officer and employee may enter into a Trading Plan that outlines a pre-set plan for trading of the Company's Stock, including the exercise of stock options only when he or she is not in possession of material, non-public information, and only during an open trading window period outside of the Black-Out Period and cooling-off period described below. Although transactions effected under a Trading Plan will not require further pre-clearance at the time of the trade, any transaction (including the quantity and price) made pursuant to a Trading Plan of a Section 16 reporting person must be reported to the Company promptly on the day of each trade to permit the Company's Section 16 filing coordinator to assist in the preparation and filing of a required Form 4. Form 4 and Form 5 filers must also indicate by checkbox if a reported transaction was made under a plan that is intended to satisfy the "affirmative defense" conditions of Rule 10b5-1(c) and the date of the adoption of such plan.

Prohibition Against Multiple, Overlapping Plans

A director, officer or employee may only enter into one Trading Plan at a time.

Director and Officer Representations

Directors and officers must include a representation in their Trading Plan certifying, at the time of the adoption of a new or modified Trading Plan, that: (1) they are not aware of material nonpublic information about the Company or its securities; and (2) they are adopting the plan in good faith and not as part of a plan or scheme to evade the prohibitions of Rule 10b-5.

Cooling-Off Period

Trades pursuant to a Trading Plan made by an executive officer or director may occur at any time, subject to the following waiting period, whichever is later, (i) a 90 day waiting period after the adoption or material modification of the Trading Plan during which time no transactions under the Trading Plan can be made; or (ii) two business days following the Company's disclosure of financial results in in a Form 10-Q, Form 10-K, or Form 8-K for the fiscal quarter during which the plan was adopted or materially modified (in any event, subject to a maximum cooling-off period of 120 days following a plan adoption or modification) before any trading can commence under the adopted or modified Trading Plan.

Trades pursuant to a Trading Plan made by employees that are non-executive officers may occur at any time, subject to a 30 day waiting period after the adoption or material modification of the Trading Plan, during which time no transactions under the Trading Plan can be made.

Trading Plan modifications that do not change the sales or purchase prices or price ranges, the amount of securities to be sold or purchased, or the timing of transactions under a Trading Plan (such as an adjustment for stock splits or a change in account information) will not trigger a new cooling-off period.

Please review the following description of how a Trading Plan works.

Pursuant to Rule 10b5-1, an individual's purchase or sale of securities will not be "on the basis of" material non-public information if:

- First, before becoming aware of the information, the individual enters into a binding contract to purchase or sell the securities, provides instructions to another person to sell the securities or adopts a written plan for trading the securities in good faith (i.e., the Trading Plan).
- Second, the Trading Plan must either:
    - specify the amount of securities to be purchased or sold, the price at which the securities are to be purchased or sold and the date on which the securities are to be purchased or sold;
    - include a written formula or computer program for determining the amount, price and date of the transactions; or
    - prohibit the individual from exercising any subsequent influence over the purchase or sale of the Company's Stock under the Trading Plan in question.
- Third, the purchase or sale must occur pursuant to the Trading Plan and the individual must not enter into a corresponding hedging transaction or alter or deviate from the Trading Plan.

B. Termination/Amendments to Trading Plans.

Terminations of Trading Plans should occur only in unusual circumstances, and the effectiveness of any termination of a Trading Plan will be subject to the prior review and approval of the Authorizing Officer. If an individual terminates a Trading Plan, then the individual may not enter into a new Trading Plan until thirty (30) days after termination of the Trading Plan or such longer period as the Authorizing Officer may determine in his or her discretion. Such new Trading Plan can be executed only when the individual is not in possession of material non-public information, and during a trading window period outside of a Black-Out Period. In addition, transactions pursuant to such new Trading Plan will be subject to the applicable cooling-off period.

Each Trading Plan must contain provisions allowing the Company to revoke or suspend a Trading Plan. Circumstances under which Trading Plans may be revoked or suspended include the announcement of a merger or the occurrence of an event that would cause the transaction either to violate applicable law or to have an adverse effect on the Company. The Authorizing Officer or administrator of the Company's stock plans is authorized to notify the applicable broker in such circumstances.

Amendments to Trading Plans, which for these purposes would include any modifications to or voluntary suspensions of Trading Plans, should be made in only very limited circumstances and should be avoided if possible. Any amendment to a Trading Plan will be subject to the prior review and approval of the Authorizing Officer. Any amendment to a Trading Plan can be effected only when the individual is not in possession of material non-public information, and during a trading window period outside of a Black-Out Period. In addition, transactions pursuant to such amended Trading Plan will be subject to the applicable cooling-off period (or such longer period as the Authorizing Officer may determine in his or her discretion) during which time no transactions under the amended Trading Plan can be made.

C. Discretionary Plans.

Discretionary Trading Plans, where the discretion or control over trading is transferred to a broker, are permitted if (i) pre-approved by the Authorizing Officer, (ii) the officer, director, or employee may not exercise influence over the broker's trading decisions and (iii) the broker may not be in possession of any Company material non-public information.

The Authorizing Officer of the Company must pre-approve any Trading Plan, arrangement or trading instructions, etc., involving potential sales or purchases of the Company's Stock or stock option exercises, including but not limited to, blind trusts, or limit orders. The actual transactions effected pursuant to a pre-approved Trading Plan will not be subject to further pre-clearance for transactions in the Company's Stock once the Trading Plan or other arrangement has been pre-approved.

D. Trades Outside of a Trading Plan.

During an open window, trades which differ from Trading Plan instructions that are already in place are allowed as long as the Trading Plan continues to be followed.

E. Disclosures.

The Company will make required SEC disclosures regarding the adoption, material modification and termination of Trading Plans and regarding the Company's insider trading policies and procedures.

F. Policy Takes Precedence.

In the event of any conflict between this Policy and any Trading Plan, this Policy shall control, to the extent the Trading Plan would permit activities otherwise prohibited by this Policy.

VI. EXECUTION AND RETURN OF CERTIFICATION OF COMPLIANCE.

After reading this policy statement all officers, directors, employees and Subject Contractors should execute and return to a Compliance Officer the applicable Certification of Compliance form attached hereto as Attachment C, Attachment D or Attachment E.

INSIDER TRADING REMINDERS

Before engaging in any transaction in the Company's securities, please read the following:

Both the federal securities laws and the Company's Insider Trading Compliance Policy prohibit transactions in the Company's securities at a time when you may be in possession of material information about the Company which has not been publicly disclosed. This also applies to members of your household as well as all others whose transactions may be attributable to you.

Material information, in short, is any information which could affect the price of the securities. Either positive or negative information may be material. Once a public announcement has been made, you should wait until the information has been made available to the public for at least one full trading day before engaging in any transaction.

Except as set forth in Section II.D. of our Insider Trading Compliance Policy and except for transactions effected under an approved Rule 10b5-1 Trading Plan as described in Section V of our Insider Trading Compliance Policy, **neither the Company nor any of its officers, directors, employees or Subject Contractors may trade in or gift any securities of the Company during the period beginning five (5) full trading days before the public release of earnings data of the Company or quarterly/annual report and ending on the close of business one (1) full trading day after the public release of earnings data or quarterly/annual report whether or not the Company or any of its officers, directors, employees or Subject Contractors is in possession of material, non-public information, unless authorized by the Compliance Officer.**

Important: All transactions by officers, directors, employees and Subject Contractors must be pre-cleared with the Compliance Officer, except as specifically noted in Section IV.D. of our Insider Trading Compliance Policy.

For further information and guidance, please refer to our Insider Trading Compliance Policy and do not hesitate to contact the Compliance Officer.

UNLESS AN EXPRESS EXCEPTION APPLIES UNDER THE COMPANY'S INSIDER TRADING COMPLIANCE POLICY, ALL TRANSACTIONS IN THE COMPANY'S SECURITIES BY OFFICERS, DIRECTORS, EMPLOYEES AND SUBJECT CONTRACTORS MUST BE PRE- CLEARED BY THE COMPLIANCE OFFICER.

ATTACHMENT B

Request for Pre-Clearance*

For pre-clearance to transact in Company Securities.

Upon executing a transaction, directors, officers and employees must immediately notify the Company.

Transaction Vehicle (check one)

☐ Open Market Transaction
☐ Equity Compensation Plan
☐ Other (specify):

Transaction Initiated By (check one)

☐ Employee or immediate family member directly
☐ Court or government decree (e.g., divorce decree)
☐ Broker (provide name, firm, telephone and e-mail):

Type of Transaction (check one)

☐ Purchase or acquire common stock
☐ Sell or dispose of common stock
☐ Move Company Securities from one account to another (e.g., in or out of a trust)
☐ Dispose of fractional shares
☐ Pledge Company Securities for margin account, or otherwise
☐ Exercise options without subsequent sale
☐ Exercise options with subsequent sale (including a "cashless exercise")
☐ Other (describe):

Transaction Detail (provide the following information)

Number of securities: _____
Estimated share price: _____
Contemplated execution date: _____
Date of your last "opposite way" transaction**: _____

Certification

I certify that I have fully disclosed the information requested in this form, I have read the Ocuphire Pharma, Inc. Insider Trading Policy, I am not in possession of material nonpublic information, and to the best of my knowledge and belief the proposed transaction will not violate the Ocuphire Pharma, Inc. Insider Trading Compliance Policy.

Signature: _____
Print Name: _____
Date: _____

** Capitalized terms used but not defined herein have the meanings ascribed to them in the Ocuphire Pharma, Inc. Insider Trading Compliance Policy.*

*** If a Section 16 insider buys and sells (or sells and buys) Company Securities within a six-month time frame and such transactions are not exempt under SEC rules, the two transactions can be "matched" for purposes of Section 16. The insider may be sued and will be strictly liable for any profits made,* ***regardless of whether the insider was in possession of material nonpublic information****.*

ATTACHMENT C
Outside Directors

CERTIFICATION OF COMPLIANCE

TO: Compliance Officer

FROM: _____

RE: INSIDER TRADING COMPLIANCE POLICY OF OCUPHIRE PHARMA, INC.

I have received, reviewed and understand the above-referenced Insider Trading Compliance Policy and hereby undertake to comply fully with the policies and procedures contained therein.

I hereby certify that to the best of my knowledge I have complied, and I will henceforth comply fully with all policies and procedures set forth in the above-referenced Insider Trading Compliance Policy.

_____ _____

SIGNATURE DATE

_____

TITLE

CERTIFICATION OF COMPLIANCE

TO: Compliance Officer

FROM:

RE: INSIDER TRADING COMPLIANCE POLICY OF OCUPHIRE PHARMA, INC.

I have received, reviewed and understand the above-referenced Insider Trading Compliance Policy and hereby undertake to comply fully with the policies and procedures contained therein.

I hereby certify that to the best of my knowledge I have complied, and I will henceforth comply fully with all policies and procedures set forth in the above-referenced Insider Trading Compliance Policy.

SIGNATURE

DATE

TITLE

CERTIFICATION OF COMPLIANCE

TO: Compliance Officer

FROM:

RE: INSIDER TRADING COMPLIANCE POLICY OF OCUPHIRE PHARMA, INC.

The above named consultant or contractor to Ocuphire Pharma, Inc. has received, reviewed and understands the above-referenced Insider Trading Compliance Policy and hereby undertakes, as a condition to his, her or its present and continued consulting or other contractual relationship with Ocuphire Pharma, Inc., to comply fully with the policies and procedures contained therein.

The above named consultant or contractor hereby certifies that to the best of his, her or its knowledge such consultant or contractor has complied and will henceforth comply fully with all policies and procedures set forth in the above-referenced Insider Trading Compliance Policy.

SIGNATURE DATE

NAME

TITLE

Exhibit 21.1

LIST OF SUBSIDIARIES
Subsidiaries of Opus Genetics, Inc.

Subsidiaries	Jurisdiction of Incorporation
Orange Merger Sub II, LLC	Delaware

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

(1) Registration Statement (Form S-3 No. 333-276462) pertaining to the registration of Company debt and equity securities;

(2) Registration Statement (Form S-3 No. 333-252715) as it pertains to the registration of Company common stock issuable upon the exercise of Series A/B Warrants;

(3) Registration Statement (Form S-8 No. 333-282988) pertaining to the Ocuphire Pharma, Inc. 2021 Inducement Plan;

(4) Registration Statement (Form S-8 No. 333-276471) pertaining to the Ocuphire Pharma, Inc. 2020 Equity Incentive Plan;

(5) Registration Statement (Form S-8 No. 333-275673) pertaining to the Ocuphire Pharma, Inc. 2021 Inducement Plan;

(6) Registration Statement (Form S-8 No. 333-271150) pertaining to the Ocuphire Pharma, Inc. 2020 Equity Incentive Plan;

(7) Registration Statement (Form S-8 No. 333-264139) pertaining to the Ocuphire Pharma, Inc. 2020 Equity Incentive Plan;

(8) Registration Statement (Form S-8 No. 333-254923) pertaining to the Ocuphire Pharma, Inc. 2021 Inducement Plan and Ocuphire Pharma, Inc. 2020 Equity Incentive Plan; and

(9) Registration Statement (Form S-8 No. 333-249978) pertaining to the Ocuphire Pharma, Inc. 2020 Equity Incentive Plan and Ocuphire Pharma, Inc. 2018 Equity Incentive Plan.

of our report dated March 31, 2025, with respect to the consolidated financial statements of Opus Genetics, Inc. included in this Annual Report (Form 10-K) of Opus Genetics, Inc. for the year ended December 31, 2024.

/s/ Ernst & Young LLP

Detroit, MI
March 31, 2025

Exhibit 31.1

CERTIFICATION PURSUANT TO RULE 13a-14(a) OR RULE 15d-14(a)
OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

I, George Magrath, certify that:

1. I have reviewed this Annual Report on Form 10-K of Opus Genetics, Inc. (the "Company");

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 consolidated 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(s) 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 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(s) 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 31, 2025

/s/ George Magrath
Name: George Magrath
Title: Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION PURSUANT TO EXCHANGE ACT RULE 13a-14(a) OR 15d-14(a), AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES OXLEY ACT OF 2002

I, Nirav Jhaveri, certify that:

1. I have reviewed this Annual Report on Form 10-K of Opus Genetics, Inc. (the "Company");

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 consolidated 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(s) 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 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(s) 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 31, 2025

/s/ Nirav Jhaveri

Name: Nirav Jhaveri
Title: Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002
(Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code)

In connection with the Annual Report on Form 10-K for the year ended December 31, 2024 (the "Report") of Opus Genetics, Inc., a Delaware corporation (the "Company") as filed with the Securities and Exchange Commission (the "Report"), George Magrath, as Chief Executive Officer of the Company, and Nirav Jhaveri, as Chief Financial Officer of the Company, each hereby certifies, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350), that to the best of his knowledge and belief:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)); and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Company.

Date: March 31, 2025

/s/ George Magrath
George Magrath
Chief Executive Officer
(*Principal Executive Officer*)

/s/ Nirav Jhaveri
Nirav Jhaveri
Chief Financial Officer
(*Principal Financial Officer and Principal Accounting Officer*)