UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the Fiscal Year Ended December 31, 2023

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 Number: 001-38085

Ovid Therapeutics Inc.

(Exact name of Registrant as specified in its charter)

Delaware	2834	46-5270895
(State or Other Jurisdiction of Incorporation or Organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

441 Ninth Avenue, 14th Floor
New York, New York 10001
(646) 661-7661
(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.001 per share	OVID	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 Securities 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 the 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, 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. ☐

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 Exchange Act.) Yes ☐ No ☒

As of June 30, 2023, the last day of the registrant's most recently completed second fiscal quarter, the aggregate market value of the Common Stock held by non-affiliates of the registrant was approximately $191.1 million based on the closing price of the registrant's common stock on June 30, 2023. The calculation excludes shares of the registrant's common stock held by current executive officers, directors and stockholders that the registrant has concluded are affiliates of the registrant. This determination of affiliate status is not a determination for other purposes.

As of March 5, 2024, there were 70,709,857 shares of common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement for its 2024 Annual Meeting of Stockholders, which the registrant intends to file pursuant to Regulation 14A with the Securities and Exchange Commission not later than 120 days after the registrant's fiscal year ended December 31, 2023, are incorporated by reference into Part III of this Annual Report on Form 10-K.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. All statements other than statements of historical fact are "forward-looking statements" for purposes of this Annual Report on Form 10-K. In some cases, you can identify forward-looking statements by terminology such as "aim," "anticipate," "assume," "believe," "contemplate," continue," "could," "design," "due," "estimate," "expect," "goal," "intend," "may," "objective," "plan," "positioned," "potential," "predict," "project," "should," "target," "will," "would" or the negative or plural of those terms, and similar expressions.

Forward-looking statements include, but are not limited to, statements about:

- our ability to identify additional novel compounds with significant commercial potential to acquire or in-license;
- our ability to successfully acquire or in-license additional drug candidates on reasonable terms;
- our estimates regarding expenses, future revenue, including any royalty or milestone payments, capital requirements and needs for additional financing;
- our ability to obtain regulatory approval of our current and future drug candidates;
- our expectations regarding the timing of clinical trials and potential regulatory filings;
- our expectations regarding the potential market size and the rate and degree of market acceptance of such drug candidates;
- our ability to fund our working capital requirements;
- the implementation of our business model and strategic plans for our business and drug candidates;
- developments or disputes concerning our intellectual property or other proprietary rights;
- our ability to maintain and establish collaborations or obtain additional funding;
- our expectations regarding government and third-party payor coverage and reimbursement;
- our ability to compete in the markets we serve;
- the impact of government laws and regulations;
- developments relating to our competitors and our industry;
- the impact of geopolitical tensions, including war or the perception that hostilities may be imminent, adverse global economic conditions, terrorism, natural disasters or public health crises on our operations, research and development and clinical trials and potential disruption in the operations and business of third parties and collaborators with whom we conduct business; and
- the factors that may impact our financial results.

Factors that may cause actual results to differ materially from current expectations include, among other things, those set forth in Part I, Item 1A, "Risk Factors," herein and for the reasons described elsewhere in this Annual Report on Form 10-K. Any forward-looking statement in this Annual Report on Form 10-K reflects our current view with respect to future events and is subject to these and other risks, uncertainties and assumptions relating to our operations, results of operations, industry and future growth. Given these uncertainties, you should not rely on these forward-looking statements as predictions of future events. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

This Annual Report on Form 10-K also contains estimates, projections and other information concerning our industry, our business and the markets for certain drugs and consumer products, including data regarding the estimated size of those markets, their projected growth rates and the incidence of certain medical conditions. Information that is based on estimates, forecasts, projections or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances reflected in this information. Unless otherwise expressly stated, we obtained these industry, business, market and other data from reports, research surveys, studies and similar data prepared by third parties, industry, medical and general publications, government data and similar sources and

we have not independently verified the data from third party sources. In some cases, we do not expressly refer to the sources from which these data are derived.

In this Annual Report on Form 10-K, unless otherwise stated or as the context otherwise requires, references to "Ovid," "the Company," "we," "us," "our" and similar references refer to Ovid Therapeutics Inc. and its wholly owned subsidiary. This Annual Report on Form 10-K also contains references to our trademarks and to trademarks belonging to other entities. Solely for convenience, trademarks and trade names referred to, including logos, artwork and other visual displays, may appear without the ® or ™ symbols, but such references are not intended to indicate, in any way, that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto. We do not intend our use or display of other companies' trade names or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

PART I

Item 1. BUSINESS

Overview

Ovid is a biopharmaceutical company that is dedicated to meaningfully improving the lives of people affected by certain epilepsies and brain conditions with seizure symptoms. We believe that addressing these disorders represents a substantial scientific, medical and commercial opportunity. Over the last decade, scientific understanding of the underlying biology of neuronal hyperexcitability and the related pathophysiology of epilepsy and many neurological disorders has improved. This understanding of disease, coupled with advances in preclinical research tools, is improving the predictive potential of translational research, and thereby, may increase the probability of successful clinical development of anti-seizure medicines ("ASMs"). Emerging science also indicates that addressing the underlying causes of hyperexcitability may have therapeutic applications in broad neurological disease well beyond epilepsy.

The large global epilepsy market opportunity reflects significant unmet medical need and economic potential. Epilepsy therapeutics today represent an approximately $8 billion market globally. Evidence supporting the opportunity includes the number of recent acquisitions of epilepsy assets and companies, several of which have been acquired for values greater than $1.0 billion. The unmet need of people affected by seizures remains significant. Approximately three million Americans live with epilepsies today and approximately 50 million people suffer from epilepsy worldwide.

We have proven capabilities and expertise in the successful clinical development of ASMs. We have applied our knowledge to build a differentiated pipeline of medicines with potential first-in-class or best-in-class drug mechanisms of action ("MoA") to treat epilepsies and brain disorders with seizure symptoms. Our pipeline has produced three programs with potential first-in-class MoAs, and one program with a potential best-in-class MoA. Currently, three of these programs are in clinical trials in humans. The fourth is in preclinical studies and is anticipated to advance into human safety studies in 2024. An overview of these programs includes:

- **Soticlestat**, a novel cholesterol 24 hydroxylase ("CH24") inhibitor, which is currently being evaluated in two pivotal Phase 3 trials for Dravet syndrome and Lennox-Gastaut syndrome by Takeda Company Limited ("Takeda"). Takeda purchased our rights to soticlestat, and is conducting the pivotal trials. We maintain a significant financial interest in the potential approval and commercialization of soticlestat via potential regulatory and commercial milestones of up to $660.0 million and net sales-based royalty payments from low double digits up to 20%. We sold a 13% stake in the royalty, regulatory and commercial milestone payments that we are eligible to receive from Takeda to Ligand Pharmaceuticals Incorporated for $30.0 million.

- **OV888** (GV101), a highly selective inhibitor of rho associated coiled-coil containing protein kinase 2 ("ROCK2"), which is being developed as a potential first-in-class medicine to treat cerebral cavernous malformations ("CCM"), of which seizures are among common symptoms. OV888 (GV101) is completing a Phase 1 double-blind, multiple-ascending dose trial and is expected to initiate its Phase 2 program in 2024. A higher dose cohort has been added to the Phase 1 trial and no serious adverse events have been observed.

- **OV329**, a highly potent next-generation GABA-aminotransferase inhibitor ("GABA-AT"), that is thought to potentially deliver preferable seizure reduction and dosing relative to prior medicines in the class. An oral formulation of OV329 is currently being evaluated in a Phase 1 study that uses biomarkers for efficacy and target engagement. An intravenous formulation of OV329 is also in development for acute seizures and is expected to enter human safety studies in 2025.

- **OV350**, a potential first-in-class direct activator of the central nervous system ("CNS"), specific K-Cl co-transporter ("KCC2") and is the most advanced of a unique portfolio of drugs leads which are direct KCC2 activator compounds. Oral and intravenous ("IV") formulations of several of these compounds have been prepared and have demonstrated activity in multiple preclinical disease models. We expect to file the first investigational new drug application ("IND") from this portfolio in 2024. We believe this portfolio has the potential to deliver multiple INDs over the years to come.

Collectively, these development programs are anticipated to create a range of value-creating milestones in the near- and mid-term for investors.

The Opportunity: Epilepsies and Neurological Disorders

Although it is one of the earliest known maladies documented by humanity four millennia ago, epilepsy remains a common, and often intractable, medical diagnosis. Approximately 50 million people globally experience epilepsy, including an estimated three million adults living with epilepsy in the United States.

While modern drug discovery efforts have produced more than 30 ASMs over the last 100 years, a substantial number of epilepsy patients continue to experience breakthrough seizures that can cause enduring damage to the brain. Individuals who suffer from rare forms of refractory epilepsies may experience persistent seizure rates ranging from 50 - 90%. The seizures they suffer can have a devastating impact both upon patients and their families, by triggering permanent motor, cognitive and developmental delays, as well as epileptogenesis, which is a cascade of seizures begetting more seizures. Some patients with developmental epileptic encephalopathies experience even greater rates of refractory seizures that are resistant to drug therapy.

With an estimated 70% of epilepsy diagnoses occurring in people less than 20 years of age, the need to treat seizures early and effectively is critical to mitigate worsening and permanent later-life disabilities. In the search for seizure control, approximately half of patients take a polypharmacy regimen of five or more ASMs, requiring careful management of drug side effects and interactions. The large population of patients requiring multiple drug therapies to control seizures, and persistent rates of breakthrough seizures, signal the urgent need for effective new medicines. For these patients, new mechanisms of action that demonstrate improved efficacy, safety and tolerability profiles are optimal, as they may be more easily incorporated into existing treatment regimens without the fear of drug-to-drug interactions ("DDIs").

Scientific progress, including the availability of genetic testing, improved radiographic scanning tools, and more accurate means of measuring non-seizure symptoms are illuminating the underpinning seizure disorders. The great unmet medical need and scientific advancements have set the stage for a potential era of neurotherapeutics, which we believe will be led by ASMs.

The Ovid Strategy

The science underlying the discovery and development of new drugs for the brain has changed fundamentally over the last decade. We believe that major developments in the understanding of the biology of these diseases means that key areas of unmet need, including many epilepsies and seizure disorders, are now addressable and offer significant medical potential. Our team has proven expertise in understanding MoAs that underlie seizures and shaping potential therapies to treat rare epilepsies and disorders with seizures. Specifically, we have built a pipeline focused on treating the extrinsic or intrinsic causes of neuronal hyperexcitability. This know-how affords us an ability to build Ovid in a manner focused on delivering successive, novel medicines for epilepsies and seizure-related neurological conditions.

Our strategy is to create sustainable, long-term value by advancing an exciting and differentiated pipeline of small molecules that culminates in a fully integrated neurotherapeutics company with multiple commercial medicines and clinical stage programs. Over time, we intend to seek to expand our current pipeline of predominantly ASMs to include additional franchises of neurology programs via focused clinical development and business development activities. This corporate strategy is underpinned by specific research and development, financial and business development strategies. In addition, our Company seeks to protect shareholder value by creating multiple sources of potential revenue via clinical and commercial milestones from our pipeline, strategic collaborations and partnerships.

Our approach to building an epilepsy franchise has already resulted in success, namely the development and subsequent repurchase of our rights to soticlestat by Takeda. In 2017, we in-licensed a 50% stake in soticlestat for $26.0 million, and further invested $57.0 million in designing and executing soticlestat's early and mid-stage clinical trials. In 2021, following encouraging Phase 2 findings, which we delivered six months ahead of schedule, we entered into a Royalty, License and Termination Agreement ("RLT Agreement") through which we sold back our rights to soticlestat to Takeda. The RLT Agreement provided us with $196.0 million paid in Q1 2021 and, if soticlestat is approved and successfully commercialized, we are eligible to receive up to $660.0 million in sales and regulatory milestone payments and low double-digits up to 20% of potential net sales-based tiered royalty payments. The RLT Agreement provides us with a potential stream of non-dilutive capital. The funds received from this transaction have enabled us to invest in and secure what we believe is a world-leading pipeline during a period when we believe the cost of capital would have been unduly expensive. In 2023, we sold a 13% stake in the royalty, regulatory and commercial milestone payments that we are eligible to receive under the RLT Agreement to Ligand Pharmaceuticals Incorporated ("Ligand") for $30.0 million.

Our near-term strategy is focused on building a franchise of potential small molecule medicines to treat certain epilepsies and conditions with seizure symptoms. In alignment with this focus, in 2023, we made the decision to both out-

license and halt certain non-core activities, including several preclinical genetic medicines programs. For additional information see the section below under the heading "Genetic Research Programs." We simultaneously streamlined our organization and reduced headcount related mostly to the genetic programs.

Expert Team and Fit-for-Purpose Infrastructure

We have built a highly specialized, efficient, and focused infrastructure that supports us in our chosen area of neurotherapeutics development. This infrastructure spans the critical domains of research and development, commercial and market access strategy. Importantly, it positions us to be a potential partner of choice for leading biopharmaceutical companies who wish to pursue valuable drug candidates and research platforms in neurology.

We have recruited a team of professionals with deep subject-matter expertise in seizures and neurological conditions. This includes epileptologists, physicians, academic scientists, commercial and biopharmaceutical industry leaders. In total, we have five individuals with M.D. degrees and 13 professionals with Ph.D. degrees specializing in the sciences. Our operational and commercial leaders have extensive experience fostering market access and sales for leading neurological medicines. In total, our team's collective professional experience has involved the successful development or commercial launch of more than 25 CNS medicines, including several epilepsy products.

Our cohesive focus in epilepsies and conditions with seizure symptoms, clear strategy reinforced by our professional experience and pipeline of differentiated assets, gives us confidence we can succeed in our mission.

Research & Development Strategy: Potential First-In-Class or Best-in-Class Mechanism of Action

Our research and development strategy is focused on designing medicines that can ameliorate neuronal hyperexcitability and return neurons to a state of homeostasis, or "electrophysiological balance." Many factors can contribute to neuronal hyperexcitability including those extrinsic to the cell such as anatomical abnormalities, trauma, and even infectious disease. Other factors are intrinsic to the neuron (for example, genetic conditions or the disruption of neuronal metabolism) and others (for example lack of stimulus of the GABA receptor) are caused by imbalances outside the surface of the neuron. Whatever its origin, imbalance of electrophysiological homeostasis and resultant neuronal hyperexcitability manifests in a range of debilitating neurological conditions, including seizures and epilepsies.

Treatment of epilepsy and seizures today often requires multiple medicines. Whereas some epilepsy developers expressly focus on one biological target, we believe that until a definitive cure for epilepsy is discovered, multiple MoAs will be needed to successfully treat the heterogeneous causes of seizures. Accordingly, our pipeline seeks to curate and develop a unique set of compounds that can be effective by itself and/or can provide the necessary intervention to impact multiple mechanisms. We believe this approach has the potential to provide the basis of a modern differentiated and leading epilepsy franchise. Core tenets of our approach include a focus on:

- **Small molecule compounds.** Ovid's pipeline is comprised of small molecule programs that can potentially be delivered as a pill, injection, or intravenously. Recent advances in synthetic methodology, formulation technology, generative artificial intelligence and biology target research have unlocked more opportunities for innovative and creative medicines. The compounds we seek to develop are brain-permeable and are designed to modulate specific biological targets. We seek to take advantage of the versatility small molecules have to offer in terms of manufacturing, chemistry, and dosing to potentially deliver novel and next-generation medicines that will make meaningful improvements in the lives of patients.
- **Unique biological targets implicated in neuronal regulation.** There is compelling evidence that the novel targets we pursue directly or indirectly modulate hyperexcitability. These targets are associated with regulating inherent intracellular excitatory/inhibitory balance within neurons.
- **Differentiated potential first-in-class or best-in-class mechanisms of action.** We cultivate a pipeline of potential first-in-class or potential best-in-class MoAs to intercept and mitigate the underlying cause of seizures or brain disease. Collectively, our differentiated pipeline has produced four active potential value-creating drug programs. Several of these therapeutic development programs (soticlestat, OV888 (GV101) and OV329) seek to affect metabolic, signaling, and enzymatic pathways to modulate extrinsic causes of hyperexcitability, thereby restoring neural balance. In essence, they seek to change the environment surrounding the neuron. Our KCC2 mechanisms of action act on the intrinsic excitability of the neuron.
- **Sentinel indication clinical development.** Our drug development approach generally pursues rare, resistant conditions as initial "sentinel" indications. Pursuing rare acute conditions can enable us to demonstrate the rapid proof-of-concept ("POC") for our compounds, while additionally exploring efficient regulatory pathways and

incentives. Case studies of the life-cycle management for prior ASMs suggest that demonstration of refractory seizure reduction is often indicative of therapeutic effect in more common and tractable seizure types. Similarly, many ASMs were later proven to have clinical efficacy in other neurological conditions. Simply put, effective therapeutic outcomes in highly pharmaco-resistant indications often bodes well for treating broader neuropathologies.

- **Prioritization of the total drug profile.** We strive to develop drug candidates that deliver therapeutic efficacy while maintaining safe and well-tolerated side effect profiles. As noted above, for neurology patients and clinicians who must regularly manage side effects associated with polypharmacy regimens, it is preferable to have medicines that are well tolerated and exhibit few DDIs. In addition, we strive to impact the broader symptomatology of disease, including for example, the measurement of behavior and communication change.

As the field of ASM advances, we believe connections may be established between the root cause of hyperexcitability and other neurological conditions affecting larger populations. These include neuropsychiatric and neuro degenerative disorders and pain. However, our strategy focuses initially on evaluating our investigational medicines for pathways and targets impacting rare brain conditions. If effective in rare disease, our intent is to explore expanding on that success to broader conditions of the brain for which the MoA may hold therapeutic relevance. Accordingly, in the future, we expect to be able to extend our knowledge and drug programs to other neurological conditions. This approach is supported by research indicating that more than ten ASMs are used in treatment of other (non-epilepsy) neurological diseases today.

Scientifically Driven

We take a scientifically driven approach to identify promising drug candidates for our pipeline. We are building our portfolio based on the existence of known biological rationales that are associated with targets, and which can be evaluated using validated biomarkers and/or clear endpoints, for study in clinical trials. As we advance our drug candidates through nonclinical and clinical evaluation, we apply a systematic approach for de-risking compounds using emerging tools, animal models and trial designs. This paradigm is continuously informed and refined with emerging scientific and clinical insights to strengthen and de-risk development for prospective programs and trials.

Specifically, our approach is driven by the following scientific principles:

- **Pursuit of validated and emerging targets.** We are building a pipeline of therapeutic development programs representing distinct MoAs, including validated and emerging biological targets in epilepsy and neurovascular disorders such as CCMs. We seek to target biological pathways or genes for which POC has already been established via *in vitro* or animal models. Additionally, we prioritize targets that are either uniquely (1) expressed in the CNS, such as: CH24 and KCC2 co-transporters or (2) over-expressed in a pathological state, such as ROCK and GABA-AT.

- **Blood brain barrier ("BBB") penetration.** The brain is one of the most difficult organs in the body to treat, in part due to the challenge of penetrating the BBB. Ovid's drug development programs include potential small molecule therapies that demonstrate penetration of the BBB.

- **Clinically translatable preclinical models**. Recent advances in genetics enable us to employ predictive in vitro and in vivo genetic models of specific brain diseases. We believe these predictive models will allow us to evaluate and observe a drug candidate's potential activity prior to initiation of human trials. Applying these models, we believe we will be able to select the most relevant indication and seizure endpoints for our studies and increase the potential for clinical success.

- **Clear primary endpoints and scales**. We primarily focus on disorders that are characterized by epilepsy-related symptoms and seizures. Many seizure types afford clear observable endpoints and biomarkers that help capture and measure evidence of the clinical impact of our drug candidates. Our team of development experts has extensive experience designing scales to measure other symptoms that are common among seizure-disorders, such as cognitive declines, movement deficiencies and behavioral manifestations. These skills support our desire and ability to develop medicines that may provide a clinical benefit across multiple aspects of patient health.

- **Trial design enables early observation of proof-of-concept.** By employing surrogate biomarkers and endpoints that are highly relevant and designed to detect meaningful clinical benefits, we anticipate that many of our studies may provide early POC in clinical development, thereby directing the use of our capital to projects with higher probability of later-stage success.

- **Motivated and accessible patient populations.** We are targeting our programs for disorders with motivated and accessible patient populations. We believe that the patients and caregivers affected by epilepsies and brain disorders have increasing access to diagnostics and genetic testing. Additionally, many are avid users of social media, through which they learn new insights about their conditions and share relevant information and experiences. We conduct patient disease community outreach and activities on digital platforms to efficiently identify new patients for our clinical trials, raise disease awareness and help connect with patients and caregivers.

Pipeline Enhanced by Academic Collaborations and Disciplined Business Development

To support our strategy we continue to enhance and expand our pipeline via two complementary efforts: (1) internal research and development efforts in collaboration with external leaders in the field and academic collaborators; and (2) business development activities to partner assets that have promising potential in and outside our chosen therapeutic areas.

Ovid conducts focused internal drug discovery, which helps us maintain lower costs for laboratory facilities. We identify compounds with what we believe is untapped value sitting in other organizations' pipelines and look to in-license or enter into collaborative agreements to secure such assets and advance clinical development. This strategy directs our efforts where we excel at creating value, which is specifically shaping translational and clinical-stage development in our therapeutic area. An integral part of our process is establishing collaborations with academic research centers to support translational expertise for our programs, including the Stephen Moss Lab of Neuropharmacology at Tufts University.

The multiple programs in our diversified pipeline create optionality to pursue disciplined business development to expand our opportunities. As the pipeline progresses, we may endeavor to partner the development of our compounds in non-core indications or extend regional market rights outside the United States. We believe that we are well positioned to execute on our business development strategy due to the extensive experience and networks of our management team. Collectively, our senior management has transacted hundreds of in-licensing deals and collaborations.

Patient-Focused

Ovid is developing product candidates that we hope will create new possibilities and more good days for people living with rare epilepsies and brain conditions. For example, we believe that our therapeutic candidates may be able to meaningfully reduce harmful seizures, mitigate burdensome symptoms, and potentially slow down the underlying progression of disease.

Patient communities are critical to informing every aspect of our approach. Each disorder for which we are developing potential neurotherapeutics is a condition that carries serious risk of morbidity and requires extensive and specialized involvement from the patients' families, caregivers, physicians and from patient advocacy groups.

Our strategy is enhanced by the following patient-focused principles:

- pursue under-addressed rare conditions that can be evaluated via scaled clinical trials;
- develop close relationships with patient communities, caregivers, families, disease foundations and key opinion leaders, to better understand the history of these disorders, raise awareness, identify patients and facilitate enrollment of clinical trials;
- identify clinically meaningful endpoints, including seizures, symptoms, and cognitive and behavioral scales that are based on input from the patient communities and their physicians and caregivers; and
- develop digital capabilities to be deeply informed and engaged with the patient communities we serve.

Financial Strategy

We are focused on delivering long-term value for shareholders. Our financial strategy seeks to apply our capital in a focused manner to advance a differentiated pipeline of neurotherapeutics, which we believe may generate multiple value-creating milestones from data and ultimately, commercial sales.

Management believes that we have sufficient cash on hand to fund Ovid's operations into the first half of 2026. To achieve this cash runway, in October 2023, we sold 13% of our interest in the milestones and royalties that we are eligible

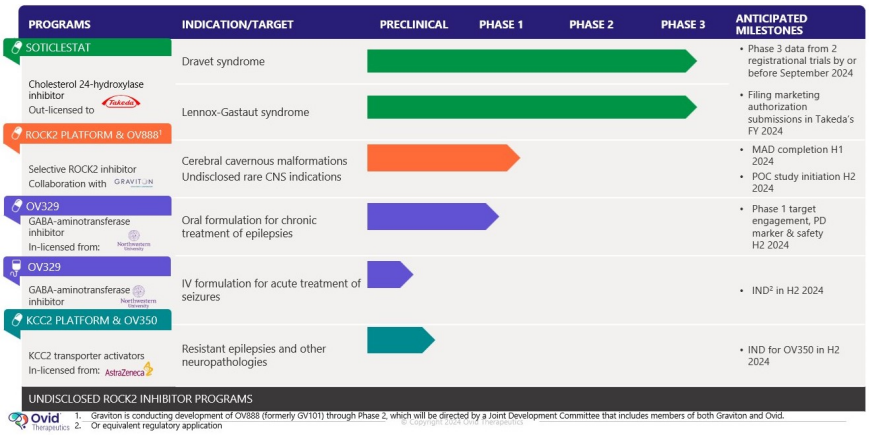
to receive from soticlestat's potential approval and commercialization to Ligand for $30.0 million. We retain 87% interest in soticlestat's regulatory and commercial milestones and royalties on sales if the drug is successfully approved and commercialized by Takeda. These future payments may contribute to funding our operations and business development activities. For additional information, see the description of the Ligand Agreement below under the heading "License and Collaboration Agreements – 2023 Ligand Pharmaceuticals Milestones and Royalties Monetization."

Ovid Pipeline

Our efforts have already brought drug candidates from POC into human clinical trials. Today, we are one of the few companies that has researched and developed three distinct MoAs to target seizures and one of the only clinical development programs to evaluate a highly selective ROCK2 inhibitor for neurological disease. We believe this pipeline of potential first-in-class or potential best-in-class mechanisms differentiates us and provides the basis of an attractive franchise of potential small molecule neurotherapeutics.

The following table (Figure 1) sets forth our drug candidate programs and their development status, MoA, and anticipated near-term milestones:

Figure 1. Ovid Therapeutics Pipeline



Soticlestat: Eligible for Non-Dilutive Capital from Takeda Pharmaceuticals

We retain significant financial interest in soticlestat, a novel CH24 inhibitor for the potential treatment of patients with resistant epilepsies, following our role in its successful early and mid-stage development program. We believe soticlestat has the potential to become a first-in-class medicine targeting the metabolism of cholesterol in the brain. It has been shown to gradually reduce inflammation in the brain as well as indirectly acting on the N-methyl D-aspartate pathway. We believe that this dual mechanism plays an important role in modulating excitatory signals involved in epilepsy, and thereby suppressing seizures.

Soticlestat is currently being studied by Takeda in two global, pivotal Phase 3 trials for people living with Lennox-Gastaut syndrome ("LGS") and Dravet syndrome ("DS"). Takeda has stated two pivotal Phase 3 clinical trials studying soticlestat as a treatment for Lennox-Gastaut syndrome and Dravet syndrome completed enrollment, and it anticipates topline data readout by September 2024. Takeda has stated that it anticipates filing soticlestat for regulatory approval in its fiscal year 2024 (April 2024 – March 2025). If soticlestat receives regulatory approval and is commercialized, under the RLT Agreement, we are eligible to receive regulatory and commercial milestones payments of up to $660.0 million, in addition to potential net sales based tiered royalties of up to 20%. In 2023, we sold a 13% stake in the royalty, regulatory and commercial milestone payments that we are eligible to receive under the RLT Agreement to Ligand for $30.0 million. Royalty payments are eligible on net sales across all regions and all future indications. The future milestones payments do not include an initial upfront payment that we received from Takeda in March 2021 of $196.0 million.

Background on Takeda Royalty, License & Termination Agreement

The soticlestat development program began in January 2017 as a license and collaboration agreement between us and Takeda for rare epilepsies. Under this original agreement, Ovid held a 50% ownership stake in soticlestat and Takeda retained the remaining 50%. Following a successful Phase 2 development program led by us, in March 2021, we entered into the RLT Agreement. Under the terms of the RLT Agreement, we terminated our original collaboration agreement with Takeda, and Takeda subsequently secured an exclusive license and intellectual property rights to repurchase our 50% share in soticlestat. In exchange, we received an upfront payment of $196.0 million. In addition, if soticlestat achieves regulatory approval, and is successfully commercialized, we are eligible to receive up to an additional $660.0 million in regulatory and commercial milestone payments and potential tiered royalties on net sales of soticlestat at percentages ranging from the low double-digits up to 20%, subject to standard reductions in certain circumstances. Royalties are payable on a country-by-country and product-by-product basis during the period beginning on the date of the first commercial sale of such product and ending on the expiration of patent rights in such country.

As a result of this agreement, Takeda secured all the global rights to develop and commercialize soticlestat for the treatment of developmental and epileptic encephalopathies, including DS and LGS. In addition, Takeda has assumed responsibility for all development and commercialization costs associated with soticlestat. We have no ongoing costs or obligations.

OV888 (GV101) – A highly selective ROCK2 inhibitor

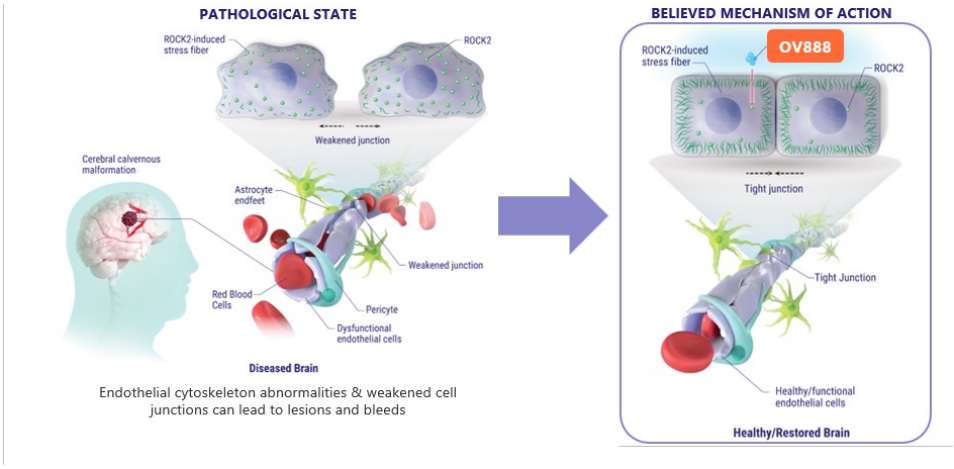
In May 2023, we invested in and entered a collaboration with Graviton Bioscience Corporation ("Graviton") to develop a portfolio of highly selective inhibitors of ROCK2 for the treatment of rare neurological conditions. The collaboration includes the development of lead program OV888 (GV101), which is a small molecule ROCK2 inhibitor that is currently completing a Phase 1, double-blind multiple-ascending dose trial. The trial is progressing on track, a higher dose has been added and no serious adverse events have been reported. For additional information, see the description of the Graviton collaboration agreement below under the heading "License and Collaboration Agreements – 2023 In-licensing and Collaboration Agreement with Graviton Bioscience Corporation."

OV888 (GV101) is a potent, BBB penetrant inhibitor that is highly selective for ROCK2. ROCK2 is expressed abundantly in skeletal muscles and in the brain and is believed to primarily function to regulate intracellular cytoskeletal organization. We believe that the ROCK2 signaling pathway may be hyperactivated in multiple neurological diseases, including disorders involving vascular structures and nerve myelination diseases that can result in seizures, spasms and a variety of other symptoms. Despite this link, there has been limited clinical development of ROCK2 inhibitors due to challenges penetrating the BBB and the inherent challenge of avoiding inhibition of rho-associated coiled-coil-containing protein kinase 1, which can have unwanted side effects.

The initial indication for OV888 (GV101) is anticipated to be CCM for which there is strong mechanistic evidence for inhibiting ROCK2 (see Figure 2 below). CCMs are one of the most common intracranial vascular malformation in humans, presenting as mulberry-shaped abnormal blood vessels with thin, leaky walls located in the brain and or spinal cord. It is thought CCMs affect approximately 1:250 individuals. At diagnosis, the majority of CCM patients present symptomatically with hemorrhage, focal neurologic deficit and/or seizures, which reflect areas of core competency for our development acumen.

To date, preclinical and human safety studies evaluating OV888 (GV101) have shown it has a favorable toxicology profile with no serious adverse events reported. We anticipate initiating the Phase 2 program for OV888 (GV101) in the second half of 2024. Throughout OV888's (GV101) clinical development, we intend to harness the expertise held by the team at Graviton, who previously pioneered the development of Rezurock, the first approved ROCK2 inhibitor for graft vs. host disease.

Figure 2. Believed mechanism of action for OV888 (GV101) in CCM



OV329 – A next-generation GABA-AT inhibitor

OV329 is an investigational, next-generation GABA-AT inhibitor that we are developing for the treatment of adult and pediatric epilepsy disorders. OV329 represents a potential best-in-class GABA-AT inhibitor and was designed to supplant vigabatrin, which is an approved therapeutic in the United States and European Union for the treatment of infantile spasms. Vigabatrin has demonstrated substantial seizure reduction, which led to sales of more than $300 million by Lundbeck in the United States alone. However, vigabatrin's clinical and commercial use has been limited by lack of a therapeutic window. Specifically, vigabatrin has generated deleterious ocular effects in some patients, including retinal degradation and irreversible vision loss that led to significant post-market restrictions and monitoring.

We believe OV329 to be an improved GABA-AT inhibitor with a different chemical structure, potency and inhibition profile than vigabatrin. We have observed OV329 to deliver increased potency and efficiency in the target binding site and has been shown in our preclinical research to be more than 200-fold more potent. We are actively studying two formulations of OV329: (1) an oral formulation for chronic seizures, which is currently in a Phase 1 trial and 2) an intravenous formulation for acute seizures, which is being readied for an IND (or an equivalent regulatory application) expected in late 2024. We believe that OV329 has the potential to be therapeutic in refractory and drug-resistant epilepsies such as seizures associated with tuberous sclerosis and refractory status epilepticus ("SE").

A benefit of our OV329 program is that it acts upon a validated drug target for seizures. Specifically, it works by substantially reducing the activity of GABA-AT, a key enzyme responsible for the degradation of the brain's major inhibitory neurotransmitter, GABA. OV329 leads to increased concentrations of GABA by inhibiting its metabolism. Given that epilepsy is characterized by excessive neuronal excitation, the increased levels of GABA may suppress this excitatory signaling and may reduce seizures.

OV329 oral formulation

Based upon preclinical data supporting OV329, we believe that the oral formulation has the potential to provide (in comparison to vigabatrin) preferred (lower) dosing. We believe that these preclinical data suggests that OV329 could allow for seizure reduction efficacy and improved tolerability in comparison to existing therapeutics.

To support this profile, seven animal seizure models presented at medical conferences in 2022 and 2023 demonstrate the seizure reduction potential of OV329 (see Figure 3 below). These findings in both chronic and acute seizure models provide additional confidence about the therapeutic potential of OV329 in humans.

Figure 3. Seven preclinical animal models reaffirm OV329 seizure reduction activity, including resistant seizure models

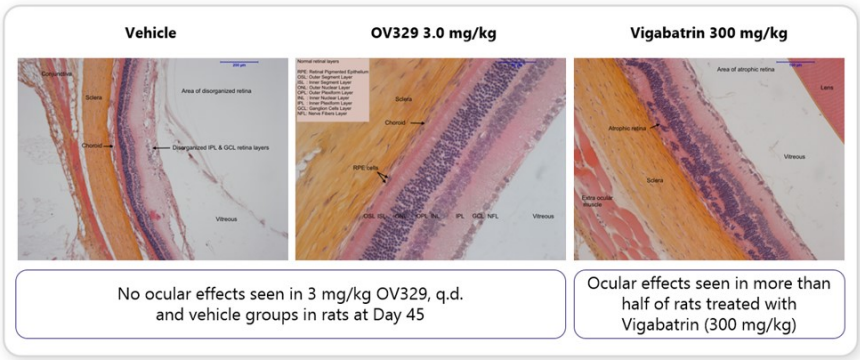
	6-Hz Electrical Stimulation	Maximal Electroshock (MES)	i.v. Pentylenetetrazol (iv PTZ)	NMDA-Induced Infantile Spasm model	Audiogenic Seizure	Amygdala Kindled	Corneal Kindled	Intra-hippocampal Kainate Model of Mesial-Temporal Lobe Epilepsy (MTLE)	Intra-amygdala Kainate Model of Mesial-Temporal Lobe Epilepsy (MTLE)
Injury Model	Acute/seizure	Acute/seizure	Acute/seizure	Acute/seizure	Acute	Chronic/epilepsy	Chronic/epilepsy	Chronic/epilepsy	Chronic / Epilepsy
Clinical Correlate	Acute focal to bilateral tonic-clonic seizure	Generalized tonic-clonic seizure	Nonconvulsive seizures (e.g. absence, myoclonic)	Infantile spasms	Generalized seizures	Chronic focal to bilateral tonic-clonic seizure/ Pharmacoresistant seizures	Chronic focal to bilateral tonic-clonic seizure	Mesial temporal lobe epilepsy/ Pharmacoresistant seizures	Mesial temporal lobe epilepsy/SE/ Pharmacoresistant seizures
Species	Mouse	Mouse	Rat	Mouse	Mouse	Rat	Mouse	Mouse	Mouse
Dosing	Acute (0.01, 0.1, 0.3, 1 mg/kg/day, p.o.)	Acute (1, 3, 10, 30 mg/kg, p.o.)	Acute (5, 20, **40** mg/kg i.p.)	Acute (0.0025, **0.01**, **0.1**, 1 mg/kg, p.o.)	Acute (0.01, 0.05, 0.1 mg/kg, p.o.)	Acute (30, **40 mg/kg**, i.p.)	Acute (1, 3, 10, 20, 30, **40**, 60 mg/kg, p.o.)	Acute, single dose (0.01, 0.1, 1, **10 mg/kg**, p.o.; 10 mg/kg, i.p.) Subacute (8 days q.d.) 0.3, 1.0 and **3.0 mg/kg/day** (p.o.)	Acute, single dose (**40 mg/kg**, p.o)
Activity	–	–	+	+	+	+	+	+	+

To further differentiate OV329's potential profile from vigabatrin, our preclinical efforts sought to extensively characterize its safety and tolerability, including any potential ocular effects. We have demonstrated that the tissue clearance of OV329 is rapid, leading us to believe that the accumulation in the back of the eye may be less likely than vigabatrin, which has a longer half- life. The pharmaco-dynamic profile of OV329 is also highly differentiated from vigabatrin. Preclinical research has shown that OV329 induces phasic (synaptic) and tonic (extrasynaptic) inhibition of GABA-AT. This produced more GABA in the synapse and environmental milieu, potentially contributing to prolonged inhibitory effects.

Additionally, we applied a clinically translatable rodent model of albino Sprague-Dawley rats to determine if any ocular changes could be observed associated with the predicted therapeutic doses of OV329 and vigabatrin, as compared to placebo. This rodent model is an accepted proxy by the U.S. Food and Drug Administration ("FDA") for the ocular effects seen in humans treated with vigabatrin. Figure 3 (below) demonstrates the results of our research.

After 45 days of dosing with the therapeutic dose of vigabatrin and an expected therapeutic dose of OV329 (3 mg/kg), the model showed no ocular effect in animals taking OV329, whereas disruption in retinal cells was seen in animals taking the therapeutic dose of vigabatrin (300 mg/kg). In this short-term model, OV329's ocular profile appears similar to placebo, and no disruption to the retina was seen at the anticipated therapeutic dose. These models must be confirmed in human studies, though they lead us to believe that OV329 may offer significant seizure reduction benefit with a therapeutic window not provided by vigabatrin.

Figure 4. No ocular changes seen in rodents treated with expected therapeutic dose of OV329 (3 mg/kg)



In late 2022, our IND for OV329 was cleared by the FDA and subsequently, we initiated a Phase 1 trial. That study is currently ongoing at the Nucleus Network at Alfred Hospital in Australia and is expected to complete in the second half of 2024. The trial is being conducted in two parts, including: a single-ascending dose and a multiple-ascending dose portion. Endpoints will evaluate the pharmacokinetic profile, safety, tolerability and target engagement associated with escalating doses of OV329 in healthy volunteers. Two surrogate biomarkers will be applied in the study, including: (1) transcranial magnetic stimulation ("TMS") will be measured and is a corollary for clinical efficacy and (2) magnetic resonance spectrometry ("MRS") will be used to measure target engagement. Previous studies have reported MRS measurement of GABA concentration levels increase following treatment with GABA-AT inhibitors, which has been shown to correlate with seizure reduction efficacy in existing GABA-AT inhibitor programs. If OV329 proves to effectively engage the target and exhibits a tolerable safety profile in the Phase 1 study, these metrics may inform mid-to-late-stage development of the program.

Upon results from the Phase 1 program, we anticipate OV329 could be further studied for the treatment of seizures associated with tuberous sclerosis complex, infantile spasms and other epilepsies associated with focal onset seizures. If the safety and efficacy profile of OV329 is positive, we will also consider lifecycle management strategies in broader epilepsy indications.

OV329 Intravenous Formulation

We are actively formulating and conducting IND-enabling studies for an intravenous use of OV329, which would be intended for the treatment of acute seizures, such as refractory status epilepticus ("RSE"). It is thought that approximately 35,000 Americans experience RSE. RSE is defined as a medical emergency where patients experiencing seizures of five minutes of duration or longer do not respond to first or second-line therapies. Status epilepticus ("SE") and RSE can lead to enduring brain damage and increased rates of mortality.

While there is no intravenous formulation of vigabatrin for acute use, some investigator led studies have shown that the application of this GABA-AT inhibitor via a nasal-gastric tube has produced strong results that have led to the cessation of status epilepticus. Drawing on these findings, Ovid intends to submit an IND (or an equivalent regulatory application) for the IV formulation of OV39 in late 2024 and advance it in human studies for potential use in refractory SE.

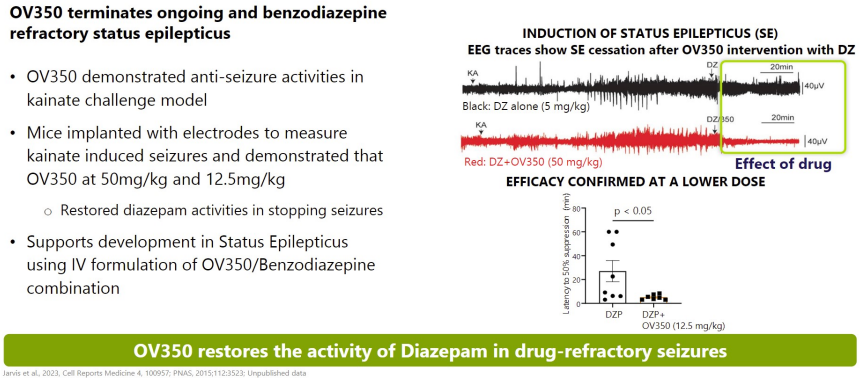
Portfolio of KCC2 Transporter Direct Activators, Including OV350

We in-licensed a large portfolio of compounds from AstraZeneca AB ("AstraZeneca") in December 2021 that are direct activators of a biological target expressed exclusively in the CNS: the KCC2. We believe this portfolio represents the only small molecule program in the biopharmaceutical industry that directly activates the KCC2 transporter. KCC2 is a channel that regulates chloride homeostasis in neurons, and thereby is potentially important in the control of neuronal excitability and seizures. The portfolio includes a lead compound, OV350, and several other compounds that we believe are suitable for pharmaceutical development. We intend to analyze multiple candidates from the KCC2 portfolio for development in epilepsy as well as other possible neurological conditions associated with behavior, neuropathic pain or neurodegeneration. Since several compounds within the portfolio appear to be amenable for multiple formulations, the broad KCC2 program may provide Ovid with the ability to partner compounds for neurology indications outside our core competencies.

OV350

In vivo proof-of-concept studies in animals have established that restoring KCC2 activity leads to reduced seizure sensitivity and seizure-induced mortality. In one preclinical model, designed to mimic the acute seizure state of SE, OV350 terminated status and restored the efficacy of diazepam in SE seizures, whereas diazepam treatment alone failed to halt the seizures (see Figure 5 below). Preclinical mechanistic studies have also demonstrated that OV350 was well-tolerated and did not induce sedation. These findings must now be studied and demonstrated in humans.

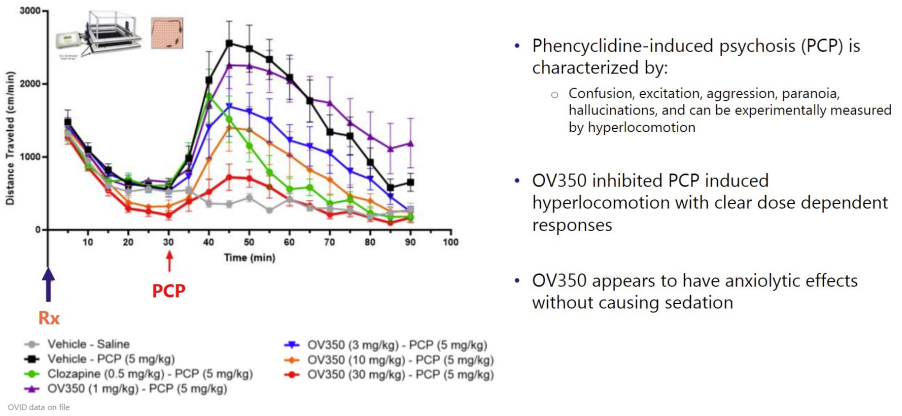
Figure 5. OV350 Terminates Benzodiazepine Resistant Status Epilepticus



In 2023, we evaluated several compounds in the KCC2 portfolio and began optimizing the lead candidate, OV350, for possible intravenous and oral administration formulations. Dual formulations are optimal for patients who are treated acutely in the hospital and need chronic dosing to maintain outcomes in an out-patient setting.

To support human studies, we initiated a range of disease model experiments in seizure and psychosis models. As noted above, we believe that the anticonvulsant properties of OV350 are compelling in preclinical SE models. Additionally, two different animal models that are a proxy for human psychosis suggest that OV350 has a profile akin to atypical antipsychotics, though, it does not appear to carry the undesirable tolerability issues common in medicines for mental health conditions. Such a profile may represent an exciting profile for future psychosis medicines. Further research and IND-enabling studies are ongoing. We expect to submit the first IND from the KCC2 program by the end of 2024.

Figure 6. OV350 Demonstrates Antipsychotic Effects in Schizophrenia Model



The library of early-stage small molecules that target the KCC2 transporter, including OV350, are included in a pending composition-of-matter application that was filed globally and, if issued, will expire in 2041 excluding any potential regulatory extensions.

Genetic Research Programs

The majority of our development activities are dedicated to small molecule programs. However, we believe that genetic medicine will play an important role in the long-term future of treating genetic epilepsies and neurological disorders. Accordingly, we engage in appropriately scaled, early-stage research programs with certain collaborators, including Gensaic, Inc., formerly M13 Therapeutics, Inc. ("Gensaic"), a next-generation gene therapy developer.

Phage-Based Scaffolds: Gensaic Research Collaboration

In August 2022, we entered into an investment in and research collaboration with Gensaic (the "Gensaic Collaboration Agreement"), a private biotech company that is developing gene therapies. Specifically, Gensaic is applying phage-display science that uses M13 phages as platforms to deliver genetic sequences. Though still in its nascence, we believe phage-based scaffolds may offer significant advantages for the delivery of genes, as compared to the current platform alternatives of adeno-associated viral ("AAV") vectors. This collaboration is a part of a low cost and long-term strategy to potentially enable unique treatment modalities in genetic disorders with a potentially unique and proprietary, low-cost alternative to current therapies.

AAV gene therapies are not optimal for treating neurological conditions. Specifically, AAV gene therapies have limited cloning capacity, which restricts their use for delivering large genetic cargo. Additionally, they are immuno-reactive, have poor BBB permeability, and provide relatively poor tropism to target cells. In contrast, we believe phages offer the potential to: deliver larger genes (up to 20kb); be engineered to cross the BBB and deliver cargo to specific cell types; avert the immune system response to enable redosing; and be produced in a more cost-effective manner. As a result, we believe phage-based gene therapy has an improved potential for the treatment of genetic epilepsies and neurological diseases. We can pursue up to three targets in collaboration with Gensaic, which are not yet disclosed.

Genetic Programs: OV815, OV825 and OV882

Prior to our strategic pipeline review in 2022, we had developed a series of early candidates for antisense oligonucleotide ("ASO") and RNAi medicines as part of our collaborations with Columbia University and the University of Connecticut. These research programs included: OV815, which was in development for the treatment of mutations associated with KIF1A-associated neurological disorder (KAND); HNRNPH2 (also known as Bain Syndrome), which was a potential treatment for an X linked gene predominantly occurring in females; and OV882, a potential disease-modifying gene therapy for Angelman syndrome that used short hairpin RNA to deliver a vector that reduced expression of UBE3A-antisense and restores UBE3A expression.

At year-end 2023, we determined to pause these programs to prioritize our expanding clinical footprint in small molecule programs. We will continue to seek collaborations or out-licensing opportunities for these programs.

License and Collaboration Agreements

2023 Ligand Pharmaceuticals Milestones and Royalties Monetization

In October 2023, we sold Ligand a 13% stake in the royalties and milestones owed to Ovid related to the potential approval and commercialization of soticlestat (the "Ligand Agreement"). In return, we received a $30.0 million payment, less certain reimbursable expenses. We retained 87% of our interest in soticlestat's potential royalties and milestones. In the event that soticlestat is not approved and commercialized, we have no continuing debt or other obligations to Ligand.

2023 In-licensing and Collaboration Agreement with Graviton Bioscience Corporation

In April 2023, we entered into a Collaboration and License Agreement with Graviton, a privately held early-stage drug development company specializing in therapeutics that inhibit ROCK2. Under the terms of the agreement, we purchased shares of Graviton's preferred stock for $10.0 million and secured rights to develop their lead program OV888 (GV101) as well as a portfolio of ROCK2 inhibitors in mutually agreed upon rare CNS indications, excluding amyotrophic lateral sclerosis. The agreement provides us with worldwide rights, excluding China, Hong Kong, Macau and Taiwan.

Graviton is responsible for conducting the development of the products through the end of Phase 2 trials under the oversight of a joint development committee from both companies. We are responsible for development and commercialization costs, post-Phase 2 development and commercialization of subsequent products. The collaboration has no milestone payments and Graviton will be eligible for percentage royalties in the mid- to high-teens based on net sales in territories where the products are marketed. Graviton retains rights to licensed products in all fields of study outside of rare brain disorders.

2022 Research Collaboration and Equity Investment in Gensaic

Under the terms of an equity agreement we entered into as an investor in Gensaic, we invested a total of $5.1 million in exchange for convertible preferred stock in Gensaic. We also entered into a collaboration agreement with Gensaic (the "Gensaic Collaboration Agreement") to potentially develop up to three genetic medicines for neurological indications of interest to us, harnessing Gensaic's proprietary phage-derived particle platform. Gensaic retains full rights to its platform technology. We will have commercial rights to license and develop any resulting phage-derived gene therapies that emerge from this collaboration subject to agreed-upon terms. We also retained rights to invest in future equity financing rounds.

2022 Out-License Agreement with Marinus Pharmaceuticals

In March 2022, we entered into an exclusive patent license agreement with Marinus, ("Marinus License Agreement"). Under the Marinus License Agreement, we granted Marinus an exclusive, non-transferable (except as expressly provided therein), royalty-bearing right and license under certain Ovid patents relating to ganaxolone to develop, make, have made, commercialize, promote, distribute, sell, offer for sale and import licensed products in the territory (which consists of the United States, the European Economic Area, United Kingdom and Switzerland) for the treatment of CDKL5 deficiency disorders. Following the date of regulatory approval by the FDA of the first licensed product in the territory, which was received on March 18, 2022, Marinus issued, at the Company's option, 123,255 shares of Marinus common stock, par value $0.001 per share. The Marinus License Agreement also provides for payment of royalties from Marinus to us in single-digits on net sales of each such licensed product sold.

2022 License and Option Agreement with Healx

In February 2022, we entered into an exclusive license option agreement ("Healx Agreement") with Healx, Ltd ("Healx"). Under the terms of the Healx Agreement, Healx has secured a one-year option to investigate gaboxadol (OV101) as part of a potential combination therapy for Fragile X syndrome in a Phase 2A clinical trial, and as a treatment for other indications, for an upfront payment of $0.5 million, and fees to support prosecution and maintenance of our relevant intellectual property rights. In February 2023, we amended the Healx Agreement to extend the option period by three months. At the end of the option period, Healx has the option to secure rights to an exclusive license under our relevant intellectual property rights, in exchange for an additional payment of $2.0 million ("Option Fee"), development and commercial milestone payments, and low to mid-tier double digit royalties. Royalties are payable on a country-by-country and product-by-product basis during the period beginning on the date of the first commercial sale of such product in such country and ending on the later to occur of the expiration of patent rights covering the product in such country and a specified anniversary of such first commercial sale. In June 2023, the Healx Agreement was further amended to: (i) grant Healx a development license; (ii) grant a commercial license upon payment of the Option Fee to us; and (iii) restructure the timing of the Option Fee payable to us.

Healx assumed all responsibility for and costs of development of gaboxadol in June 2023. Healx will also be responsible for all commercialization costs of gaboxadol following the grant of a commercial license upon payment of the Option Fee. We retain the option to co-develop and co-commercialize the program with Healx ("Ovid Opt-In Right") at the end of a positive readout of clinical phase 2B, and, in such case, would share net profits and losses in lieu of the milestones and royalty payments. We do not plan to conduct further trials of gaboxadol.

2021 Exclusive In-Licensing Agreement with AstraZeneca

In December 2021, we entered into an exclusive license agreement ("AstraZeneca Exclusive License Agreement") with AstraZeneca. Under the terms of the AstraZeneca Exclusive License Agreement, we have obtained worldwide rights to a portfolio of early-stage, small molecule compounds targeting the KCC2 transporter, including our lead compound, OV350. In exchange for an upfront payment of $5.0 million in cash and $7.3 million in shares of our common stock to AstraZeneca, we are responsible for using commercially reasonable efforts to carry out all future development and commercialization of KCC2 transporter activators in epilepsies and potentially other neuropathic conditions. We are obligated to pay AstraZeneca potential clinical development milestones of up to $8.0 million, regulatory milestones of up to $45.0 million and total commercial milestones of up to $150.0 million, as well as tiered royalty payments ranging from the single-digits up to ten percent on net sales. At the time of proof of clinical efficacy, AstraZeneca will have the right of first negotiation to opt in to co-develop and co-commercialize KCC2 transporter activators with Ovid. The license option will continue until the expiration of all relevant royalty terms.

2016 Northwestern License for OV329

In December 2016, we entered into a license agreement ("Northwestern Agreement") with Northwestern University ("Northwestern"), pursuant to which Northwestern granted us an exclusive, worldwide license to patent rights in certain inventions ("Northwestern Patent Rights") which relate to a specific compound (OV329) and related methods of use for such compound, along with certain know-how related to the practice of the inventions claimed in the Northwestern Patent Rights.

Under the Northwestern agreement, we were granted exclusive rights to research, develop, manufacture and commercialize products utilizing the Northwestern Patent Rights for all uses, other than cancer.

Upon entry into the Northwestern Agreement, we paid an upfront non-creditable one-time license issuance fee of $75,000, and we are required to pay an annual license maintenance fee of $20,000, which will be creditable against any royalties payable to Northwestern following first commercial sale of licensed products under the agreement. We are responsible for all ongoing costs of filing, prosecuting and maintaining the Northwestern Patent Rights, but we also have the right to control such activities using our own patent counsel. In consideration for the rights granted to us under the Northwestern agreement, we are required to pay to Northwestern up to an aggregate of $5.3 million upon the achievement of certain development and regulatory milestones for the first product covered by the Northwestern Patents, and, upon commercialization of any such products, will be required to pay to Northwestern a tiered royalty on net sales of such products by the Company, its affiliates or sublicensees, at percentages in the low to mid-single-digits, subject to standard reductions and offsets. Our royalty obligations continue on a product-by-product and country-by-country basis until the later of the expiration of the last-to-expire valid claim in a licensed patent covering the applicable product in such country and ten years following the first commercial sale of such product in such country. If Ovid sublicenses a Northwestern Patent Right, it will be obligated to pay to Northwestern a specified percentage of sublicense revenue received by us, ranging from the high single-digits to the low-teens.

The Northwestern Agreement requires that we use commercially reasonable efforts to develop and commercialize at least one product that is covered by the Northwestern Patent Rights.

Unless earlier terminated, the Northwestern Agreement will remain in force until the expiration of our payment obligations thereunder. We have the right to terminate the agreement for any reason upon prior written notice or for an uncured material breach by Northwestern. Northwestern may terminate the agreement for our uncured material breach or insolvency.

2015 License Agreement with H. Lundbeck A/S

In March 2015, we entered into a license agreement with Lundbeck, which we subsequently amended in May 2019, and July 2020 (collectively, the "Lundbeck Agreement"). As part of the Lundbeck Agreement, we obtained from Lundbeck an exclusive (subject to certain reserved non-commercial rights), worldwide license to develop, manufacture and commercialize OV101, also known as gaboxadol.

We subsequently closed our OV101 (gaboxadol) program in Angelman syndrome in early 2021. In February 2022, we entered into Amendment No. 3 to the Lundbeck Agreement (the "Amended Lundbeck Agreement") to permit our performance under the Healx Agreement. Under the terms of the Amended Lundbeck Agreement, if Healx exercises its option, we will owe Lundbeck an equal share of all milestone and royalty payments received from Healx, if we choose not to exercise the Ovid Opt-In Right. If we choose to exercise the Ovid Opt-In Right, to co-develop and co-commercialize the program with Healx, we will owe an equal share of the net profit share to Lundbeck.

Sales and Marketing

Given our stage of development, we have not yet established a commercial organization or distribution capabilities. However, we do have internal market access and commercial strategy capabilities that inform our pipeline strategy and execution. As our pipeline assets move into the clinic in the future, we intend to build focused capabilities to commercialize our programs focused on epilepsies and seizure-related disorders. In markets for which commercialization may be less capital efficient for us, we may selectively pursue strategic collaborations with third parties in order to maximize the commercial potential of our drug candidates.

Manufacturing and Supply

We currently outsource all manufacturing, and we intend to use our collaborators and contract manufacturers for the foreseeable future. However, certain members of our management have broad experience in manufacturing, which we believe may provide a competitive advantage.

Competition

We believe Zogenix, Inc. (acquired by UCB in 2022), Jazz Pharmaceuticals plc (acquired by UCB in 2022), Sage Therapeutics, Inc., Marinus Pharmaceuticals, Inc., Mallinckrodt plc, SK Biopharmaceuticals Inc., Epygenix Therapeutics, Inc., Stoke Therapeutics, Inc. and Xenon Pharmaceuticals, Inc. are our most direct competitors with respect to soticlestat, OV329 and OV350. As it relates to OV888 (GV101), we believe Neurelis Inc. is our most direct competitor.

Drug development is highly competitive and subject to rapid and significant technological advancements. Our ability to compete will significantly depend upon our ability to complete necessary clinical trials and regulatory approval processes, and effectively market any drug that we may successfully develop. Our current and potential future competitors include pharmaceutical and biotechnology companies, academic institutions and government agencies. The primary competitive factors that will affect the commercial success of any drug candidate for which we may receive marketing approval include efficacy, safety and tolerability profile, dosing convenience, price, coverage and reimbursement. Many of our existing or potential competitors have substantially greater financial, technical and human resources than we do and significantly greater experience in the discovery and development of drug candidates, as well as in obtaining regulatory approvals of those drug candidates in the United States and in foreign countries.

Our current and potential future competitors also have significantly more experience commercializing drugs that have been approved for marketing. Mergers and acquisitions in the pharmaceutical and biotechnology industries could result in even more resources being concentrated among a small number of our competitors.

Accordingly, our competitors may be more successful than us in obtaining regulatory approval for therapies and in achieving widespread market acceptance of their drugs. It is also possible that the development of a cure or more effective treatment method for the disorders we are targeting by a competitor could render our current or future drug candidates non-competitive or obsolete or reduce the demand for our drug candidates before we can recover our development and commercialization expenses.

Intellectual Property

Our commercial success depends in part on our ability to obtain and maintain proprietary protection for our current and future drug candidates, novel discoveries, product development technologies and know-how, to operate without infringing on the proprietary rights of others and to prevent others from infringing our proprietary rights. Our policy is to seek to protect our proprietary position by, among other methods, filing or in-licensing U.S. and foreign patents and patent applications related to technology, inventions and improvements that are important to the development and implementation of our business. We also rely on trademarks, trade secrets, copyright protection, know-how, continuing technological innovation and potential in-licensing opportunities to develop and maintain our proprietary position.

While we seek broad coverage under our existing patent applications, there is always a risk that an alteration to the product or process may provide sufficient basis for a competitor to avoid infringement claims. In addition, the coverage claimed in a patent application can be significantly reduced before a patent is issued and courts can reinterpret patent scope after issuance. Moreover, many jurisdictions including the United States permit third parties to challenge issued patents in administrative proceedings, which may result in further narrowing or even cancellation of patent claims. Moreover, we cannot provide any assurance that any patents will be issued from our pending or any future applications or that any potentially issued patents will adequately protect our intellectual property.

We have exclusively licensed a portfolio of issued U.S. and international patents from Lundbeck directed to polymorphic forms of OV101 and their preparation and methods of manufacturing OV101. We have also filed, and own, multiple patent families directed to methods of treatment and formulations with OV101. Subsequently, we have licensed much of this portfolio to Healx under the Amended Healx Agreement.

OV329 was in-licensed from Northwestern. OV329's composition of matter patent expires in 2036, excluding regulatory extensions. We have also filed, and own, multiple patent families directed to the synthesis of OV329 and methods of treatment with OV329.

OV888 (GV101) was licensed from Graviton. The composition of matter patent for OV88 expires in October 2038 excluding any potential regulatory extensions. Graviton has also filed patents on methods of use with OV888 (GV101).

A library of early-stage small molecules that target the KCC2 transporter, including OV350 was in-licensed from AstraZeneca. The molecules are included in a pending composition-of-matter application that was filed globally and, if issued, will expire in 2041, excluding any potential regulatory extensions.

In addition, we have a library of proprietary genetic sequences that target UBE3A, KIF1A, HNRNPH2, and PDP2RD. We continue to expand our intellectual property portfolio to protect our library of potential development candidates.

Individual patents extend for varying periods depending on the date of filing of the patent application or the date of patent issuance and the legal term of patents in the countries in which they are obtained. Generally, utility patents issued for applications filed in the United States are granted a term of 20 years from the earliest effective filing date of a non-provisional patent application. In addition, in certain instances, a patent term can be extended to recapture a portion of the U.S. Patent and Trademark Office (the "USPTO") delay in issuing the patent as well as a portion of the term effectively lost as a result of the FDA regulatory review period. However, as to the FDA component, the restoration period cannot be longer than five years and the total patent term including the restoration period must not exceed 14 years following FDA approval. The duration of foreign patents varies in accordance with provisions of applicable local law, but typically is also 20 years from the earliest effective filing date. The actual protection afforded by a patent may vary on a product-by-product basis, from country to country and can depend upon many factors, including the type of patent, the scope of its coverage, the availability of regulatory-related extensions, the availability of legal remedies in a particular country and the validity and enforceability of the patent.

Furthermore, we rely upon trade secrets and know-how and continuing technological innovation to develop and maintain our competitive position. We seek to protect our proprietary information, in part, using confidentiality agreements with our employees and consultants and any potential commercial partners and collaborators and invention assignment agreements with our employees. We also have or intend to implement confidentiality agreements or invention assignment agreements with our selected consultants and any potential commercial partners. These agreements are designed to protect our proprietary information and, in the case of the invention assignment agreements, to grant us ownership of technologies that are developed through a relationship with a third party. These agreements may be breached, and we may not have adequate remedies for any breach. In addition, our trade secrets may otherwise become known or be independently discovered by competitors. To the extent that our commercial partners, collaborators, employees and consultants use intellectual property owned by others in their work for us, disputes may arise as to the rights in related or resulting know-how and inventions.

Our commercial success will also depend in part on not infringing upon the proprietary rights of third parties. It is uncertain whether the issuance of any third-party patent would require us to alter our development or commercial strategies, or our drugs or processes, obtain licenses or cease certain activities. Our breach of any license agreements or failure to obtain a license to proprietary rights that we may require to develop or commercialize our future drugs may have an adverse impact on us. Since patent applications in the United States and certain other jurisdictions are maintained in secrecy for 18 months or potentially longer, and since publication of discoveries in the scientific or patent literature often lags behind actual discoveries, we cannot be certain of the priority of inventions covered by pending patent applications. Moreover, we may have to participate in Interference, Derivation, Reexam, Post-Grant Review, Inter Partes Review, or Opposition proceedings brought by third parties or declared by the USPTO.

Government Regulation

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

U.S. Government Regulation

In the United States, the FDA regulates drugs under the Federal Food, Drug, and Cosmetic Act ("FDCA") and its implementing regulations. The process of obtaining regulatory approvals and the subsequent compliance with applicable

federal, state, local and foreign statutes and regulations requires the expenditure of substantial time and financial resources. Failure to comply with the applicable U.S. requirements at any time during the product development process, approval process or after approval, may subject an applicant to a variety of administrative or judicial sanctions, such as the FDA's refusal to approve pending New Drug Applications ("NDAs") or Biologics License Applications ("BLAs"), withdrawal of an approval, imposition of a clinical hold, issuance of warning letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement or civil or criminal penalties.

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

- completion of preclinical laboratory tests, animal studies and formulation studies in compliance with the FDA's good laboratory practice ("GLP") regulations;
- submission to the FDA of an IND which must become effective before human clinical trials may begin;
- approval by an independent institutional review board ("IRB") at each clinical site before each trial may be initiated;
- performance of adequate and well controlled human clinical trials in accordance with good clinical practice ("GCP") requirements to establish the safety and efficacy of the proposed drug product for each indication;
- submission to the FDA of an NDA or BLA;
- satisfactory completion of an FDA advisory committee review, if applicable;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the product is produced to assess compliance with current good manufacturing practice ("cGMP"), requirements and to assure that the facilities, methods and controls are adequate to preserve the drug's identity, strength, quality and purity; and
- FDA review and approval of the NDA or BLA.

Preclinical Studies

Preclinical studies include laboratory evaluation of product chemistry, toxicity and formulation, as well as animal studies to assess potential safety and efficacy. An IND sponsor must submit the results of the preclinical tests, together with manufacturing information, analytical data and any available clinical data or literature, among other things, to the FDA as part of an IND. Some preclinical testing may continue even after the IND is submitted. An IND automatically becomes effective 30 days after receipt by the FDA, unless before that time the FDA raises concerns or questions related to one or more proposed clinical trials and places the clinical trial on a clinical hold. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. As a result, submission of an IND may not result in the FDA allowing clinical trials to commence.

Clinical Trials

Clinical trials involve the administration of the investigational new drug to human patients under the supervision of qualified investigators in accordance with GCP requirements, which include the requirement that all research patients provide their informed consent in writing for their participation in any clinical trial. Clinical trials are conducted under protocols detailing, among other things, the objectives of the trial, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated. A protocol for each clinical trial and any subsequent protocol amendments must be submitted to the FDA as part of the IND. In addition, an IRB at each institution participating in the clinical trial must review and approve the plan for any clinical trial before it commences at that institution. Information about certain clinical trials must be submitted within specific timeframes to the National Institutes of Health ("NIH") for public dissemination on their www.clinicaltrials.gov website.

Human clinical trials are typically conducted in three sequential phases, which may overlap or be combined:

- Phase 1 clinical trial: The drug is initially introduced into healthy human volunteers or patients with the target disease or condition and tested for safety, dosage tolerance, absorption, metabolism, distribution, excretion and, if possible, to gain an early indication of its effectiveness.

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

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

Progress reports detailing the results of the clinical trials must be submitted at least annually to the FDA and more frequently if serious adverse events occur. Each of 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 if the clinical trial is not being conducted in accordance with the IRB's requirements or if the drug has been associated with unexpected serious harm to patients.

Marketing Approval

Assuming successful completion of the required clinical testing, 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 NDA or BLA requesting approval to market the product for one or more indications. In most cases, the submission of an NDA or BLA is subject to a substantial application user fee. Under the Prescription Drug User Fee Act ("PDUFA"), guidelines that are currently in effect, the FDA has a goal of ten months from the date of "filing" of a standard NDA for a new molecular entity to review and act on the submission. This review typically takes twelve months from the date the NDA is submitted to FDA because the FDA has approximately two months to make a "filing" decision.

The FDA conducts a preliminary review of all NDAs within the first 60 days after submission, before accepting them for filing, to determine whether they are sufficiently complete to permit substantive review. The FDA may request additional information rather than accept an NDA for filing. In this event, the application must be resubmitted with the additional information. The resubmitted application is also subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA begins an in-depth substantive review. The FDA reviews an NDA to determine, among other things, whether the drug is safe and effective and whether the facility in which it is manufactured, processed, packaged or held meets standards designed to assure the product's continued safety, quality and purity.

In addition, under the Pediatric Research Equity Act of 2003 ("PREA") as amended and reauthorized, certain research must contain data that are adequate to assess the safety and effectiveness of the drug for the claimed indications in all relevant pediatric subpopulations, and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The FDA may, on its own initiative or at the request of the applicant, grant deferrals for submission of some or all pediatric data until after approval of the product for use in adults, or full or partial waivers from the pediatric data requirements.

The FDA also may require submission of a risk evaluation and mitigation strategy ("REMS") plan to ensure that the benefits of the drug outweigh its risks. The REMS plan could include medication guides, physician communication plans, assessment plans, or elements to assure safe use, such as restricted distribution methods, patient registries, or other risk minimization tools.

The FDA may refer an application for a novel drug to an advisory committee. 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.

Before approving an NDA or BLA, the FDA typically will inspect the facility or facilities where the product is manufactured. The FDA will not approve an application unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. Additionally, before approving an NDA or BLA, the FDA may inspect one or more clinical trial sites to assure compliance with GCP requirements.

After evaluating the application and all related information, including the advisory committee recommendation, if any, and inspection reports regarding the manufacturing facilities and clinical trial sites, the FDA may issue an approval letter, or, in some cases, a complete response letter. A complete response letter generally contains a statement of specific conditions that must be met in order to secure final approval of the NDA or BLA and may require additional clinical or preclinical testing in order for the FDA to reconsider the application. Even with submission of this additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval. If and when those conditions have been met to the FDA's satisfaction, the FDA will typically issue an approval letter. An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications.

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

Orphan Drug Act

Under the Orphan Drug Act of 1983, the FDA may grant orphan designation to a drug or biologic intended to treat a rare disease or condition, which is generally a disease or condition that affects fewer than 200,000 individuals in the United States, or more than 200,000 individuals in the United States and for which there is no reasonable expectation that the cost of developing and making available in the United States a drug for this type of disease or condition will be recovered from sales in the United States for that drug. Orphan drug designation must be requested before submitting an NDA or BLA. After the FDA grants orphan drug designation, the name of the sponsor, identity of the drug or biologic and its potential orphan use are disclosed publicly by the FDA. The orphan drug designation does not shorten the duration of the regulatory review or approval process, but does provide certain advantages, such as a waiver of PDUFA fees, enhanced access to FDA staff and potential waiver of pediatric research requirements.

If a product that has orphan drug designation subsequently receives the first FDA approval for the disease for which it has such designation, the product is entitled to orphan product exclusivity, which means that the FDA may not approve any other applications, including a full NDA or BLA, or an abbreviated NDA ("ANDA") or Biosimilar application, to market a drug or biologic with the same active moiety for the same indication for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity. Orphan drug exclusivity does not prevent FDA from approving a different drug or biologic for the same disease or condition, or the same drug or biologic for a different disease or condition. Among the other benefits of orphan drug designation are tax credits for certain research and a waiver of the application user fee. A designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan designation. In addition, exclusive marketing rights in the United States may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantities of the product to meet the needs of patients with the rare disease or condition.

Post-Approval Requirements

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

The FDA may impose a number of post-approval requirements as a condition of approval of a marketing authorization. For example, the FDA may require post-marketing testing, including Phase 4 clinical trials, and surveillance to further assess and monitor the product's safety and effectiveness after commercialization.

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

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 mandatory revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical trials to assess new safety risks; or imposition of distribution or other restrictions under a REMS program. 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 related pending applications or supplements to approved applications, or suspension or revocation of product 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 may be promoted only for the approved indications and in accordance with the provisions of the approved label. 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.

Coverage and Reimbursement

Sales of our drug candidates, if approved, will depend, in part, on the extent to which such products will be covered by third-party payors, such as government health care programs, commercial insurance and managed healthcare organizations. These third-party payors are increasingly limiting coverage or reducing reimbursements for medical products and services. In addition, the U.S. government, state legislatures, and foreign governments have continued implementing cost-containment programs, including price controls, restrictions on reimbursement and requirements for substitution of generic products. Third-party payors decide which therapies they will pay for and establish reimbursement levels. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own coverage and reimbursement policies. Further, no uniform policy for coverage and reimbursement exists in the United States. Therefore, decisions regarding the extent of coverage and amount of reimbursement to be provided for any drug candidates that we develop will be made on a payor-by-payor basis. Each payor determines whether or not it will provide coverage for a therapy, what amount it will pay the manufacturer for the therapy, and on what tier of its formulary it will be placed. The position on a payor's list of covered drugs, or formulary, generally determines the co-payment that a patient will need to make to obtain the therapy and can strongly influence the adoption of such therapy by patients and physicians. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit our net revenue and results. Decreases in third-party reimbursement for our drug candidates or a decision by a third-party payor to not cover our drug candidates could reduce physician usage of our drug candidates, once approved, and have a material adverse effect on our sales, results of operations and financial condition. Coverage policies and third-party payor reimbursement rates may change at any time. Therefore, even if favorable coverage and reimbursement status is attained, less favorable coverage policies and reimbursement rates may be implemented in the future.

Other Healthcare Laws

Because of our current and future arrangements with healthcare professionals, principal investigators, consultants, customers and third-party payors, we will also be subject to healthcare regulation and enforcement by the federal government and the state and foreign governments in which we will conduct our business, including our clinical research, proposed sales, marketing and educational programs.

The U.S. laws that may affect our ability to operate, among others, include: the federal Health Insurance Portability and Accountability Act of 1996 ("HIPPA"), as amended by the Health Information Technology for Economic and Clinical Health Act ("HITECH"), which governs the conduct of "covered entities," including certain healthcare providers, health plans, and healthcare clearinghouses, as well as their respective "business associates," including their covered subcontractors, that create, receive, maintain or transmit individually identifiable health information for or on behalf of a covered entity, with respect to certain electronic healthcare transactions and protecting the security and privacy of protected health information; certain state laws governing the privacy and security of health information in certain circumstances, some of which are more stringent than HIPAA and many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts; the federal Anti-Kickback Statute, which prohibits, among other things, individuals or entities from knowingly and willfully soliciting, receiving, offering or paying remuneration, directly or indirectly, in exchange for or to induce either the referral of an individual for, or the purchase, order or recommendation of, any good or service for which payment may be made under federal healthcare programs such as the Medicare and Medicaid programs; federal false claims laws and civil monetary penalty laws, which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment from Medicare, Medicaid, or other third-party payors that are false or fraudulent; federal criminal laws that prohibit executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters; the Physician Payments Sunshine Act, which requires certain manufacturers of drugs, devices, biologics, and medical supplies to report annually to the U.S. Department of Health and Human Services ("HHS") information related to payments and other transfers of value to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), certain other healthcare professionals (such as physician assistants and nurse practitioners) and teaching hospitals, and ownership and investment interests held by physicians and their immediate family members.

In addition, many states have similar laws and regulations, such as anti-kickback and false claims laws that may be broader in scope and may apply regardless of payor, in addition to items and services reimbursed under Medicaid and other state programs. Additionally, to the extent that our product is sold in a foreign country, we may be subject to similar foreign laws.

Failure to comply with these laws, where applicable, can result in the imposition of significant penalties, including civil, criminal, and administrative penalties, damages, disgorgement, monetary fines, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, imprisonment, and integrity oversight and reporting obligations.

Healthcare Reform

Current and future legislative proposals to further reform healthcare or reduce healthcare costs may result in lower reimbursement for our products. The cost containment measures that payors and providers are instituting and the effect of any healthcare reform initiative implemented in the future could significantly reduce our revenues from the sale of our products.

For example, implementation of the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, collectively the Affordable Care Act ("PPACA"), has substantially changed healthcare financing and delivery by both governmental and private insurers, and significantly impacted the pharmaceutical industry. The PPACA, among other things, established an annual, nondeductible fee on any entity that manufactures or imports certain specified branded prescription drugs and biologic agents, revised the methodology by which rebates owed by manufacturers to the state and federal government for covered outpatient drugs under the Medicaid Drug Rebate Program are calculated, increased the minimum Medicaid rebates owed by most manufacturers under the Medicaid Drug Rebate Program, extended the Medicaid Drug Rebate program to utilization of prescriptions of individuals enrolled in Medicaid managed care organizations, provided incentives to programs that increase the federal government's comparative effectiveness research and created a licensure frame work for follow-on biologic products. Since its enactment there have been executive, judicial and Congressional challenges to certain aspects of the PPACA. For example, on June 17, 2021, the U.S. Supreme Court dismissed a challenge on procedural grounds that argued the PPACA is unconstitutional in its entirety because the "individual mandate" was repealed by Congress. Further, on August 16, 2022, President Biden signed the

Inflation Reduction Act of 2022 ("IRA") into law, which among other things, extends enhanced subsidies for individuals purchasing health insurance coverage in PPACA marketplaces through plan year 2025. The IRA also eliminates the "donut hole" under the Medicare Part D program beginning in 2025 by significantly lowering the beneficiary maximum out-of-pocket cost and creating a new manufacturer discount program. It is possible that the PPACA will be subject to judicial or Congressional challenges in the future. It is unclear how any such challenges and the healthcare reform measures of the Biden administration will impact the PPACA.

In addition, other legislative changes have been proposed and adopted since the PPACA was enacted. In August 2011, then President Obama signed into law the Budget Control Act of 2011, which, among other things, created the Joint Select Committee on Deficit Reduction to recommend to Congress proposals for spending reductions. The Joint Select Committee did not achieve a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, triggering the legislation's automatic reduction to several government programs. This includes reductions to Medicare payments to providers of 2% per fiscal year, which went into effect in April 2013 and, due to subsequent legislative amendments, including the BBA, will remain in effect until 2032 unless additional Congressional action is taken. Additionally, in January 2013, then President Obama signed into law the American Taxpayer Relief Act of 2012, which, among other things, reduced Medicare payments to several providers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. Congress is also considering additional health reform measures.

Further, there has been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products. For example, there have been presidential executive orders, Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to drug pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drug products. For example, in July 2021, the Biden administration released an executive order, "Promoting Competition in the American Economy," with multiple provisions aimed at prescription drugs. In response to Biden's executive order, on September 9, 2021, HHS released a Comprehensive Plan for Addressing High Drug Prices that outlines principles for drug pricing reform and sets out a variety of potential legislative policies that Congress could pursue as well as potential administrative actions HHS can take to advance these principles. Further, the IRA, among other things (i) directs HHS to negotiate the price of certain high-expenditure, single-source drugs and biologics covered under Medicare and (ii) imposes rebates under Medicare Part B and Medicare Part D to penalize price increases that outpace inflation. These provisions started to take effect in fiscal year 2023 and will continue to take effect progressively thereafter, although may be subject to legal challenges. On August 29, 2023, HHS announced the list of the first ten drugs that will be subject to price negotiations, although the Medicare drug price negotiation program is currently subject to legal challenges. It is currently unclear how the IRA will be implemented but is likely to have a significant impact on the pharmaceutical industry. In response to the Biden administration's October 2022 executive order, on February 14, 2023, HHS released a report outlining three new models for testing by the CMS Innovation Center which will be evaluated on their ability to lower the cost of drugs, promote accessibility, and improve quality of care. It is unclear whether the models will be utilized in any health reform measures in the future. Further, on December 7, 2023, the Biden administration announced an initiative to control the price of prescription drugs through the use of march-in rights under the Bayh-Dole Act. On December 8, 2023, the National Institute of Standards and Technology published for comment a Draft Interagency Guidance Framework for Considering the Exercise of March-In Rights which for the first time includes the price of a product as one factor an agency can use when deciding to exercise march-in rights. While march-in rights have not previously been exercised, it is uncertain if that will continue under the new framework.

Human Capital Management

Our employees are dedicated to our mission of developing and delivering medicines that create new possibilities and more good days for people living with epilepsies and brain conditions. As of December 31, 2023, we had 40 full-time employees, the majority of whom were primarily engaged in research and development activities, including five individuals with M.D. degrees and 13 professionals with Ph.D. degrees specializing in the sciences. Many of these professionals have extensive epilepsy and neurology experience. In total, within our management team, we have colleagues who worked to shape the development or commercialization of a number of important marketed neurology and ASMs, including: Ztalmy, Fintepla, Brineura, Gilenya, Tysabri and Tecfidera.

We believe that our future success largely depends upon our continued ability to attract and retain highly skilled employees. We emphasize a number of measures and objectives in managing our human capital assets, including, among others: employee engagement, development and training, talent acquisition and retention, employee wellness, diversity, inclusion, and compensation, benefits and equity.

We believe that developing a diverse and inclusive culture is central to continuing to attract and retain the top talent necessary to deliver on our growth strategy. As such, we are investing in a work environment in which our employees feel inspired, included and enjoy a strong sense of belonging. This includes a focus on extending our diversity,

equity, inclusion and belonging ("DEIB") initiatives across our entire workforce, with specific employee engagement via the DEIB Committee. Approximately half of our employees are female, as are one-third of our board of directors. Approximately half of our organization is multicultural.

We value our employees' insatiable curiosity to translate scientific discoveries into innovative medicines and their courage and perseverance to overcome obstacles and operate with a sense of purpose and urgency on behalf of patients. Grounded in these guiding principles, we believe we have developed a collaborative environment where our colleagues feel respected, valued, and can contribute to their fullest potential.

We have equity incentive plans that are designed to attract, retain and motivate selected employees, consultants and directors through the granting of equity-based compensation awards and cash-based compensation awards, in order to increase stockholder value and the success of our company by motivating such individuals to perform to the best of their abilities and achieve our objectives.

In addition, our governance is overseen by an independent and diverse Board of Directors who provide and complement our expertise to help oversee the strategy and performance of our Company. Among our Board of Directors, five out of six members are independent. Collectively, our Board of Directors provides insight and expertise in areas of importance to the performance and growth of our enterprise, including experience as: senior operators of public companies; financial, transactional and oversight experience at public companies; proven biopharmaceutical and neuroscience experience; research and regulatory acumen in drug development; and corporate governance.

Facilities

We lease the space for our principal executive offices, which are located at 441 Ninth Avenue, 14th Floor, New York, New York. In June 2022, we formally instituted our hybrid work policies. In 2022, we executed what we believe was a smooth transition to a hybrid work environment while ensuring that ample resources, support and flexibility were available to our employees.

Our headquarter office facilities in New York, New York have received LEED Platinum certification.

Corporate and Other Information

We were incorporated in Delaware in April 2014. Our principal executive offices are located at 441 Ninth Avenue, 14th Floor, New York, New York 10001 and our telephone number is (646) 661-7661. Our corporate website address is www.ovidrx.com. Information contained on or accessible through our website is not a part of this Annual Report, and the inclusion of our website address in this Annual Report is an inactive textual reference only.

We file electronically with the Securities and Exchange Commission ("SEC") our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act. We make available on our website at www.ovidrx.com under "Investors," free of charge, copies of these reports as soon as reasonably practicable after filing or furnishing these reports with the SEC.

Item 1A. Risk Factors

An investment in our securities involves a high degree of risk. You should carefully consider the following information about these risks, together with the other information appearing elsewhere in this Annual Report on Form 10-K, including our audited consolidated financial statements and related notes hereto, before deciding to invest in our common stock. The occurrence of any of the following risks could have a material adverse effect on our business, financial condition, results of operations and future growth prospects or cause our actual results to differ materially from those contained in forward-looking statements we have made in this report and those we may make from time to time. In these circumstances, the market price of our common stock could decline and you may lose all or part of your investment. We cannot assure you that any of the events discussed below will not occur.

Summary of Selected Risks Associated with Our Business

Our business faces significant risks and uncertainties. If any of the following risks are realized, our business, financial condition and results of operations could be materially and adversely affected. Some of the more significant risks we face include the following:

- Historically, we have incurred significant operating losses and expect to continue to incur substantial operating losses for the foreseeable future and may never achieve or maintain profitability.

- Our operating history may make it difficult to evaluate the success of our business to date and to assess our future viability.
- We will require additional capital to finance our operations, which may not be available on acceptable terms, if at all. Failure to obtain this necessary capital when needed may force us to delay, limit or terminate certain of our drug development efforts or other operations.
- We are early in our development efforts of our current drug candidates and all our drug candidates are in clinical trials or preclinical development. If we are unable to successfully develop, receive regulatory approval for and commercialize our drug candidates, or successfully develop any other drug candidates, or experience significant delays in doing so, our business will be harmed.
- Our future success is dependent on the successful clinical development, regulatory approval and commercialization of our current and future drug candidates. If we, or our licensees, are not able to obtain the required regulatory approvals, we, or our licensees, will not be able to commercialize our drug candidates, and our ability to generate revenue will be adversely affected.
- Because the results of preclinical studies or earlier clinical trials are not necessarily predictive of future results, our drug candidates may not have favorable results in planned or future preclinical studies or clinical trials, or may not receive regulatory approval.
- Interim topline and preliminary results from our clinical trials that we announce or publish from time to time may change as more patient data become available and are subject to audit and verification procedures, which could result in material changes in the final data.
- Preclinical studies and clinical trials are very expensive, time consuming and difficult to design and implement and involve uncertain outcomes. Further, we may encounter substantial delays in our clinical trials or we may fail to demonstrate safety and efficacy in our preclinical studies and clinical trials to the satisfaction of applicable regulatory authorities.
- If we are not successful in discovering, developing and commercializing additional drug candidates, our ability to expand our business and achieve our strategic objectives would be impaired.
- Our drug candidates may cause undesirable 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.
- Even if our current or future drug candidates receive marketing approval, they may fail to achieve market acceptance by physicians, patients, third-party payors or others in the medical community necessary for commercial success.
- Under the RLT Agreement, we are entitled to receive royalty and milestone payments in connection with the development and commercialization of soticlestat. If Takeda fails to progress, delays or discontinues the development of soticlestat, we may not receive some or all of such payments, which would materially harm our business.
- Our relationships with customers, physicians, and third-party payors may be subject, directly or indirectly, to federal and state healthcare fraud and abuse laws, false claims laws, health information privacy and security laws, and other healthcare laws and regulations. If we are unable to comply, or have not fully complied, with such laws, we could face substantial penalties.
- Coverage and adequate reimbursement may not be available for our current or any future drug candidates, which could make it difficult for us to sell profitably, if approved.
- If we are unable to obtain and maintain patent protection for our current or any future drug candidates, or if the scope of the patent protection obtained is not sufficiently broad, we may not be able to compete effectively in our markets.
- We may be involved in lawsuits to protect or enforce our patents, the patents of our licensors or our other intellectual property rights, which could be expensive, time consuming and unsuccessful.
- We do not have our own manufacturing capabilities and will rely on third parties to produce clinical and commercial supplies of our current and any future drug candidates.
- We intend to rely on third parties to conduct, supervise and monitor our preclinical studies and clinical trials, and if those third parties perform in an unsatisfactory manner, it may harm our business.

- We may need to expand our organization, and we may experience difficulties in managing this growth, which could disrupt our operations.
- We may be subject to numerous and varying privacy and security laws, and our failure to comply could result in penalties and reputational damage.

Risks Related to Our Financial Position and Need for Additional Capital

We expect to continue to incur substantial operating losses for the foreseeable future and may never achieve or maintain profitability.

We have historically incurred significant operating losses. Our net loss was $52.3 million for the year ended December 31, 2023. As of December 31, 2023, we had an accumulated deficit of $277.9 million. We expect to continue to incur increasing operating losses for the foreseeable future. Since inception, we have devoted substantially all of our efforts to research and preclinical and clinical development of our drug candidates, as well as hiring employees and building our infrastructure.

We have no drugs approved for commercialization and have never generated any revenue from drug sales. Most of our drug candidates are still in the preclinical testing stage. It could be several years, if ever, before we have a commercialized drug. We expect to continue to incur significant expenses and operating losses over the next several years, and the net losses we incur may fluctuate significantly from quarter to quarter and year to year. We anticipate that our expenses will increase substantially if, and as, we:

- continue the ongoing and planned preclinical and clinical development of our drug candidates;
- continue to build a portfolio of drug candidates through the acquisition or in-license of drugs, drug candidates or technologies;
- initiate preclinical studies and clinical trials for any additional drug candidates that we may pursue in the future;
- seek marketing approvals for our current and future drug candidates that successfully complete clinical trials;
- establish a sales, marketing and distribution infrastructure to commercialize any drug candidate for which we may obtain marketing approval;
- develop, maintain, expand and protect our intellectual property portfolio;
- implement operational, financial and management systems; and
- attract, hire and retain additional administrative, clinical, regulatory and scientific personnel.

Even if we complete the development and regulatory processes described above, we anticipate incurring significant costs associated with launching and commercializing our current and future drug candidates.

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

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

Our operations have consumed substantial amounts of cash since our inception, primarily due to research and development of our drug candidates, organizing and staffing our company, business planning, raising capital, and acquiring assets. We have not yet demonstrated the ability to obtain marketing approvals, manufacture a commercial-scale drug or conduct sales and marketing activities necessary for successful commercialization. Consequently, any predictions about our future success or viability may not be as accurate as they could be if we had more experience developing drug candidates.

We expect our financial condition and operating results to continue to fluctuate from quarter to quarter and year to year due to a variety of factors, many of which are beyond our control. We will need to eventually transition from a company with a research and development focus to a company capable of undertaking commercial activities. We may encounter unforeseen expenses, difficulties, complications and delays and may not be successful in such a transition.

We will require additional capital to finance our operations, which may not be available on acceptable terms, if at all. Failure to obtain this necessary capital when needed may force us to delay, limit or terminate certain of our drug development efforts or other operations.

Our operations have consumed substantial amounts of cash since our inception. We expect our expenses to increase as we advance our current and future drug candidates through preclinical studies and clinical trials, commercialize our drug candidates, and pursue the acquisition or in-licensing of any additional drug candidates. Our expenses could increase beyond expectations if the FDA or other regulatory authorities require us to perform preclinical studies or clinical trials in addition to those that we currently anticipate. In addition, even if we obtain marketing approval for our drug candidates, they may not achieve commercial success. Our revenue, if any, will be derived from sales of drugs that we do not expect to be commercially available for a number of years, if at all. If we obtain marketing approval for any drug candidates that we develop or otherwise acquire, we expect to incur significant expenses related to manufacturing, marketing, sales and distribution.

As of December 31, 2023, our cash, cash equivalents and marketable securities were $105.8 million and we had an accumulated deficit of $277.9 million. We believe that our existing cash, cash equivalents and marketable securities will fund our current operating plans through at least 12 months from the filing of this Annual Report on Form 10-K. However, our operating plans may change because of many factors currently unknown to us, and we may need to seek additional funds sooner than planned, through public or private equity or debt financings, third-party funding, marketing and distribution arrangements, as well as other collaborations, strategic alliances and licensing arrangements, or any combination of these approaches.

We will require more capital in order to advance the preclinical and clinical development, obtain regulatory approval and, following regulatory approval, commercialize our current or future drug candidates. Any additional capital raising efforts may divert our management from their day-to-day activities, which may adversely affect our ability to develop and commercialize our current and future drug candidates.

While the long-term economic impacts associated with public health crises and geopolitical tensions, like the ongoing war between Russia and Ukraine and war in Israel, are difficult to assess or predict, each of these events has caused significant disruptions to the global financial markets and contributed to a general global economic slowdown. Furthermore, inflation rates have increased recently to levels not seen in decades. Increased inflation may result in increased operating costs (including labor costs) and may affect our operating budgets. In addition, the U.S. Federal Reserve has raised interest rates in response to concerns about inflation. High interest rates, especially if coupled with reduced government spending and volatility in financial markets, may further increase economic uncertainty and heighten these risks. If the disruptions and slowdown deepen or persist, we may not be able to access additional capital on favorable terms, or at all, which could in the future negatively affect our financial condition and our ability to pursue our business strategy.

If we are unable to raise additional capital when needed, we may be required to delay, limit, reduce or terminate our drug development or future commercialization efforts, or grant rights to develop and market drug candidates that we would otherwise develop and market ourselves.

Our ability to use our net operating loss ("NOL") carryforwards and certain other tax attributes to offset future taxable income may be subject to limitation.

Our NOL carryforwards could expire unused and be unavailable to offset future income tax liabilities because of their limited duration or because of restrictions under U.S. tax law. Our federal NOLs generated in tax years beginning on or before December 31, 2017 are permitted to be carried forward for only 20 years under applicable U.S. tax law. Under the Tax Cuts and Jobs Act, or the Tax Act, as modified by the Coronavirus Aid, Relief, and Economic Security Act, or the CARES Act, federal NOLs incurred in taxable years beginning after December 31, 2017 may be carried forward indefinitely, but the utilization of such federal NOLs is limited.

In addition, under Section 382 and Section 383 of the Internal Revenue Code of 1986, as amended (the "Code"), and corresponding provisions of state law, if a corporation undergoes an "ownership change," its ability to use its pre-change NOL carryforwards and other pre-change tax attributes (such as research tax credits) to offset its post-change income may be limited. A Section 382 "ownership change" generally occurs if one or more stockholders or groups of stockholders who own at least 5% of our stock increase their ownership by more than 50 percentage points (by value) over their lowest ownership percentage over a rolling three-year period. We may have experienced ownership changes in the past and may experience ownership changes in the future as a result of shifts in our stock ownership (some of which are outside our control). As a result, if we earn net taxable income, our ability to use our pre-change NOLs and certain other

tax attributes to offset such taxable income may 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.

For the years ended December 31, 2023 and 2022, we recorded no U.S. federal or state income tax provision, based on pre-tax losses of $52.3 million and $54.2 million, respectively. As of December 31, 2023, we had available approximately $150.2 million of unused NOL carryforwards for U.S. federal income tax purposes, $12.6 million of unused NOL carryforwards for Massachusetts income tax purposes, $164.1 million of unused NOL carryforwards for New York income tax purposes, and $163.9 million of unused NOL carryforwards for New York City income tax purposes, that may be applied against future taxable income. Our NOL carryforwards are significantly limited such that if we achieve profitability in future periods, we may not be able to utilize most of the NOL carryforwards, which could have a material adverse effect on cash flow and results of operations.

Changes in tax laws or regulations that are applied adversely to us or our customers may have a material adverse effect on our business, cash flow, financial condition, or results of operations.

New tax laws, statutes, rules, regulations, or ordinances could be enacted at any time. For instance, the recently enacted Inflation Reduction Act of 2022 (the "IRA") imposes, among other rules, a 15% minimum tax on the book income of certain large corporations and a 1% excise tax on certain corporate stock repurchases. Further, existing tax laws, statutes, rules, regulations, or ordinances could be interpreted differently, changed, repealed, or modified at any time. Any such enactment, interpretation, change, repeal, or modification could adversely affect us, possibly with retroactive effect. In particular, changes in corporate tax rates, the realization of our net deferred tax assets, the taxation of foreign earnings, and the deductibility of expenses under the Tax Act, as amended by the CARES Act or any future tax reform legislation, could have a material impact on the value of our deferred tax assets, result in significant one-time charges, and increase our future tax expenses.

Risks Related to the Development and Commercialization of Our Drug Candidates

We are very early in our development efforts. If we are unable to successfully develop, receive regulatory approval for and commercialize our drug candidates, or successfully develop any other drug candidates, or experience significant delays in doing so, our business will be harmed.

We are early in our development efforts. We previously publicly announced we anticipate filing three INDs in three years, beginning in 2022; however, we cannot guarantee success of preclinical development to achieve all such INDs. Following IND acceptance, each of our drug candidates will need to be progressed through clinical development in order to achieve regulatory approval, and we will also need to address issues relating to manufacture and supply, which may involve building our own capacity and expertise. In order to commercialize any product that achieves regulatory approval, we will need to build a commercial organization or successfully outsource commercialization, all of which will require substantial investment and significant marketing efforts before we have the ability to generate any revenue from drug sales. We do not have any drugs that are approved for commercial sale, and we may never be able to develop or commercialize marketable drugs.

Our ability to generate revenue from drug sales and achieve profitability depends on our ability, alone or with any current or future collaborative partners, to successfully complete the development of, and obtain the regulatory approvals necessary to commercialize, our current and future drug candidates. We do not anticipate generating revenue from drug sales for the next several years, if ever. Our ability to generate revenue from drug sales depends heavily on our, or any current or future collaborators', success in the following areas, including but not limited to:

- timely and successfully completing preclinical and clinical development of our current and future drug candidates;
- obtaining regulatory approvals for our current and future drug candidates for which we successfully complete clinical trials;
- launching and commercializing any drug candidates for which we obtain regulatory approval by establishing a sales force, marketing and distribution infrastructure or, alternatively, collaborating with a commercialization partner;
- qualifying for coverage and adequate reimbursement by government and third-party payors for any drug candidates for which we obtain regulatory approval, both in the United States and internationally;

- developing, validating and maintaining a commercially viable, sustainable, scalable, reproducible and transferable manufacturing process for our current and future drug candidates that is compliant with current good manufacturing practices ("cGMP");
- establishing and maintaining supply and manufacturing relationships with third parties that can provide an adequate amount and quality of drugs and services to support clinical development, as well as the market demand for our current and future drug candidates, if approved;
- obtaining market acceptance, if and when approved, of our current or any future drug candidates as a viable treatment option by physicians, patients, third-party payors and others in the medical community;
- effectively addressing any competing technological and market developments;
- implementing additional internal systems and infrastructure, as needed;
- negotiating favorable terms in any collaboration, licensing or other arrangements into which we may enter and performing our obligations pursuant to such arrangements;
- obtaining and maintaining orphan drug exclusivity for any of our current and future drug candidates for which we obtain regulatory approval;
- maintaining, protecting and expanding our portfolio of intellectual property rights, including patents, trade secrets and know-how;
- avoiding and defending against third-party interference or infringement claims; and
- securing appropriate pricing in the United States, the European Union and other countries.

If we are not successful with respect to one or more of these factors in a timely manner or at all, we could experience significant delays or an inability to successfully commercialize the drug candidates we develop, which would materially harm our business. If we do not receive marketing approvals for any drug candidate we develop, we may not be able to continue our operations.

Our future success is dependent on the successful clinical development, regulatory approval and commercialization of our current and future drug candidates. If we, or our licensees, are not able to obtain the required regulatory approvals, we, or our licensees, will not be able to commercialize our drug candidates, and our ability to generate revenue will be adversely affected.

We do not have any drugs that have received regulatory approval. Our business is dependent on our ability to successfully complete preclinical and clinical development of, obtain regulatory approval for, and, if approved, successfully commercialize our current and future drug candidates in a timely manner. Activities associated with the development and commercialization of our current and future drug candidates are subject to comprehensive regulation by the FDA and other regulatory agencies in the United States and similar regulatory authorities outside the United States. Failure to obtain regulatory approval in the United States or other jurisdictions would prevent us from commercializing and marketing our current and future drug candidates. An inability to effectively develop and commercialize our current and future drug candidates could have an adverse effect on our business, financial condition, results of operations and growth prospects.

Soticlestat, the most advanced compound we helped to develop, is continuing to be developed by Takeda and is currently in a pivotal trial program. If the pivotal trials are unsuccessful, or the compound is not approved, we will not receive the milestone payments and royalties from the RLT Agreement. Without those funds, we may need to raise significant additional capital to pursue the development and commercialization of our current and future pipeline.

Further, activities associated with the development and commercialization of our current and future drug candidates are subject to comprehensive regulation by the FDA and other regulatory agencies in the United States and similar regulatory authorities outside the United States. Failure to obtain regulatory approval in the United States or other jurisdictions would prevent us from commercializing and marketing our current and future drug candidates.

Even if we obtain approval from the FDA and comparable foreign regulatory authorities for our current and future drug candidates, any approval might contain significant limitations related to use restrictions for specified age groups, warnings, precautions or contraindications, or may be subject to burdensome post-approval study or risk management requirements. If we are unable to obtain regulatory approval, or any approval contains significant limitations, we may not be able to obtain sufficient funding or generate sufficient revenue to continue the development of that drug candidate or any other drug candidate that we may in-license, develop or acquire in the future. In certain circumstances, our third-party

licensees are responsible for obtaining regulatory approvals in the countries covered by the license, and we are dependent on their efforts in order to achieve the necessary approvals in order to commercialize our products. If any future licensees fail to perform their obligations to develop and obtain regulatory approvals for the licensed products, we may not be able to commercialize our products in the affected countries, or our ability to do so may be substantially delayed.

Furthermore, even if we obtain regulatory approval for our current and future drug candidates, we will still need to develop a commercial organization, establish a commercially viable pricing structure and obtain approval for adequate reimbursement from third-party and government payors. If we are unable to successfully commercialize our current and future drug candidates, we may not be able to generate sufficient revenue to continue our business.

Because the results of preclinical studies or earlier clinical trials are not necessarily predictive of future results, our drug candidates may not have favorable results in planned or future preclinical studies or clinical trials, or may not receive regulatory approval.

Success in preclinical testing and early clinical trials does not ensure that subsequent clinical trials will generate similar results or otherwise provide adequate data to demonstrate the efficacy and safety of a drug candidate. Frequently, drug candidates that have shown promising results in early clinical trials have subsequently suffered significant setbacks in later clinical trials. The results from preclinical studies of our current and future drug candidates may not be predictive of the effects of these compounds in later stage clinical trials. If we do not observe favorable results in clinical trials of one of our drug candidates, we may decide to delay or abandon clinical development of that drug candidate. Any such delay or abandonment could harm our business, financial condition, results of operations and prospects.

Interim topline and preliminary results from our clinical trials that we announce or publish from time to time may change as more patient data become available and are subject to audit and verification procedures, which could result in material changes in the final data.

From time to time, we have and may in the future publish or report preliminary or interim data from our clinical trials. Preliminary or interim data from our clinical trials and those of our partners may not be indicative of the final results of the trial and are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and/or more patient data become available. Preliminary or topline results also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published or reported. As a result, preliminary or interim data should be considered carefully and with caution until final data are available. Differences between preliminary or interim data and final data could significantly harm our business prospects and may cause the trading price of our common stock to fluctuate significantly.

Preclinical studies and clinical trials are very expensive, time-consuming and difficult to design and implement and involve uncertain outcomes. Further, we may encounter substantial delays in our clinical trials or we may fail to demonstrate safety and efficacy in our preclinical studies and clinical trials to the satisfaction of applicable regulatory authorities.

All of our current drug candidates are in early clinical or preclinical development and their risk of failure is high. We must demonstrate through lengthy, complex and expensive preclinical testing and clinical trials that each of our drug candidates are safe and effective for its intended indications before we are prepared to submit an NDA or BLA for regulatory approval. We cannot predict with any certainty if or when we might submit an NDA or BLA for any of our product candidates or whether any such application will be approved by the FDA. Human clinical trials are very expensive and difficult to design and implement, in part because they are subject to rigorous review and regulatory requirements by numerous government authorities in the United States and in other countries where we intend to test and market our product candidates. For instance, the FDA may not agree with our proposed endpoints for any future clinical trial of our product candidates, which may delay the commencement of such clinical trial.

We estimate that the successful completion of clinical trials of our product candidates will take at least several years to complete, if not longer. We cannot guarantee that any clinical trials will be conducted as planned or completed on schedule, if at all. Furthermore, failure can occur at any stage and we could encounter problems that cause us to abandon or repeat clinical trials. Events that may prevent successful or timely completion of clinical development include:

- our inability to generate sufficient preclinical, toxicology or other data to support the initiation of clinical trials;
- our inability to develop and validate disease-relevant clinical endpoints;
- delays in reaching a consensus with regulatory authorities on trial design;

- delays in reaching agreement on acceptable terms with prospective clinical research organizations ("CROs") and clinical trial sites;
- delays in opening investigational sites;
- delays or difficulty in recruiting and enrollment of suitable patients to participate in our clinical trials;
- imposition of a clinical hold by regulatory authorities because of a serious adverse event, concerns with a class of drug candidates or after an inspection of our clinical trial operations or trial sites;
- delays in having patients complete participation in a trial or return for post-treatment follow-up;
- occurrence of serious adverse events associated with the drug candidate that are viewed to outweigh its potential benefits;
- changes in regulatory requirements and guidance that require amending or submitting new clinical protocols; or
- business interruptions resulting from global geopolitical tensions, including the ongoing war between Russia and Ukraine and war in Israel, any other war or the perception that hostilities may be imminent, including terrorism, natural disasters or public health crises.

Further, clinical endpoints for certain diseases we are targeting, such as CCM, have not been established, and accordingly we may have to develop new modalities or modify existing endpoints to measure efficacy, which may increase the time it takes for us to commence or complete clinical trials. In addition, we believe investigators in this area may be inexperienced in conducting trials in this area due to the current lack of drugs to treat these disorders, which may result in increased time and expense to train investigators and open clinical sites.

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

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

- be delayed in obtaining marketing approval, 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 additional post-marketing testing requirements;
- be required to perform additional clinical trials to support approval or be subject to additional post-marketing testing requirements;
- have regulatory authorities withdraw, or suspend, their approval of the drug or impose restrictions on its distribution in the form of a modified risk evaluation and mitigation strategy ("REMS");
- be subject to the addition of labeling statements, such as warnings or contraindications;
- be sued; or
- experience damage to our reputation.

Our drug development costs will also increase if we experience delays in testing or obtaining marketing approvals. We do not know whether any of our preclinical studies or clinical trials will begin as planned, need to be restructured or be completed on schedule, if at all.

Further, we, the FDA or an IRB may suspend our clinical trials at any time if it appears that we or our collaborators are failing to conduct a trial in accordance with regulatory requirements, including the FDA's current GCP regulations, that we are exposing participants to unacceptable health risks, or if the FDA finds deficiencies in our IND applications or the conduct of these trials. Therefore, we cannot predict with any certainty the schedule for commencement

and completion of future clinical trials. If we experience delays in the commencement or completion of our clinical trials, or if we terminate a clinical trial prior to completion, the commercial prospects of our drug candidates could be negatively impacted, and our ability to generate revenues from our drug candidates may be delayed.

If we are not successful in discovering, developing and commercializing additional drug candidates, our ability to expand our business and achieve our strategic objectives would be impaired.

A key element of our current strategy is to discover, develop and potentially commercialize a portfolio of drug candidates to treat rare epilepsies, seizure-related disorders, and rare neurological disorders. However, our business development activities and research activities may present attractive opportunities outside of epilepsies and seizure-related disorders and we may choose to pursue drug candidates in other areas of interest including other disorders that we believe would be in the best interest of the Company and our stockholders. We plan to continuously review our strategies and modify as necessary based on attractive areas of interest and assets that we choose to pursue. We intend to develop our portfolio of drug candidates by in-licensing and entering into collaborations with leading biopharmaceutical companies or academic institutions for new drug candidates. Identifying new drug candidates requires substantial technical, financial and human resources, whether or not any drug candidates are ultimately identified. Even if we identify drug candidates that initially show promise, we may fail to in-license or acquire these assets and may also fail to successfully develop and commercialize such drug candidates for many reasons, including the following:

- the research methodology used may not be successful in identifying potential drug candidates;
- competitors may develop alternatives that render any drug candidate we develop obsolete;
- any drug candidate we develop may nevertheless be covered by third parties' patents or other exclusive rights;
- a drug candidate may, on further study, be shown to have harmful side effects or other characteristics that indicate it is unlikely to be effective or otherwise does not meet applicable regulatory criteria;
- a drug candidate may not be capable of being produced in commercial quantities at an acceptable cost, or at all; and
- a drug candidate may not be accepted as safe and effective by physicians, patients, the medical community or third-party payors, even if approved.

We have limited financial and management resources and, as a result, we may forego or delay the pursuit of opportunities with other drug candidates or for other indications that later prove to have greater market potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial drugs or profitable market opportunities. If we do not accurately evaluate the commercial potential or target market for a particular drug candidate, we may relinquish valuable rights to that drug candidate through collaboration, licensing or other royalty arrangements in circumstances under which it would have been more advantageous for us to retain sole development and commercialization rights to such drug candidate.

If we are unsuccessful in identifying and developing additional drug candidates or are unable to do so, our key growth strategy and business will be harmed.

Enrollment and retention of patients in clinical trials is an expensive and time-consuming process and could be made more difficult or rendered impossible by multiple factors outside our control.

Identifying and qualifying patients to participate in our clinical trials is critical to our success. The number of patients suffering from some of the seizure-related disorders and rare neurological disorders we are pursuing is small and has not been established with precision. If the actual number of patients with these disorders is smaller than we anticipate, we may encounter difficulties in enrolling patients in our clinical trials, thereby delaying or preventing development and approval of our drug candidates. Even once enrolled we may be unable to retain a sufficient number of patients to complete any of our trials. Patient enrollment and retention in clinical trials depends on many factors, including the size of the patient population, the nature of the trial protocol, the existing body of safety and efficacy data, the number and nature of competing treatments and ongoing clinical trials of competing therapies for the same indication, the proximity of patients to clinical sites and the eligibility criteria for the trial, any such enrollment issues could cause delays or prevent development and approval of our drug candidates. Because we are focused on addressing seizure-related disorders and rare neurological disorders, there are limited patient pools from which to draw in order to complete our clinical trials in a timely and cost-effective manner. Furthermore, our efforts to build relationships with patient communities may not succeed, which could result in delays in patient enrollment in our clinical trials. In addition, any negative results we may report in clinical trials

of our drug candidate may make it difficult or impossible to recruit and retain patients in other clinical trials of that same drug candidate. Delays or failures in planned patient enrollment or retention may result in increased costs, program delays or both, which could have a harmful effect on our ability to develop our drug candidates or could render further development impossible.

Our drug candidates may cause undesirable 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.

During the conduct of clinical trials, patients report changes in their health, including illnesses, injuries and discomforts, to their doctor. Often, it is not possible to determine whether or not the drug candidate being studied caused these conditions. Regulatory authorities may draw different conclusions or require additional testing to confirm these determinations, if they occur. In addition, it is possible that as we test our drug candidates in larger, longer and more extensive clinical programs, or as use of these drug candidates becomes more widespread if they receive regulatory approval, illnesses, injuries, discomforts and other adverse events that were observed in earlier trials, as well as conditions that did not occur or went undetected in previous trials, will be reported by subjects. Many times, side effects are only detectable after investigational drugs are tested in large-scale, Phase 3 trials or, in some cases, after they are made available to patients on a commercial scale after approval. For example, adverse events were reported in certain clinical trials for OV101, our former drug candidate, and soticlestat. Clinical trials may not demonstrate any ocular safety benefits for OV329 relative to vigabatrin. If clinical experience indicates that any of our drug candidates causes adverse events or serious or life-threatening adverse events, the development of that drug candidate may fail or be delayed, or, if the drug candidate has received regulatory approval, such approval may be revoked, which would harm our business, prospects, operating results and financial condition.

Moreover, if we elect, or are required, to delay, suspend or terminate any clinical trial of our drug candidates, the commercial prospects of our drug candidates may be harmed and our ability to generate revenue through their sale may be delayed or eliminated. Any of these occurrences may harm our business, financial condition and prospects significantly.

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

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

Any of these events could prevent us from achieving or maintaining market acceptance of our drug candidates and could significantly harm our business, prospects, financial condition and results of operations.

If the market opportunities for our drug candidates are smaller than we believe they are, even assuming approval of a drug candidate, our business may suffer. Because the patient populations in the market for our drug candidates may be small and difficult to assess, we must be able to successfully identify patients and acquire a significant market share to achieve profitability and growth.

We focus our research and drug development on treatments for rare epilepsies, seizure-related disorders and rare neurological disorders. Given the small number of patients who have the disorders that we are targeting, our eligible patient population and pricing estimates may differ significantly from the actual market addressable by our drug candidates. Our projections of both the number of people who have these disorders, as well as the subset of people with these disorders who have the potential to benefit from treatment with our drug candidates, are based on our beliefs and estimates. These estimates have been derived from a variety of sources, including the scientific literature, patient foundations, or market research, and may prove to be incorrect. Further, new studies may change the estimated incidence or prevalence of these

disorders. The number of patients may turn out to be lower than expected. Likewise, the potentially addressable patient population for each of our drug candidates may be limited or may not be amenable to treatment with our drug candidates, and new patients may become increasingly difficult to identify or gain access to, which would adversely affect our results of operations and our business.

We face substantial competition, which may result in others developing or commercializing drugs before or more successfully than us.

The development and commercialization of new drugs is highly competitive. We face competition with respect to our current drug candidates and will face competition with respect to any other drug candidates that we may seek to develop or commercialize in the future, from major pharmaceutical companies, specialty pharmaceutical companies and biotechnology companies worldwide. There are a number of large pharmaceutical and biotechnology companies that currently market and sell drugs or are pursuing the development of drug candidates for the treatment of the indications that we are pursuing. Potential competitors also include academic institutions, government agencies and other public and private research organizations that conduct research, seek patent protection and establish collaborative arrangements for research, development, manufacturing and commercialization.

More established companies may have a competitive advantage over us due to their greater size, resources and institutional experience. In particular, these companies have greater experience and expertise in securing collaboration or partnering relationships, reimbursement, government contracts, relationships with key opinion leaders, conducting testing and clinical trials, obtaining and maintaining regulatory approvals and distribution relationships to market products, and marketing approved drugs. These companies also have significantly greater research and marketing capabilities than we do. If we are not able to compete effectively against existing and potential competitors, our business and financial condition may be harmed.

As a result of these factors, our competitors may obtain regulatory approval of their drugs before we are able to, which may limit our ability to develop or commercialize our drug candidates. Our competitors may also develop therapies that are safer, more effective, more widely accepted and cheaper than ours, and may also be more successful than us in manufacturing and marketing their drugs. These appreciable advantages could render our drug candidates obsolete or non-competitive before we can recover the expenses of such drug candidates' development and commercialization.

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

Even if our current or future drug candidates receive marketing approval, they may fail to achieve market acceptance by physicians, patients, third-party payors or others in the medical community necessary for commercial success.

Even if our current or future drug candidates receive marketing approval, they may fail to gain sufficient market acceptance by physicians, patients, third-party payors and others in the medical community. If they do not achieve an adequate level of acceptance, we may not generate significant drug revenue and may not become profitable. The degree of market acceptance of our current or future drug candidates, if approved for commercial sale, will depend on a number of factors, including but not limited to:

- the efficacy and potential advantages compared to alternative treatments and therapies;
- the safety profile of our drug candidate compared to alternative treatments and therapies;
- effectiveness of sales and marketing efforts;
- the strength of our relationships with patient communities;
- the cost of treatment in relation to alternative treatments and therapies, including any similar generic treatments;
- our ability to offer such drug for sale at competitive prices;
- the convenience and ease of administration compared to alternative treatments and therapies;

- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the strength of marketing and distribution support;
- the availability of third-party coverage and adequate reimbursement;
- the prevalence and severity of any side effects; and
- any restrictions on the use of the drug together with other medications.

Our efforts to educate physicians, patients, third-party payors and others in the medical community on the benefits of our drug candidates may require significant resources and may never be successful. Such efforts may require more resources than are typically required due to the complexity and uniqueness of our drug candidates. Because we expect sales of our drug candidates, if approved, to generate substantially all of our drug revenues for the foreseeable future, the failure of our drugs to find market acceptance would harm our business and could require us to seek additional financing.

Even if we obtain and maintain approval for our current or future drug candidates from the FDA, we may never obtain approval for our current or future drug candidates outside of the United States, which would limit our market opportunities and could harm our business.

Approval of a drug candidate in the United States by the FDA does not ensure approval of such drug candidate by regulatory authorities in other countries or jurisdictions, and approval by one foreign regulatory authority does not ensure approval by regulatory authorities in other foreign countries or by the FDA. Sales of our current and future drug candidates outside of the United States will be subject to foreign regulatory requirements governing clinical trials and marketing approval. Even if the FDA grants marketing approval for a drug candidate, comparable regulatory authorities of foreign countries also must approve the manufacturing and marketing of the drug candidate in those countries. Approval procedures vary among jurisdictions and can involve requirements and administrative review periods different from, and more onerous than, those in the United States, which may require additional preclinical studies or clinical trials. In many countries outside the United States, a drug candidate must be approved for reimbursement before it can be approved for sale in that country. In some cases, the price that we intend to charge for any drug candidates, if approved, is also subject to approval. Obtaining approval for our current and future drug candidates in the European Union from the European Commission following the opinion of the European Medicines Agency, if we choose to submit a marketing authorization application there, would be a lengthy and expensive process. The FDA and comparable foreign regulatory authorities have the ability to limit the indications for which the drug may be marketed, require extensive warnings on the drug labeling or require expensive and time-consuming additional clinical trials or reporting as conditions of approval. Obtaining foreign regulatory approvals and compliance with foreign regulatory requirements could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of our current and future drug candidates in certain countries. In certain cases, we are dependent on third parties to obtain such foreign regulatory approvals, and any delay or failure of performance of such third parties could delay or prevent our ability to commercialize our products in the affected countries.

Further, clinical trials conducted in one country may not be accepted by regulatory authorities in other countries. Also, regulatory approval for our drug candidates may be withdrawn. If we fail to comply with the regulatory requirements, our target market will be reduced and our ability to realize the full market potential of our current and future drug candidates will be harmed and our business, financial condition, results of operations and prospects could be harmed.

If we seek approval to commercialize our current or future drug candidates outside of the United States, a variety of risks associated with international operations could harm our business.

If we seek approval of our current or future drug candidates outside of the United States, we expect that we will be subject to additional risks in commercialization including:

- different regulatory requirements for approval of therapies in foreign countries;
- reduced protection for intellectual property rights;
- the potential requirement of additional clinical studies in international jurisdictions;
- unexpected changes in tariffs, trade barriers and regulatory requirements;
- economic weakness, including inflation, or political instability in particular foreign economies and markets;
- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;

- foreign currency fluctuations, which could result in increased operating expenses and reduced revenues, and other obligations incident to doing business in another country;
- foreign reimbursement, pricing and insurance regimes;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and
- business interruptions resulting from geopolitical tensions, including the ongoing war between Russia and Ukraine and the war in Israel, any other war or the perception that hostilities may be imminent, terrorism, natural disasters or public health crises.

We have no prior experience in these areas. In addition, there are complex regulatory, tax, labor and other legal requirements imposed by many of the individual countries in and outside of Europe with which we will need to comply. Many biopharmaceutical companies have found the process of marketing their own products in foreign countries to be very challenging.

Product liability lawsuits against us could cause us to incur substantial liabilities and could limit commercialization of any drug candidate that we may develop.

We face an inherent risk of product liability exposure related to the testing of our current and any future drug candidates in clinical trials and may face an even greater risk if we commercialize any drug candidate that we may develop. If we cannot successfully defend ourselves against claims that any such drug candidates caused injuries, we could incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for any drug candidate that we may develop;
- loss of revenue;
- substantial monetary awards to trial participants or patients;
- significant time and costs to defend the related litigation;
- withdrawal of clinical trial participants;
- the inability to commercialize any drug candidate that we may develop; and
- injury to our reputation and significant negative media attention.

Although we maintain product liability insurance coverage, such insurance may not be adequate to cover all liabilities that we may incur. We anticipate that we will need to increase our insurance coverage each time we commence a clinical trial and if we successfully commercialize any drug candidate. Insurance coverage is increasingly expensive. We may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise.

Risks Related to Licensing and Collaboration Arrangements

Under the RLT Agreement, we are entitled to receive royalty and milestone payments in connection with the development and commercialization of soticlestat. If Takeda fails to progress or discontinues the development of soticlestat, we may not receive some or all of such payments, which would materially harm our business.

In March 2021, we entered into the RLT Agreement, pursuant to which Takeda secured rights to our 50% global share in soticlestat, which we had originally licensed from Takeda, and we granted to Takeda an exclusive worldwide license under our relevant intellectual property rights to develop and commercialize the investigational medicine soticlestat for the treatment of developmental and epileptic encephalopathies, including Dravet syndrome and Lennox-Gastaut syndrome. All rights in soticlestat are now owned by Takeda or exclusively licensed to Takeda by us. Following the closing date of the RLT Agreement, Takeda assumed all responsibility for, and costs of, both development and commercialization of soticlestat, and we will no longer have any financial obligation to Takeda under the original collaboration agreement, including for milestone payments or any future development and commercialization costs. Upon closing of the RLT Agreement, we received a one-time, upfront payment of $196.0 million and, if soticlestat is successfully developed, we will be eligible to receive up to an additional $660.0 million upon Takeda achieving specified regulatory and sales milestones. In addition, if soticlestat achieves regulatory approval, we will be entitled to receive tiered royalties at percentages ranging from the low double-digits up to 20% on sales of soticlestat. Royalties will be payable on a country-by-country and product-by-product basis during the period beginning on the date of the first commercial sale of such

product in such country and ending on the later to occur of the expiration of patent rights covering the product in such country and a specified anniversary of such first commercial sale. Pursuant to the Ligand Agreement, Ligand will receive a 13% portion of the royalties and milestones owed to us pursuant to the RLT Agreement.

Under the terms of the RLT Agreement, Takeda now has sole discretion over the conduct of the development and commercialization of soticlestat. If for any reason, Takeda fails to progress, or elects to terminate the development of soticlestat as contemplated by the RLT Agreement, or if the development or commercialization of soticlestat is delayed or deprioritized by Takeda, we may not receive some or all of the royalty and milestone payments under such agreement. We are dependent upon Takeda's progression of such development and the resulting payments to fund the regulatory development of our current and future drug candidates. If we are unable to find alternative sources of revenue, our inability to receive royalty or milestone payments under the RLT Agreement would negatively impact our business and results of operations.

Risks associated with the in-licensing or acquisition of drug candidates could cause substantial delays in the preclinical and clinical development of our drug candidates.

We have previously acquired and we may acquire or in-license drug candidates for preclinical or clinical development in the future as we continue to build our pipeline. Such arrangements with third parties may impose, diligence, development and commercialization obligations, milestone payments, royalty payments, indemnification and other obligations on us. Our obligations to pay milestone, royalty and other payments to our licensors may be substantial, and the amount and timing of such payments may impact our ability to progress the development and commercialization of our drug candidates. Our rights to use any licensed intellectual property may be subject to the continuation of and our compliance with the terms of any such agreements. Additionally, disputes may arise regarding our rights to intellectual property licensed to us or acquired by us from a third party, including but not limited to:

- the scope of intellectual property rights included in, and rights granted under, any license or other agreement;
- the sublicensing of patent and other rights under such agreements;
- our compliance with our diligence obligations under any license agreement;
- the ownership of inventions and know-how resulting from the creation or use of intellectual property by us, alone or with our licensors and collaborators;
- the scope and duration of our payment obligations, and our ability to make such payments when they are owed;
- our need to acquire additional intellectual property rights from third parties that may impact payments due under such agreements;
- the rights of our licensors to terminate any such agreement;
- our rights and obligations upon termination of such agreement; and
- the scope and duration of exclusivity obligations of each party to the agreement.

Disputes over intellectual property and other rights that we have licensed or acquired, or may license or acquire in the future, from third parties could prevent or impair our ability to maintain any such arrangements on acceptable terms, result in delays in the commencement or completion of our preclinical studies and clinical trials and impact our ability to successfully develop and commercialize the affected drug candidates. If we fail to comply with our obligations under any future licensing agreements, these agreements may be terminated or the scope of our rights under them may be reduced and we might be unable to develop, manufacture or market any product that is licensed under these agreements.

We may be required to relinquish important rights to and control over the development and commercialization of our drug candidates to any future collaborators.

Our current and future collaborations could subject us to a number of risks, including:

- we may be required to undertake the expenditure of substantial operational, financial and management resources;
- we may be required to issue equity securities that would dilute our stockholders' percentage of ownership;

- we may be required to assume substantial actual or contingent liabilities;
- we may not be able to control the amount and timing of resources that our strategic collaborators devote to the development or commercialization of our drug candidates;
- strategic collaborators may delay clinical trials, provide insufficient funding, terminate a clinical trial or abandon a drug candidate, repeat or conduct new clinical trials or require a new version of a drug candidate for clinical testing;
- strategic collaborators may not pursue further development and commercialization of products resulting from the strategic collaboration arrangement or may elect to discontinue research and development programs;
- strategic collaborators may not commit adequate resources to the marketing and distribution of our drug candidates, limiting our potential revenues from these products;
- we rely on our current collaborators to manufacture drug substance and drug product and may do so with respect to future collaborators, which could result in disputes or delays;
- disputes may arise between us and our strategic collaborators that result in the delay or termination of the research, development or commercialization of our drug candidates or that result in costly litigation or arbitration that diverts management's attention and consumes resources;
- disputes may arise between us and our current or future collaborators regarding any termination of any collaboration, license, or other business development arrangement in which we may enter;
- strategic collaborators may experience financial difficulties;
- strategic collaborators may not properly maintain or defend our intellectual property rights or may use our proprietary information in a manner that could jeopardize or invalidate our proprietary information or expose us to potential litigation;
- business combinations or significant changes in a strategic collaborator's business strategy may also adversely affect a strategic collaborator's willingness or ability to complete its obligations under any arrangement;
- strategic collaborators could decide to move forward with a competing drug candidate developed either independently or in collaboration with others, including our competitors; and
- strategic collaborators could terminate the arrangement or allow it to expire, which would delay the development and may increase the cost of developing our drug candidates.

If we engage in future acquisitions or strategic partnerships, this may increase our capital requirements, dilute our stockholders, cause us to incur debt or assume contingent liabilities and subject us to other risks.

Our business plan is to continue to evaluate various acquisitions and strategic partnerships, including licensing or acquiring complementary drugs, intellectual property rights, technologies, or businesses. Any potential acquisition or strategic partnership may entail numerous risks, including:

- increased operating expenses and cash requirements;
- the assumption of additional indebtedness or contingent liabilities;
- assimilation of operations, intellectual property and drugs of an acquired company, including difficulties associated with integrating new personnel;
- the diversion of our management's attention from our existing drug programs and initiatives in pursuing such a strategic partnership, merger or acquisition;
- retention of key employees, the loss of key personnel, and uncertainties in our ability to maintain key business relationships;
- risks and uncertainties associated with the other party to such a transaction, including the prospects of that party and their existing drugs or drug candidates and regulatory approvals;
- our inability to generate revenue from acquired technology and/or drugs sufficient to meet our objectives in undertaking the acquisition or even to offset the associated acquisition and maintenance costs;

- challenges related to integrating acquired businesses or entering into or realizing the benefits of strategic transactions generally; and
- risks associated with potential international acquisition transactions, including in countries where we do not currently have a material presence.

In addition, if we engage in future acquisitions or strategic partnerships, we may issue dilutive securities, assume or incur debt obligations, incur large one-time expenses and acquire intangible assets that could result in significant future amortization expense. Moreover, we may not be able to locate suitable acquisition opportunities and this inability could impair our ability to grow or obtain access to technology or drugs that may be important to the development of our business.

We may explore additional strategic collaborations that may never materialize or may fail.

Our business strategy is based on acquiring or in-licensing compounds directed at rare epilepsies, seizure-related disorders, and rare neurological disorders. As a result, we intend to periodically explore a variety of possible additional strategic collaborations in an effort to gain access to additional drug candidates or resources. At the current time, we cannot predict what form such a strategic collaboration might take. We are likely to face significant competition in seeking appropriate strategic collaborators, and strategic collaborations can be complicated and time consuming to negotiate and document. We may not be able to negotiate strategic collaborations on acceptable terms, or at all. We are unable to predict when, if ever, we will enter into any additional strategic collaborations because of the numerous risks and uncertainties associated with establishing them. Further, our business development activities and research activities may present attractive opportunities outside of rare epilepsies and seizure-related disorders and we may choose to pursue drug candidates in other areas of interest including other disorders and diseases that we believe would be in the best interest of the Company and our stockholders. We plan to continuously review our strategies and modify as necessary based on attractive areas of interest and assets that we choose to pursue.

Risks Related to Regulatory Compliance

Our relationships with customers, physicians, and third-party payors may be subject, directly or indirectly, to federal and state healthcare fraud and abuse laws, false claims laws, health information privacy and security laws, and other healthcare laws and regulations. If we are unable to comply, or have not fully complied, with such laws, we could face substantial penalties.

Healthcare providers and third-party payors in the United States and elsewhere will play a primary role in the recommendation and prescription of any drug candidates for which we obtain marketing approval. Our current and future arrangements with healthcare professionals, principal investigators, consultants, customers and third-party payors may subject us to various federal and state fraud and abuse laws and other healthcare laws, including, without limitation, the federal Anti-Kickback Statute, the federal civil and criminal false claims laws and the law commonly referred to as the Physician Payments Sunshine Act and regulations. These laws will impact, among other things, our clinical research, proposed sales, marketing and educational programs. In addition, we may be subject to patient privacy laws by both the federal government and the states in which we conduct or may conduct our business. The laws that will affect our operations include, but are not limited to:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons or entities from knowingly and willfully soliciting, receiving, offering or paying any remuneration (including any kickback, bribe or rebate), directly or indirectly, overtly or covertly, in cash or in kind, in return for the purchase, recommendation, leasing or furnishing of an item or service reimbursable under a federal healthcare program, such as the Medicare and Medicaid programs. This statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on the one hand, and prescribers, purchasers and formulary managers on the other. The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (collectively, the "PPACA"), amended the intent requirement of the federal Anti-Kickback Statute. A person or entity no longer needs to have actual knowledge of this statute or specific intent to violate it in order to have committed a violation;
- federal civil and criminal false claims laws, including, without limitation, the False Claims Act, and civil monetary penalty laws which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment or approval from Medicare, Medicaid or other government payors that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government. The PPACA provides, and recent government cases against pharmaceutical and medical device manufacturers support, the view that federal Anti-

Kickback Statute violations and certain marketing practices, including off-label promotion, may implicate the False Claims Act;

- the federal Health Insurance Portability and Accountability Act of 1996 ("HIPAA"), which created additional federal criminal statutes that prohibit a person from knowingly and willfully executing a scheme or making false or fraudulent statements to defraud any healthcare benefit program, regardless of the payor (e.g., public or private);
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act ("HITECH"), and their implementing regulations, and as amended again by the final HIPAA omnibus rule, Modifications to the HIPAA Privacy, Security, Enforcement, and Breach Notification Rules Under HITECH and the Genetic Information Nondiscrimination Act; Other Modifications to HIPAA, published in January 2013, which imposes certain requirements relating to the privacy, security and transmission of individually identifiable health information without appropriate authorization by entities subject to the rule, such as health plans, healthcare clearinghouses and certain healthcare providers, known as covered entities, and their respective business associates, individuals or entities that perform certain services on behalf of a covered entity that involves the use or disclosure of individually identifiable health information and their subcontractors that use, disclose or otherwise process individually identifiable health information;
- Physician Payments Sunshine Act, which is part of the PPACA, that require certain manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program, with specific exceptions, to report annually to the Centers for Medicare & Medicaid Services ("CMS"), information related to: (i) payments or other "transfers of value" made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), certain other healthcare professionals (such as physician assistants and nurse practitioners), and teaching hospitals; and (ii) ownership and investment interests held by physicians and their immediate family members;
- state and foreign law equivalents of each of the above federal laws, state laws that require manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures and/or information regarding drug pricing, 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 or to adopt compliance programs as prescribed by state laws and regulations, or that otherwise restrict payments that may be made to healthcare providers, state laws and regulations that require drug manufacturers to file reports relating to drug pricing and marketing information, and state and local laws that require the registration of pharmaceutical sales representatives; and
- state and foreign laws that govern the privacy and security of health information in some circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Because of the breadth of these laws and the narrowness of the statutory exceptions and regulatory safe harbors available, it is possible that some of our business activities could be subject to challenge under one or more of such laws.

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, disgorgement, imprisonment, exclusion from participation in government funded healthcare programs, such as Medicare and Medicaid, additional reporting requirements and oversight if we become subject to a corporate integrity agreement or similar agreement to resolve allegations of non-compliance with these laws and the curtailment or restructuring of our operations.

The risk of our being found in violation of these laws is increased by the fact that many of them have not been fully interpreted by the regulatory authorities or the courts, and their provisions are open to a variety of interpretations. Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs. Any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business. The shifting compliance environment and the need to build and maintain robust and expandable systems to

comply with multiple jurisdictions with different compliance and/or reporting requirements increases the possibility that a healthcare company may run afoul of one or more of the requirements.

Coverage and adequate reimbursement may not be available for our current or any future drug candidates, which could make it difficult for us to sell profitably, if approved.

Market acceptance and sales of any drug candidates that we commercialize, if approved, will depend in part on the extent to which coverage and adequate reimbursement for these drugs and related treatments will be available from third-party payors, including government health administration authorities, managed care organizations and other private health insurers. Third-party payors decide which therapies they will pay for and establish reimbursement levels. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own coverage and reimbursement policies. However, decisions regarding the extent of coverage and amount of reimbursement to be provided for any drug candidates that we develop will be made on a payor-by-payor basis. One third-party payor's determination to provide coverage for a drug does not assure that other payors will also provide coverage, and adequate reimbursement, for the drug. Additionally, a third-party payor's decision to provide coverage for a therapy does not imply that an adequate reimbursement rate will be approved. Each third-party payor determines whether or not it will provide coverage for a therapy, what amount it will pay the manufacturer for the therapy, and on what tier of its formulary it will be placed. The position on a third-party payor's list of covered drugs, or formulary, generally determines the co-payment that a patient will need to make to obtain the therapy and can strongly influence the adoption of such therapy by patients and physicians. Patients who are prescribed treatments for their conditions and providers prescribing such services generally rely on third-party payors to reimburse all or part of the associated healthcare costs. Patients are unlikely to use our drugs unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of our drugs.

A primary trend in the U.S. healthcare industry and elsewhere is cost containment. Third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. We cannot be sure that coverage and reimbursement will be available for any drug that we commercialize and, if reimbursement is available, what the level of reimbursement will be. Inadequate coverage and reimbursement may impact the demand for, or the price of, any drug for which we obtain marketing approval. If coverage and adequate reimbursement are not available, or are available only to limited levels, we may not be able to successfully commercialize our current and any future drug candidates that we develop. Further, coverage policies and third-party payor reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained, less favorable coverage policies and reimbursement rates may be implemented in the future.

Healthcare legislative reform measures may have a negative impact on our business and results of operations.

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

Among policy makers and payors in the United States and elsewhere, there is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality and/or expanding access. In the United States, the pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by major legislative initiatives. In March 2010, the PPACA was passed, which substantially changed the way healthcare is financed by both the government and private insurers, and significantly impacts the U.S. pharmaceutical industry.

There have been executive, judicial, Congressional and executive branch challenges to certain aspects of the PPACA. For example, on June 17, 2021 the U.S. Supreme Court dismissed a challenge on procedural grounds that argued the PPACA is unconstitutional in its entirety because the "individual mandate" was repealed by Congress. Further, there have been a number of health reform measures by the Biden administration that have impacted the PPACA. On August 16, 2022, President Biden signed the IRA into law, which among other things, extends enhanced subsidies for individuals purchasing health insurance coverage in PPACA marketplaces through plan year 2025. The IRA also eliminates the "donut hole" under the Medicare Part D program beginning in 2025 by significantly lowering the beneficiary maximum out-of-pocket cost and by creating a new manufacturer discount program. It is possible that the PPACA will be subject to judicial or Congressional challenges in the future. It is unclear how any such challenges and the healthcare reform measures of the Biden administration will impact the PPACA and our business.

Other legislative changes have been proposed and adopted since the PPACA was enacted. These changes include aggregate reductions to Medicare payments to providers of up to 2% per fiscal year pursuant to the Budget Control Act of

2011, which began in 2013, and due to subsequent legislative amendments to the statute, will remain in effect until 2032 unless additional Congressional action is taken. The American Taxpayer Relief Act of 2012, among other things, further reduced Medicare payments to several providers, including hospitals and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

Additional changes that may affect our business include the expansion of new programs such as Medicare payment for performance initiatives for physicians under the Medicare Access and CHIP Reauthorization Act of 2015 ("MACRA"), which ended the use of the statutory formula and established a quality payment program, also referred to as the Quality Payment Program. This program provides clinicians with two ways to participate, including through the Advanced Alternative Payment Models ("APMs") and the Merit-based Incentive Payment System ("MIPS"). Under both APMs and MIPS, performance data collected each performance year will affect Medicare payments in later years, including potentially reducing payments.

Also, there has been heightened governmental scrutiny recently over the manner in which drug manufacturers set prices for their marketed products, which have resulted in several Presidential executive orders, Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drug products. At the federal level, in July 2021, the Biden administration released an executive order, "Promoting Competition in the American Economy," with multiple provisions aimed at prescription drugs. In response to Biden's executive order, on September 9, 2021, the U.S. Department of Health and Human Services ("HHS") released a Comprehensive Plan for Addressing High Drug Prices that outlines principles for drug pricing reform and sets out a variety of potential legislative policies that Congress could pursue as well as potential administrative actions HHS can take to advance these principles. Further, the IRA, among other things (i) directs HHS to negotiate the price of certain high-expenditure, single-source drugs and biologics covered under Medicare and (ii) imposes rebates under Medicare Part B and Medicare Part D to penalize price increases that outpace inflation. These provisions take effect progressively starting in fiscal year 2023. On August 29, 2023, HHS announced the list of the first ten drugs that will be subject to price negotiations, although the Medicare drug price negotiation program is currently subject to legal challenges. Additionally, the Biden administration released an additional executive order on October 14, 2022, directing HHS to report on how the Center for Medicare and Medicaid Innovation can be further leveraged to test new models for lowering drug costs for Medicare and Medicaid beneficiaries. At the state level, legislatures have increasingly passed and implemented regulations designed to control pharmaceutical and biological product pricing, including pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. We expect that these and other healthcare reform measures that may be adopted in the future, may result in more rigorous coverage criteria and in additional downward pressure on the price that we receive for any approved drug. For example, in response to the Biden administration's October 2022 executive order, on February 14, 2023, HHS released a report outlining three new models for testing by the Centers for Medicare & Medicaid Services Innovation Center which will be evaluated on their ability to lower the cost of drugs, promote accessibility, and improve quality of care. It is unclear whether the models will be utilized in any health reform measures in the future. Further, on December 7, 2023, the Biden administration announced an initiative to control the price of prescription drugs through the use of march-in rights under the Bayh-Dole Act. On December 8, 2023, the National Institute of Standards and Technology published for comment a Draft Interagency Guidance Framework for Considering the Exercise of March-In Rights which for the first time includes the price of a product as one factor an agency can use when deciding to exercise march-in rights. While march-in rights have not previously been exercised, it is uncertain if that will continue under the new framework. Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability, or commercialize our drugs.

We may not be able to obtain or maintain orphan drug designations or exclusivity for our drug candidates, which could limit the potential profitability of our drug candidates.

Regulatory authorities in some jurisdictions, including the United States, may designate drugs for relatively small patient populations as orphan drugs. Under the Orphan Drug Act of 1983, the FDA may designate a drug as an orphan drug if it is a drug intended to treat a rare disease or condition, which is generally defined as a patient population of fewer than 200,000 individuals in the United States. Generally, if a drug with an orphan drug designation subsequently receives the first marketing approval for an indication for which it receives the designation, then the drug is entitled to a period of marketing exclusivity that precludes the applicable regulatory authority from approving another marketing application for the same drug for the same indication for the exclusivity period except in limited situations. For purposes of small molecule drugs, the FDA defines "same drug" as a drug that contains the same active moiety and is intended for the same use as the drug in question. A designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan designation.

Obtaining orphan drug designations is important to our business strategy; however, obtaining an orphan drug designation can be difficult and we may not be successful in doing so. Even if we were to obtain orphan drug designation for a drug candidate, we may not obtain orphan exclusivity and that exclusivity may not effectively protect the drug from the competition of different drugs for the same condition, which could be approved during the exclusivity period. Additionally, after an orphan drug is approved, the FDA could subsequently approve another application for the same drug for the same indication if the FDA concludes that the later drug is shown to be safer, more effective or makes a major contribution to patient care. Orphan drug exclusive marketing rights in the United States also may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the drug to meet the needs of patients with the rare disease or condition. The failure to obtain an orphan drug designation for any drug candidates we may develop, the inability to maintain that designation for the duration of the applicable period, or the inability to obtain or maintain orphan drug exclusivity could reduce our ability to make sufficient sales of the applicable drug candidate to balance our expenses incurred to develop it, which would have a negative impact on our operational results and financial condition.

Even if we obtain regulatory approval for our current or future drug candidates, they will remain subject to ongoing regulatory oversight.

Even if we obtain any regulatory approval for our current or future drug candidates, such approvals will be subject to ongoing regulatory requirements for manufacturing, labeling, packaging, storage, advertising, promotion, sampling, record-keeping and submission of safety and other post-market information. Any regulatory approvals that we receive for our current or future drug candidates may also be subject to a REMS, limitations on the approved indicated uses for which the drug may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing, including Phase 4 trials, and surveillance to monitor the quality, safety and efficacy of the drug.

In addition, drug manufacturers and their facilities are subject to payment of user fees and continual review and periodic inspections by the FDA and other regulatory authorities for compliance with cGMP requirements and adherence to commitments made in the NDA, BLA or foreign marketing application. If we, or a regulatory authority, discover previously unknown problems with a drug, such as adverse events of unanticipated severity or frequency, or problems with the facility where the drug is manufactured or if a regulatory authority disagrees with the promotion, marketing or labeling of that drug, a regulatory authority may impose restrictions relative to that drug, the manufacturing facility or us, including requesting a recall or requiring withdrawal of the drug from the market or suspension of manufacturing.

If we fail to comply with applicable regulatory requirements following approval of our current or future drug candidates, a regulatory authority may:

- issue an untitled letter or warning letter asserting that we are in violation of the law;
- seek an injunction or impose administrative, civil or criminal penalties or monetary fines;
- suspend or withdraw regulatory approval;
- suspend any ongoing clinical trials;
- refuse to approve a pending NDA or comparable foreign marketing application (or any supplements thereto) submitted by us or our strategic partners;
- restrict the marketing or manufacturing of the drug;
- seize or detain the drug or otherwise require the withdrawal of the drug from the market;
- refuse to permit the import or export of drug candidates; or
- refuse to allow us to enter into supply contracts, including government contracts.

Moreover, the FDA strictly regulates the promotional claims that may be made about drug products. In particular, a product may not be promoted for uses that are not approved by the FDA as reflected in the product's approved labeling. 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 civil, criminal and administrative penalties.

Any government investigation of alleged violations of law could require us to expend significant time and resources in response and could generate negative publicity. The occurrence of any event or penalty described above may inhibit our ability to commercialize our current or future drug candidates and harm our business, financial condition, results of operations and prospects.

In addition, the FDA's policies, and those of equivalent foreign regulatory agencies, may change and additional government regulations may be enacted that could cause changes to or delays in the drug review process, or suspend or restrict regulatory approval of our drug candidates. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or abroad. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and we may not achieve or sustain profitability, which would harm our business, financial condition, results of operations and prospects.

Risks Related to Our Intellectual Property

If we are unable to obtain and maintain patent protection for our current or any future drug candidates, or if the scope of the patent protection obtained is not sufficiently broad, we may not be able to compete effectively in our markets.

We rely upon a combination of patents, trade secret protection and confidentiality agreements to protect the intellectual property related to our development programs and drug candidates. Our success depends in large part on our ability to obtain and maintain patent protection in the United States and other countries with respect to our current and any future drug candidates. We seek to protect our proprietary position by filing patent applications in the United States and abroad related to our current and future development programs and drug candidates. The patent prosecution process is expensive and time-consuming, and we may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner.

It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. The patent applications that we own or in-license may fail to result in issued patents with claims that cover our current or any future drug candidates in the United States or in other foreign countries. There is no assurance that all of the potentially relevant prior art relating to our patents and patent applications has been found, which can invalidate a patent or prevent a patent from issuing from a pending patent application. Even if patents do successfully issue and even if such patents cover our current or any future drug candidates, third parties may challenge their validity, enforceability or scope, which may result in such patents being narrowed, invalidated, or held unenforceable. Any successful opposition to these patents or any other patents owned by or licensed to us could deprive us of rights necessary for the successful commercialization of any drug candidates or companion diagnostic that we may develop. Further, if we encounter delays in regulatory approvals, the period of time during which we could market a drug candidate and companion diagnostic under patent protection could be reduced.

If the patent applications we hold or have in-licensed with respect to our development programs and drug candidates fail to issue, if their breadth or strength of protection is threatened, or if they fail to provide meaningful exclusivity for our current or any future drug candidates, it could dissuade companies from collaborating with us to develop drug candidates, and threaten our ability to commercialize, future drugs. Any such outcome could have a negative effect on our business.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain, involves complex legal and factual questions and has in recent years been the subject of much litigation. In addition, the laws of foreign countries may not protect our rights to the same extent as the laws of the United States. For example, European patent law restricts the patentability of methods of treatment of the human body more than United States law does. Publications of discoveries in scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we cannot know with certainty whether we were the first to make the inventions claimed in our owned or licensed patents or pending patent applications, or that we were the first to file for patent protection of such inventions. As a result, the issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain. Our pending and future patent applications may not result in patents being issued which protect our technology or drugs, in whole or in part, or which effectively prevent others from commercializing competitive technologies and drugs. Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish the value of our patents or narrow the scope of our patent protection.

Recent patent reform legislation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents. On December 16, 2011, the Leahy-Smith America Invents Act ("Leahy-Smith Act") was signed into law. The Leahy-Smith Act includes a number of significant changes to United States patent law. These include provisions that affect the way patent applications are prosecuted and may also affect patent litigation. The United States Patent Office recently developed new regulations and procedures to govern

administration of the Leahy-Smith Act, and many of the substantive changes to patent law associated with the Leahy-Smith Act, and in particular, the first to file provisions, only became effective on March 16, 2013. Accordingly, it is not clear what, if any, impact the Leahy-Smith Act will have on the operation of our business. However, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could harm our business and financial condition.

Moreover, we may be subject to a third-party pre-issuance submission of prior art to the USPTO or become involved in opposition, derivation, reexamination, inter partes review, post-grant review or interference proceedings challenging our patent rights or the patent rights of others. An adverse determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our technology or drugs and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize drugs without infringing third-party patent rights. In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future drug candidates.

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our owned and licensed patents may be challenged in the courts or patent offices in the United States and abroad. An adverse determination in any such challenges may result in loss of exclusivity or in patent claims being narrowed, invalidated or held unenforceable, in whole or in part, which could limit our ability to stop others from using or commercializing similar or identical technology and drugs, or limit the duration of the patent protection of our technology and drugs. Moreover, patents have a limited lifespan. In the United States, the natural expiration of a patent is generally 20 years from the earliest filing date of a non-provisional patent application. Various extensions may be available; however, the life of a patent, and the protection it affords, is limited. Without patent protection for our current or future drug candidates, we may be open to competition from generic versions of such drugs. Given the amount of time required for the development, testing and regulatory review of new drug candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing drugs similar or identical to ours.

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

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

Patent terms may be inadequate to protect our competitive position on our drug candidates for an adequate amount of time.

Given the amount of time required for the development, testing and regulatory review of new drug candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. We expect to seek extensions of patent terms in the United States and, if available, in other countries where we are prosecuting patents. In the United States, the Drug Price Competition and Patent Term Restoration Act of 1984 permits a patent term extension of up to five years beyond the normal expiration of the patent, which is limited to the approved indication (or any additional indications approved during the period of extension). However, the applicable authorities, including the FDA and the USPTO in the United States, and any equivalent regulatory authority in other countries, may not agree with our assessment of whether such extensions are available, and may refuse to grant extensions to our patents, or may grant more limited extensions than we request. If this occurs, our competitors may be able to take advantage of our investment in development and clinical trials by referencing our clinical and preclinical data and launch their drug earlier than might otherwise be the case.

Intellectual property rights do not necessarily address all potential threats to our business.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations, and may not adequately protect our business. The following examples are illustrative:

- others may be able to make compounds or formulations that are similar to our drug candidates but that are not covered by the claims of any patents, should they issue, that we own or control;
- we or any strategic partners might not have been the first to make the inventions covered by the issued patents or pending patent applications that we own or control;
- we might not have been the first to file patent applications covering certain of our inventions;
- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our intellectual property rights;
- it is possible that our pending patent applications will not lead to issued patents;
- issued patents that we own or control may not provide us with any competitive advantages, or may be held invalid or unenforceable because of legal challenges;
- our competitors might conduct research and development activities in the United States and other countries that provide a safe harbor from patent infringement claims for certain research and development activities, as well as in countries where we do not have patent rights and then use the information learned from such activities to develop competitive drugs for sale in our major commercial markets;
- we may not develop additional proprietary technologies that are patentable; and
- the patents of others may have an adverse effect on our business.

The proprietary map of disease-relevant biological pathways underlying orphan disorders of the brain that we developed would not be appropriate for patent protection and, as a result, we rely on trade secrets to protect this aspect of our business.

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 a negative impact on the success of our business.

Our commercial success depends, in part, upon our ability and the ability of our current or future collaborators to develop, manufacture, market and sell our current and any future drug 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 and complex litigation regarding patents and other intellectual property rights. We may in the future become party to, or be threatened with, adversarial proceedings or litigation regarding intellectual property rights with respect to our current and any future drug candidates and technology, including interference proceedings, post grant review and inter partes review before the USPTO. Third parties may assert infringement claims against us based on existing patents or patents that may be granted in the future, regardless of their merit. There is a risk that third parties may choose to engage in litigation with us to enforce or to otherwise assert their patent rights against us. Even if we believe such claims are without merit, a court of competent jurisdiction could hold that these third-party patents are valid, enforceable and infringed, which could have a negative impact on our ability to commercialize our current and any future drug candidates. In order to successfully challenge the validity of any such U.S. patent in federal court, we would need to overcome a presumption of validity. As this burden is a high one requiring us to present clear and convincing evidence as to the invalidity of any such U.S. patent claim, there is no assurance that a court of competent jurisdiction would invalidate the claims of any such U.S. patent. If we are found to infringe a third party's valid and enforceable intellectual property rights, we could be required to obtain a license from such third party to continue developing, manufacturing and marketing our drug candidate(s) 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, it could be non-exclusive, thereby giving our competitors and other third parties access to the same technologies licensed to us, and it could require us to make substantial licensing and royalty payments. We could be forced, including by court order, to cease developing, manufacturing and commercializing the infringing technology or drug candidate. In addition, we could be found liable for monetary damages, including treble damages and attorneys' fees, if we are found to have willfully infringed a patent or other intellectual property right. A finding of infringement could prevent us from manufacturing and commercializing our current or any future drug candidates or force us to cease some or all of our business operations, which could materially harm our business. Claims that we have misappropriated the confidential information or trade

secrets of third parties could have a similar negative impact on our business, financial condition, results of operations and prospects. See the section herein titled "Legal Proceedings" for additional information.

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

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

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

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

Competitors may infringe or otherwise violate our patents, the patents of our licensors or our other intellectual property rights. To counter infringement or unauthorized use, we may be required to file legal claims, which can be expensive and time-consuming. In addition, in an infringement proceeding, a court may decide that a patent of ours or our licensors is not valid or is unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation or defense proceedings could put one or more of our patents at risk of being invalidated or interpreted narrowly and could put our patent applications at risk of not issuing. The initiation of a claim against a third party may also cause the third party to bring counter claims against us such as claims asserting that our patents are invalid or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness, non-enablement or lack of statutory subject matter. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant material information from the USPTO, or made a materially misleading statement, during prosecution. Third parties may also raise similar validity claims before the USPTO in post-grant proceedings such as ex parte reexaminations, inter partes review, or post-grant review, or oppositions or similar proceedings outside the United States, in parallel with litigation or even outside the context of litigation. The outcome following legal assertions of invalidity and unenforceability is unpredictable. We cannot be certain that there is no invalidating prior art, of which we and the patent examiner were unaware during prosecution. For the patents and patent applications that we have licensed, we may have limited or no right to participate in the defense of any licensed patents against challenge by a third party. If a defendant were to prevail on a legal assertion of invalidity or unenforceability, we would lose at least part, and perhaps all, of any future patent protection on our current or future drug candidates. Such a loss of patent protection could harm our business.

We may not be able to prevent, alone or with our licensors, misappropriation of our intellectual property rights, particularly in countries where the laws may not protect those rights as fully as in the United States. Our business could be harmed if in litigation the prevailing party does not offer us a license on commercially reasonable terms. Any litigation or other proceedings to enforce our intellectual property rights may fail, and even if successful, may result in substantial costs and distract our management and other employees.

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. There could also be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have an adverse effect on the price of our common stock.

Changes in U.S. patent law or the patent law of other countries or jurisdictions could diminish the value of patents in general, thereby impairing our ability to protect our current and any future drug candidates.

The United States has recently enacted and implemented wide-ranging patent reform legislation. The U.S. Supreme Court has ruled on several patent cases in recent years, either narrowing the scope of patent protection available in certain circumstances or weakening the rights of patent owners in certain situations. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents, once obtained. Depending on actions 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 patents that we have licensed or that we might obtain in the future. Similarly, changes in patent law and regulations in other countries or jurisdictions or changes in the governmental bodies that enforce them or changes in how the relevant governmental authority enforces patent laws or regulations may weaken our ability to obtain new patents or to enforce patents that we have licensed or that we may obtain in the future.

We may not be able to protect our intellectual property rights throughout the world, which could negatively impact our business.

Filing, prosecuting and defending patents covering our current and any future drug candidates throughout the world would be prohibitively expensive. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own drugs and, further, may export otherwise infringing drugs to territories where we may obtain patent protection, but where patent enforcement is not as strong as that in the United States. These drugs may compete with our drugs in jurisdictions where we do not have any issued or licensed patents and any future patent claims or other intellectual property rights may not be effective or sufficient to prevent them from so competing.

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

If we rely on third parties to manufacture or commercialize our current or any future drug candidates, or if we collaborate with additional third parties for the development of our current or any future drug candidates, we must, at times, share trade secrets with them. We may also conduct joint research and development programs that may require us to share trade secrets under the terms of our research and development partnerships or similar agreements. We seek to protect our proprietary technology in part by entering into confidentiality agreements and, if applicable, material transfer agreements, consulting agreements or other similar agreements with our advisors, employees, third-party contractors and consultants prior to beginning research or disclosing proprietary information. These agreements typically limit the rights of the third parties to use or disclose our confidential information, including our trade secrets. Despite the contractual provisions employed when working with third parties, the need to share trade secrets and other confidential information increases the risk that such trade secrets become known by our competitors, are inadvertently incorporated into the technology of others, or are disclosed or used in violation of these agreements. Given that our proprietary position is based, in part, on our know-how and trade secrets, a competitor's discovery of our trade secrets or other unauthorized use or disclosure could have an adverse effect on our business and results of operations.

In addition, these agreements typically restrict the ability of our advisors, employees, third-party contractors and consultants to publish data potentially relating to our trade secrets. Despite our efforts to protect our trade secrets, our competitors may discover our trade secrets, either through breach of our agreements with third parties, independent development or publication of information by any third-party collaborators. A competitor's discovery of our trade secrets would harm our business.

Risks Related to Our Dependence on Third Parties

We do not have our own manufacturing capabilities and will rely on third parties to produce clinical and commercial supplies of our current and any future drug candidates.

We do not own or operate, and we do not expect to own or operate, facilities for drug manufacturing, drug formulation, storage and distribution or testing. We have been in the past, and will continue to be, dependent on third parties to manufacture the clinical supplies of our drug candidates.

Further, we also will rely on third-party manufacturers to supply us with sufficient quantities of our drug candidates to be used, if approved, for commercialization. Any significant delay in the supply of a drug candidate, or the raw material components thereof, for an ongoing clinical trial due to the need to replace a third-party manufacturer could

considerably delay completion of our clinical trials, product testing and potential regulatory approval of our drug candidates.

Further, our reliance on third-party manufacturers entails risks to which we would not be subject if we manufactured drug candidates ourselves including:

- inability to meet our drug specifications and quality requirements consistently;
- delay or inability to procure or expand sufficient manufacturing capacity;
- issues related to scale-up of manufacturing;
- costs and validation of new equipment and facilities required for scale-up;
- failure to comply with cGMP and similar foreign standards;
- inability to negotiate manufacturing agreements with third parties under commercially reasonable terms, if at all;
- termination or nonrenewal of manufacturing agreements with third parties in a manner or at a time that is costly or damaging to us;
- reliance on single sources for drug components;
- lack of qualified backup suppliers for those components that are currently purchased from a sole or single source supplier;
- operations of our third-party manufacturers or suppliers could be disrupted by conditions unrelated to our business or operations, including the bankruptcy of the manufacturer or supplier; and
- carrier disruptions or increased costs that are beyond our control.

Any of these events could lead to clinical trial delays, failure to obtain regulatory approval or impact our ability to successfully commercialize our current or any future drug candidates once approved. Some of these events could be the basis for FDA action, including injunction, request for recall, seizure, or total or partial suspension of production.

We intend to rely on third parties to conduct, supervise and monitor our preclinical studies and clinical trials, and if those third parties perform in an unsatisfactory manner, it may harm our business.

We do not currently have the ability to independently conduct any preclinical studies or clinical trials. We intend to rely on CROs and clinical trial sites to ensure the proper and timely conduct of our preclinical studies and clinical trials, and we expect to have limited influence over their actual performance. We intend to rely upon CROs to monitor and manage data for our clinical programs, as well as the execution of future preclinical studies. We expect to control only certain aspects of our CROs' activities. Nevertheless, we will be responsible for ensuring that each of our preclinical studies or clinical trials are conducted in accordance with the applicable protocol, legal, regulatory and scientific standards and our reliance on the CROs does not relieve us of our regulatory responsibilities.

We and our CROs will be required to comply with good laboratory practices ("GLPs") and GCPs, which are regulations and guidelines enforced by the FDA and are also required by the Competent Authorities of the Member States of the European Economic Area and comparable foreign regulatory authorities in the form of International Council for Harmonization guidelines for any of our drug candidates that are in preclinical and clinical development. The regulatory authorities enforce GCPs through periodic inspections of trial sponsors, principal investigators and clinical trial sites. Although we will rely on CROs to conduct GCP-compliant clinical trials, we remain responsible for ensuring that each of our GLP preclinical studies and clinical trials is conducted in accordance with its investigational plan and protocol and applicable laws and regulations, and our reliance on the CROs does not relieve us of our regulatory responsibilities. If we or our CROs fail to comply with GCPs, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. Accordingly, if our CROs fail to comply with these regulations or fail to recruit a sufficient number of subjects, we may be required to repeat clinical trials, which would delay the regulatory approval process.

While we will have agreements governing their activities, our CROs will not be our employees, and we will not control whether or not they devote sufficient time and resources to our future clinical and preclinical programs. These CROs may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical trials, or other drug development activities which could harm our business. We face the risk of potential unauthorized disclosure or misappropriation of our intellectual property by CROs, which may reduce our trade secret

protection and allow our potential competitors to access and exploit our proprietary technology. If our CROs do not successfully carry out their contractual duties or obligations, fail to meet expected deadlines, or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements or for any other reasons, our clinical trials may be extended, delayed or terminated, and we may not be able to obtain regulatory approval for, or successfully commercialize any drug candidate that we develop. As a result, our financial results and the commercial prospects for any drug candidate that we develop would be harmed, our costs could increase, and our ability to generate revenue could be delayed.

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

If our relationship with these CROs terminates, we may not be able to enter into arrangements with alternative CROs or do so on commercially reasonable terms. Switching or adding additional CROs involves substantial cost and requires management time and focus. In addition, there is a natural transition period when a new CRO commences work. As a result, delays occur, which can negatively impact our ability to meet our desired clinical development timelines. Though we intend to carefully manage our relationships with our CROs, there can be no assurance that we will not encounter challenges or delays in the future or that these delays or challenges will not have a negative impact on our business, financial condition and prospects.

Risks Related to Our Business Operations, Employee Matters and Managing Growth

We are highly dependent on the services of our senior management team, including our Chairman and Chief Executive Officer, Dr. Jeremy Levin, and if we are not able to retain these members of our management team or recruit and retain additional management, clinical and scientific personnel, our business will be harmed.

We are highly dependent on our senior management team, including our Chairman and Chief Executive Officer, Dr. Levin. The employment agreements we have with these officers do not prevent such persons from terminating their employment with us at any time. The loss of the services of any of these persons could impede the achievement of our research, development, operational, financial and commercialization objectives.

In addition, we are dependent on our continued ability to attract, retain and motivate highly qualified additional management, clinical and scientific personnel. If we are not able to retain our management and to attract, on acceptable terms, additional qualified personnel necessary for the continued development of our business, we may not be able to sustain our operations or grow. This risk may be further amplified given the particularly competitive hiring market in New York City, the location of our corporate headquarters.

We may not be able to attract or retain qualified personnel in the future due to the intense competition for qualified personnel among biotechnology, pharmaceutical and other businesses. Many of the other pharmaceutical companies that we compete against for qualified personnel and consultants have greater financial and other resources, different risk profiles and a longer history in the industry than we do. They also may provide more diverse opportunities and better chances for career advancement. Some of these characteristics may be more appealing to high-quality candidates and consultants than what we have to offer. If we are unable to continue to attract, retain and motivate high-quality personnel and consultants to accomplish our business objectives, the rate and success at which we can discover and develop drug candidates and our business will be limited and we may experience constraints on our development objectives.

Our future performance will also depend, in part, on our ability to successfully integrate newly hired executive officers into our management team and our ability to develop an effective working relationship among senior management. Our failure to integrate these individuals and create effective working relationships among them and other members of management could result in inefficiencies in the development and commercialization of our drug candidates, harming future regulatory approvals, sales of our drug candidates and our results of operations. Additionally, we do not currently maintain “key person” life insurance on the lives of our executives or any of our employees.

We may need to expand our organization, and we may experience difficulties in managing this growth, which could disrupt our operations.

As of December 31, 2023, we had 40 full-time employees. As our development and commercialization plans and strategies for our current pipeline of product candidates develop, we expect to need additional managerial, operational, sales, marketing, financial, legal and other resources. Our management may need to divert a disproportionate amount of its attention away from our day-to-day operations and devote a substantial amount of time to managing these growth activities. We may not be able to effectively manage the expansion of our operations, which may result in weaknesses in our infrastructure, operational inefficiencies, loss of business opportunities, loss of employees and reduced productivity among remaining employees. Our expected growth could require significant capital expenditures and may divert financial resources from other projects, such as the development of our current and potential future drug candidates. If our management is unable to effectively manage our growth, our expenses may increase more than expected, our ability to generate and grow revenue could be reduced and we may not be able to implement our business strategy. Our future financial performance, our ability to commercialize drug candidates, develop a scalable infrastructure and compete effectively will depend, in part, on our ability to effectively manage any future growth.

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

We are exposed to the risk that our employees, consultants, distributors, and collaborators may engage in fraudulent or illegal activity. Misconduct by these parties could include intentional, reckless or negligent conduct or disclosure of unauthorized activities to us that violates the regulations of the FDA and non-U.S. regulators, including those laws requiring the reporting of true, complete and accurate information to such regulators, manufacturing standards, healthcare fraud and abuse laws and regulations in the United States and abroad or laws that require the true, complete and accurate reporting of financial information or data. In particular, sales, marketing and business arrangements in the healthcare industry, including the sale of pharmaceuticals, are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. It is not always possible to identify and deter misconduct by our employees and other third parties, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. Further, because of our hybrid-work policies, information that is normally protected, including company confidential information, may be less secure. If actions are instituted against us and we are not successful in defending ourselves or asserting our rights, those actions could result in the imposition of significant fines or other sanctions, including the imposition of civil, criminal and administrative penalties, damages, monetary fines, imprisonment, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, additional reporting obligations and oversight if we become subject to a corporate integrity agreement or other agreement to resolve allegations of non-compliance with these laws, contractual damages, reputational harm, diminished profits and future earnings and curtailment of operations, any of which could adversely affect our ability to operate our business and our results of operations. Whether or not we are successful in defending against such actions or investigations, we could incur substantial costs, including legal fees, and divert the attention of management in defending ourselves against any of these claims or investigations.

Significant disruptions of our information technology systems or data security incidents could result in significant financial, legal, regulatory, business and reputational harm to us.

We are increasingly dependent on information technology systems and infrastructure, including mobile technologies, to operate our business. In the ordinary course of our business, we collect, store, process and transmit large amounts of sensitive data, and, as a result, we and the third parties upon which we rely face a variety of evolving threats that could cause security incidents. We have also outsourced elements of our operations (including elements of our information technology infrastructure) to third parties, and as a result, we manage a number of third-party vendors who may or could have access to our computer networks or our sensitive data. In addition, many of those third parties in turn subcontract or outsource some of their responsibilities to other third parties. While all information technology operations are inherently vulnerable to inadvertent or intentional security breaches, incidents, attacks and exposures, the accessibility and distributed nature of our information technology systems, and the sensitive data stored on those systems, make such systems vulnerable to unintentional or malicious, internal and external attacks on our technology environment. Furthermore, our ability to monitor the aforementioned third parties' information security practices is limited, and these third parties may not have adequate information security measures in place. If our third-party service providers experience a security incident or other interruption, we could experience adverse consequences. While we may be entitled to damages

if our third-party service providers fail to satisfy their privacy or security-related obligations to us, any award may be insufficient to cover our damages, or we may be unable to recover such award. In addition, supply-chain attacks have increased in frequency and severity, and we cannot guarantee that third parties' infrastructure in our supply chain or our third-party partners' supply chains have not been compromised.

In addition, due to our hybrid-work environment, we may be more vulnerable to cyberattacks as more of our employees utilize network connections, computers, and devices outside our premises or network, including working at home, while in transit and in public locations. Additionally, future or past business transactions (such as acquisitions or integrations) could expose us to additional cybersecurity risks and vulnerabilities, as our systems could be negatively affected by vulnerabilities present in acquired or integrated entities' systems and technologies. Furthermore, we may discover security issues that were not found during due diligence of such acquired or integrated entities, and it may be difficult to integrate companies into our information technology environment and security program.

Potential vulnerabilities can be exploited from inadvertent or intentional actions of our employees, third-party vendors, business partners, or by malicious third parties. We take steps designed to detect, mitigate, and remediate vulnerabilities in our information systems (such as our hardware and/or software, including that of third parties upon which we rely); however we may not detect and remediate all such vulnerabilities on a timely basis. Further, we may experience delays in deploying remedial measures and patches designed to address identified vulnerabilities. Vulnerabilities could be exploited and result in a security incident.

Cyberattacks, malicious internet-based activity, online and offline fraud, and other similar activities are increasing in their frequency, levels of persistence, sophistication and intensity, and are also being conducted by sophisticated and organized groups and individuals with a wide range of motives (including, but not limited to, industrial espionage) and expertise, including organized criminal groups, "hacktivists," nation states and others. Such attacks could include the deployment of harmful malware (including as a result of advanced persistent threat intrusions), ransomware attacks, denial-of-service attacks, credential stuffing and/or harvesting, social engineering (including through deep fakes, which may be increasingly more difficult to identify as fake, and phishing attacks), supply-chain attacks, software bugs, server malfunctions, software or hardware failures, loss of sensitive data or other information technology assets, adware, attacks enhanced or facilitated by artificial intelligence, telecommunications failures, earthquakes, fires, floods and other means to affect service reliability and threaten the confidentiality, integrity and availability of our information systems and sensitive data. In particular, severe ransomware attacks are becoming increasingly prevalent and can lead to significant interruptions in our operations, ability to provide our products or services, loss of sensitive data and income, reputational harm, and diversion of funds. Extortion payments may alleviate the negative impact of a ransomware attack, but we may be unwilling or unable to make such payments due to, for example, applicable laws or regulations prohibiting such payments.

Significant disruptions of our, our third-party vendors' and/or business partners' information technology systems or other similar data security incidents could adversely affect our business operations and/or result in the loss, misappropriation, and/or unauthorized access, use or disclosure of, or the prevention of access to, sensitive data, which could result in financial, legal, regulatory, business and reputational harm to us. In addition, information technology system disruptions, whether from attacks on our technology environment or from computer viruses, natural disasters, terrorism, war and telecommunication and electrical failures, could result in a material disruption of our development programs and our business operations. 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.

We may expend significant resources or modify our business activities to try to protect against security incidents. Additionally, certain data privacy and security obligations may require us to implement and maintain specific security measures or industry-standard or reasonable security measures to protect our information technology systems and sensitive data.

Applicable data privacy and security obligations may require us to notify relevant stakeholders, including affected individuals, customers, regulators, and investors, of security incidents. Such disclosures are costly, and the disclosure or the failure to comply with such requirements could lead to adverse consequences.

If we (or a third party upon whom we rely) experience a security incident or are perceived to have experienced a security incident, including but not limited to a security incident involving personal information regarding our patients or employees, we may experience adverse consequences, such as disruptions to our business, harm to our reputation, government enforcement actions (for example, investigations, fines, penalties, audits, and inspections), additional reporting requirements, and/or oversight, or we may otherwise be subject to liability under laws, regulations and contractual obligations, including those that protect the privacy and security of personal information. This could result in increased

costs to us, and result in significant legal and financial exposure and/or reputational harm. In addition, any failure or perceived failure by us or our vendors or business partners to comply with our privacy, confidentiality or data security-related legal or other obligations to third parties, or any further security incidents or other inappropriate access events that result in the unauthorized access, release or transfer of sensitive data, may result in governmental investigations, enforcement actions, regulatory fines, litigation, or public statements against us by advocacy groups or others, and could cause third parties, including clinical sites, regulators or current and potential partners, to lose trust in us or we could be subject to claims by third parties that we have breached our privacy- or confidentiality-related obligations, which could materially and adversely affect our business and prospects. Moreover, data security incidents and other inappropriate access can be difficult to detect, and any delay in identifying them may lead to increased harm of the type described above.

While we have implemented security measures intended to protect our information technology systems and infrastructure, there can be no assurance that such measures will be effective. Our contracts may not contain limitations of liability, and even where they do, there can be no assurance that limitations of liability in our contracts are sufficient to protect us from liabilities, damages, or claims related to our data privacy and security obligations.

We are subject to stringent and evolving privacy and security laws, regulations, contractual obligations, industry standards, policies, and other obligations, and our failure or perceived failure to comply with such obligations could result in regulatory investigations or actions, litigation (including class actions), fines and penalties, disruptions of our business operations, loss of revenue or profits, reputational damage and other adverse business consequences.

In the ordinary course of business, we collect, receive, store, process, generate, use, transfer, disclose, make accessible, protect, secure, dispose of, transmit, and share (collectively, process) personal data and other sensitive information, including proprietary and confidential business data, trade secrets, intellectual property, sensitive third-party data, business plans, transactions, clinical trial data and financial information (collectively, sensitive data).

Our data processing activities subject us to laws and regulations covering data privacy and the protection of personal information and other sensitive data. The legislative and regulatory landscape for privacy and data protection continues to evolve, and there has been an increasing focus on privacy and data protection issues which may affect our business. In the United States, we may be subject to state security breach notification laws, state health information privacy laws and federal and state consumer protections laws which impose requirements for the collection, use, disclosure and transmission of personal information. Each of these laws is subject to varying interpretations by courts and government agencies, creating complex compliance issues for us. If we fail to comply with applicable laws and regulations, we could be subject to penalties or sanctions, including criminal penalties if we knowingly obtain individually identifiable health information from a covered entity in a manner that is not authorized or permitted by HIPAA or for aiding and abetting the violation of HIPAA.

Numerous other countries have, or are developing, laws governing the collection, use and transmission of personal information as well. EU member states and other jurisdictions have adopted data protection laws and regulations, which impose significant compliance obligations. For example, in May 2016, the EU formally adopted the General Data Protection Regulation ("GDPR"), which applies to all EU member states as of May 25, 2018 and replaces the former EU Data Protection Directive. The regulation introduces new data protection requirements in the EU and imposes substantial fines for breaches of the data protection rules. The GDPR must be implemented into national laws by the EU member states imposes strict obligations and restrictions on the ability to collect, analyze, and transfer personal data, including health data from clinical trials and adverse event reporting. Data protection authorities from different EU member states have interpreted the privacy laws differently, which adds to the complexity of processing personal data in the EU, and guidance on implementation and compliance practices are often updated or otherwise revised. Any failure to comply with the rules arising from the GDPR and related national laws of EU member states could lead to government enforcement actions and fines of up to 20 million Euros or 4% of annual global revenue, whichever is greater, and adversely impact our operating results. The GDPR will increase our responsibility and liability in relation to personal data that we process and we may be required to put in place additional mechanisms ensuring compliance with EU data protection rules.

Additionally, California enacted the California Consumer Privacy Act of 2018, as amended by the California Privacy Rights Act of 2020 (the "CCPA") which has been dubbed the first "GDPR-like" law in the United States. In the past few years, numerous other U.S. states—including Virginia, Colorado, Connecticut, and Utah—have also enacted comprehensive privacy laws that impose certain obligations on covered businesses, including providing specific disclosures in privacy notices and affording residents with certain rights concerning their personal data. The CCPA gives California residents expanded rights to access, correct and delete their personal information, opt out of certain personal information sharing and receive detailed information about how their personal information is used by requiring covered companies to provide new disclosures to California consumers (as that term is broadly defined) and provide such consumers new ways to opt-out of certain sales of personal information. The CCPA provides for civil penalties for

violations, as well as a private right of action for data breaches that is expected to increase data breach litigation. Although there are limited exemptions for clinical trial data under the CCPA (and the other similar state privacy laws), the CCPA and other similar laws may impact (possibly significantly) our business activities depending on how it is interpreted, should we become subject to the CCPA in the future.

In addition to data privacy and security laws, we may be bound by other contractual obligations related to data privacy and security, and our efforts to comply with such obligations may not be successful. We also publish privacy policies, marketing materials, and other statements regarding data privacy and security and if these policies, materials, or statements are found to be deficient, lacking in transparency, deceptive, unfair, or misrepresentative of our practices, we may be subject to investigation, enforcement actions by regulators, or other adverse consequences.

We may at times fail (or be perceived to have failed) in our efforts to comply with our data privacy and security obligations. Moreover, despite our efforts, our personnel or third parties on whom we rely may fail to comply with such obligations, which could negatively impact our business operations. If we or the third parties on which we rely fail, or are perceived to have failed, to address or comply with applicable data privacy and security obligations, we could face significant consequences, including but not limited to: government enforcement actions (e.g., investigations, fines, penalties, audits, inspections, and similar); litigation (including class-action claims) and mass arbitration demands; additional reporting requirements and/or oversight; bans on processing personal data (including clinical trial data); and orders to destroy or not use personal data.

Risks Related to Being a Public Company

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

We are currently a "smaller reporting company" as defined in the Securities Exchange Act of 1934, as amended (the "Exchange Act"). We will be a smaller reporting company and may take advantage of the scaled-back disclosures available to smaller reporting companies for so long as (i) the market value of our voting and non-voting ordinary shares held by non-affiliates is less than $250.0 million measured on the last business day of our second fiscal quarter or (ii) (a) our annual revenue is less than $100.0 million during the most recently completed fiscal year and (b) the market value of our voting and non-voting ordinary shares held by non-affiliates is less than $700.0 million measured on the last business day of our second fiscal quarter.

As a smaller reporting company, we are permitted to comply with scaled-back disclosure obligations in our SEC filings compared to other issuers, including with respect to disclosure obligations regarding executive compensation in our periodic reports and proxy statements. We have elected to adopt the accommodations available to smaller reporting companies. Until we cease to be a smaller reporting company, the scaled-back disclosure in our SEC filings will result in less information about our company being available than for other public companies. If investors consider our common shares less attractive as a result of our election to use the scaled-back disclosure permitted for smaller reporting companies, there may be a less active trading market for our common shares and our share price may be more volatile.

We may take advantage of certain of the scaled-back disclosures available to smaller reporting companies, including but not limited to:

- reduced disclosure obligations regarding executive compensation arrangements; and
- being permitted to provide only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure.

If we fail to maintain an effective system of internal control over financial reporting in the future, we may not be able to accurately report our financial condition, results of operations or cash flows, which may adversely affect investor confidence in us and, as a result, the value of our common stock.

The Sarbanes-Oxley Act requires, among other things, that we maintain effective internal controls for financial reporting and disclosure controls and procedures. We are required, under Section 404, to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting. This assessment will need to include disclosure of any material weaknesses identified by our management in our internal control over financial reporting. Section 404 also generally requires an attestation from our independent registered public accounting firm on the effectiveness of our internal control over financial reporting.

As a public company and large accelerated filer for the year ended December 31, 2022, we were required to provide management's attestation on internal controls pursuant to Section 404 of the Sarbanes-Oxley Act, and our independent registered public accounting firm was required to attest to the effectiveness of our internal control over financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act. However, as of the last business day of our second fiscal quarter of 2023, we determined that we requalify as a smaller reporting company and as a non-accelerated filer for the year ended December 31, 2023. We are therefore no longer required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm in this Annual Report on Form 10-K for the fiscal year ended December 31, 2023.

Our compliance with Section 404 in future periods may require that we incur substantial expense and expend significant management efforts. We currently do not have an internal audit group, and rely on experienced consultants to support this function. We may need to hire additional consultants or accounting and financial staff with appropriate public company experience and technical accounting knowledge in order to continually comply with Section 404. We may not be able to complete our evaluation, testing and any required remediation in a timely fashion. During the evaluation and testing process, if we identify one or more material weaknesses in our internal control over financial reporting, we will be unable to assert that our internal control over financial reporting is effective. We cannot assure you that there will not be material weaknesses or significant deficiencies in our internal control over financial reporting in the future. Any failure to maintain internal control over financial reporting could severely inhibit our ability to accurately report our financial condition, results of operations or cash flows. If we are unable to conclude that our internal control over financial reporting is effective, or if our independent registered public accounting firm determines we have a material weakness in our internal control over financial reporting, we could lose investor confidence in the accuracy and completeness of our financial reports, the market price of our common stock could decline, and we could be subject to sanctions or investigations by The Nasdaq Stock Market LLC, the SEC or other regulatory authorities. Failure to remedy any material weakness in our internal control over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict our future access to the capital markets.

Risks Related to the Ownership of Our Common Stock and Other General Matters

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

The market price of our common stock has been and likely will remain volatile. The stock market in general and the market for biopharmaceutical or pharmaceutical companies in particular, has experienced extreme volatility that has often been unrelated to the operating performance of particular companies, which has resulted in decreased stock prices for many companies notwithstanding the lack of a fundamental change in their underlying business models or prospects. Broad market and industry factors, including potentially worsening economic conditions and other adverse effects or developments relating to new or ongoing public health crises or other inflationary factors, may negatively affect the market price of our common stock, regardless of our actual operating performance. As a result of this volatility, you may lose all or part of your investment in our common stock since you might be unable to sell your shares at or above the price you paid for the shares. The market price for our common stock may be influenced by many factors, including:

- results of clinical trials of our current and any future drug candidates or those of our competitors;
- the success of competitive drugs or therapies;
- regulatory or legal developments in the United States and other countries;
- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to our current and any future drug candidates or clinical development programs;
- the results of our efforts to discover, develop, acquire or in-license additional drug candidates;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- our inability to obtain or delays in obtaining adequate drug supply for any approved drug or inability to do so at acceptable prices;
- disputes or other developments relating to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies;

- significant lawsuits, including patent or stockholder litigation;
- variations in our financial results or those of companies that are perceived to be similar to us;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors;
- general economic, industry and market conditions; and
- the other factors described in this "Risk Factors" section.

In addition, in the past, stockholders have initiated class action lawsuits against companies following periods of volatility in the market prices of these companies' stock. Such litigation, if instituted against us, could cause us to incur substantial costs and divert management's attention and resources.

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

The global economy, including credit and financial markets, has experienced extreme volatility and disruptions, including severely diminished liquidity and credit availability, declines in consumer confidence, declines in economic growth, increases in unemployment rates, increases in inflation rates and uncertainty about economic stability. Global geopolitical tensions have created extreme volatility in the global capital markets and are expected to have further global economic consequences, including disruptions of the global supply chain and energy markets. Any such volatility and disruptions may have adverse consequences on us or the third parties on whom we rely. If the equity and credit markets deteriorate, including as a result of political unrest or war, it may make any necessary debt or equity financing more difficult to obtain in a timely manner or on favorable terms, more costly or more dilutive.

There is no public market for our Series A convertible preferred stock.

There is no established public trading market for our Series A convertible preferred stock, and we do not expect a market to develop. In addition, we do not intend to apply for listing of the Series A convertible preferred stock on any national securities exchange or other nationally recognized trading system. Without an active market, the liquidity of the Series A convertible preferred stock will be limited.

We may sell additional equity or debt securities or enter into other arrangements to fund our operations, which may result in dilution to our stockholders and impose restrictions or limitations on our business.

Until such time as we can generate substantial revenue from drug sales, if ever, we expect to finance our cash needs through a combination of equity and debt financings, strategic alliances, and license and development agreements in connection with any collaborations. We do not have any committed external source of funds. To the extent that we issue additional equity securities, our stockholders may experience substantial dilution, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a stockholder. In addition, we may issue equity or debt securities as consideration for obtaining rights to additional compounds.

In November 2020, we filed a shelf registration statement on Form S-3 (Registration No. 333-250054) (the "Prior Registration Statement"). In November 2023, upon expiration of the of the Prior Registration Statement, we filed a new shelf registration statement on Form S-3 (Registration No. 333- 275307) that allows us to sell up to an aggregate of $250.0 million of our common stock, preferred stock, debt securities and/or warrants (the "Current S-3 Registration Statement"), which includes a prospectus covering the issuance and sale of up to $75.0 million of common stock pursuant to an at-the-market ("ATM") offering program. As of December 31, 2023, we had $250.0 million available under our Current S-3 Registration Statement, including $75.0 million available pursuant to our ATM program. Debt and equity financings, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as redeeming our shares, making investments, issuing additional equity, incurring additional debt, making capital expenditures, declaring dividends or placing limitations on our ability to acquire, sell or license intellectual property rights and other operating restrictions that could negatively impact our ability to conduct our business. If we raise additional capital through future collaborations, strategic alliances or third-party licensing arrangements, we may have to relinquish valuable rights to our intellectual property, future revenue streams, research programs or drug candidates, or grant licenses on terms that may not be favorable to us. Any of these events could significantly harm our business, financial condition and prospects.

You will be diluted by any conversions of outstanding Series A convertible preferred stock and exercises of outstanding options.

As of December 31, 2023, we had outstanding options to purchase an aggregate of 15,124,546 shares of our common stock at a weighted average exercise price of $3.87 per share and 1,250,000 shares of common stock issuable upon conversion of outstanding Series A convertible preferred stock for no additional consideration. Such Series A convertible preferred stock is convertible any time at the option of the holder thereof subject to the beneficial ownership limitations described in Note 7 to the consolidated financial statements contained in this Annual Report on Form 10-K. The exercise of such options and conversion of the Series A convertible preferred stock for shares of our common stock will result in further dilution of your investment and could negatively affect the market price of our common stock. In addition, you may experience further dilution if we issue common stock, or securities convertible into common stock, in the future. As a result of this dilution, you may receive significantly less than the full purchase price you paid for the shares in the event of liquidation.

Concentration of ownership of our common stock among our executive officers, directors and principal stockholders may prevent new investors from influencing significant corporate decisions.

Based upon shares of our common stock outstanding as of December 31, 2023, our executive officers, directors and stockholders who owned more than 5% of our outstanding common stock, in the aggregate, beneficially own shares representing approximately 52.4% of our outstanding common stock.

Takeda, a greater than 5% holder, has agreed to, among other things, (i) a standstill provision, (ii) restrictions on its ability to sell or otherwise transfer its shares of our stock, (iii) vote its shares on certain matters in accordance with the holders of a majority of shares of our common stock and (iv) restrictions on the percentage of our outstanding common stock it may own, in accordance with the terms of the RLT Agreement.

If our executive officers, directors and stockholders who owned more than 5% of our outstanding common stock acted together, they may be able to significantly influence all matters requiring stockholder approval, including the election and removal of directors and approval of any merger, consolidation or sale of all or substantially all of our assets. The concentration of voting power, Takeda standstill provisions, voting obligations and transfer restrictions could delay or prevent an acquisition of our company on terms that other stockholders may desire or result in the management of our company in ways with which other stockholders disagree.

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

The trading market for our common stock relies, in part, on the research and reports that industry or financial analysts publish about us or our business. We do currently have research coverage offered by several industry or financial analysts, although two analysts have withdrawn research coverage recently. We do not have any control over these analysts. If one or more of the analysts covering our business downgrade their evaluations of our stock, the price of our stock could decline. If additional analysts cease to cover our stock or fail to regularly publish reports, we could lose visibility in the market for our stock, which in turn could cause our stock price to decline.

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

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

Provisions in our corporate charter documents and under Delaware law could make an acquisition of us, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our corporate charter and our bylaws may discourage, delay or prevent a merger, acquisition or other change in control of us that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares. These provisions also could limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. In addition, because our board of directors is responsible for appointing the members of our management team, these provisions may frustrate or

prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. Among other things, these provisions:

- establish a classified board of directors such that not all members of the board are elected at one time;
- allow the authorized number of our directors to be changed only by resolution of our board of directors;
- limit the manner in which stockholders can remove directors from the board;
- establish advance notice requirements for stockholder proposals that can be acted on at stockholder meetings and nominations to our board of directors;
- require that stockholder actions must be effected at a duly called stockholder meeting and prohibit actions by our stockholders by written consent;
- limit who may call stockholder meetings;
- authorize our board of directors to issue preferred stock without stockholder approval, which could be used to institute a stockholder rights plan, or so-called "poison pill," that would work to dilute the stock ownership of a potential hostile acquirer, effectively preventing acquisitions that have not been approved by our board of directors; and
- require the approval of the holders of at least 66 2/3% of the votes that all our stockholders would be entitled to cast to amend or repeal certain provisions of our charter or bylaws.

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

Additionally, the Takeda standstill provisions and transfer restrictions in the RLT Agreement may delay or prevent a merger, acquisition or other change in control of us that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares.

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

Some provisions of our charter documents and Delaware law may have anti-takeover effects that could discourage an acquisition of us by others, even if an acquisition would benefit our stockholders and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our amended and restated certificate of incorporation and amended and restated bylaws, as well as provisions of Delaware law, could make it more difficult for a third party to acquire us or increase the cost of acquiring us, even if doing so would benefit our stockholders, or remove our current management. These provisions include:

- authorizing the issuance of "blank check" preferred stock, the terms of which we may establish and shares of which we may issue without stockholder approval;
- prohibiting cumulative voting in the election of directors, which would otherwise allow for less than a majority of stockholders to elect director candidates;
- prohibiting stockholder action by written consent, thereby requiring all stockholder actions to be taken at a meeting of our stockholders;
- eliminating the ability of stockholders to call a special meeting of stockholders; and
- establishing advance notice requirements for nominations for election to the board of directors or for proposing matters that can be acted upon at stockholder meetings.

These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, who are responsible for appointing the members of our management. Because we are incorporated in Delaware, we are governed by the

provisions of Section 203 of the Delaware General Corporation Law (the "DGCL"), which may discourage, delay or prevent someone from acquiring us or merging with us whether or not it is desired by or beneficial to our stockholders. Under the DGCL, a corporation may not, in general, engage in a business combination with any holder of 15% or more of its capital stock unless the holder has held the stock for three years or, among other things, the board of directors has approved the transaction. Any provision of our amended and restated certificate of incorporation or amended and restated bylaws or Delaware law that has the effect of delaying or deterring a change of control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock and could also affect the price that some investors are willing to pay for our common stock.

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

Sales of a substantial number of shares of our common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock. Some of the holders of our securities have rights, subject to certain conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders. Registration of these shares would result in the shares becoming freely tradable without restriction under the Securities Act except for shares held by our affiliates. Any sales of securities by these stockholders could have a material adverse effect on the trading price of our common stock.

Item 1B. Unresolved Staff Comments

None.

Item 1C. Cybersecurity

Risk Management and Strategy

We have implemented and maintain various information security processes designed to identify, assess and manage material risks from cybersecurity threats to our critical computer networks, third-party hosted services, communications systems, hardware and software, and our critical data, including intellectual property, and confidential information that is proprietary, strategic or competitive in nature ("Information Systems and Data"). Our information security function is led by our Director of Information Technology, with the support of our third-party specialists. Our information security function helps identify, assess and manage risks from cybersecurity threats by monitoring and evaluating our threat environment using various methods, including automated tools, domain name system filtering, antivirus protection, vulnerability scanning and penetration testing.

Depending on the environment, systems and data, we implement and maintain various technical, physical and organizational measures, processes, standards and policies designed to manage and mitigate material risks from cybersecurity threats to our Information Systems and Data. These measures include an incident response policy, encryption of certain data, network security controls, segregation of certain data and system monitoring. Our incident response policy provides the framework for the execution of cybersecurity incident response procedures and internal communications while adhering to applicable legal reporting and disclosure requirements.

Our assessment and management of material risks from cybersecurity threats are integrated into our overall risk management processes. Our information security function works with management to prioritize risk management processes and mitigate cybersecurity threats that are more likely to lead to a material impact to our business.

We use third-party service providers to assist us from time to time to identify, assess and manage material risks from cybersecurity threats. In addition, we use third-party service providers to perform a variety of functions throughout our business, including, for example, hosting and processing data, manufacturing our product candidates and assisting with R&D and clinical trial activities. Depending on the nature of the services provided, the sensitivity of the systems and data at issue, and the identity of the provider, our vendor contracting processes may include imposing certain contractual provisions related to privacy and cybersecurity.

For a description about our cybersecurity risks, refer to Item 1A. "Risk Factors," to this Annual Report on Form 10-K "*Significant disruptions of our information technology systems or data security incidents could result in significant financial, legal, regulatory, business and reputational harm to us*."

Governance

Our board of directors maintains oversight of our most significant risks and our processes to identify, manage and mitigate those risks. The audit committee of our board of directors (the "Audit Committee") has responsibility for oversight of our management of cybersecurity risks.

Our cybersecurity risk assessment and management processes are implemented and maintained by certain management, including our Director of Information Technology, who reports to our Chief Operating Officer. Our Director of Information Technology is responsible for monitoring third-party specialists, helping to integrate cybersecurity risk considerations into our overall risk management strategy and communicating key priorities to relevant personnel. Our Chief Operating Officer is responsible for approving budgets, helping prepare for cybersecurity incidents, approving cybersecurity processes and reviewing security assessments and other security-related reports.

Our Incident Response Policy is designed to escalate certain cybersecurity incidents to members of management depending on the circumstances, including our Chief Operating Officer. Our Chief Operating Officer and other senior management work with our incident response team to help mitigate and remediate cybersecurity incidents in which case they are notified. In addition, our Incident Response Policy includes reporting to the Audit Committee for certain cybersecurity incidents. The Incident Response Policy is managed and maintained by our Director of Information Technology, with oversight from our Chief Operating Officer. The Audit Committee receives periodic updates from our Chief Operating Officer regarding the status of our cybersecurity program and our posture to identify and mitigate risks to our information security.

Item 2. Properties

We currently lease the space for our principal executive offices, which are located at 441 Ninth Avenue, New York, New York, under a ten-year lease agreement which commenced in March 2022. We believe our facilities are adequate to meet current needs.

Item 3. Legal Proceedings

We are not currently subject to any material legal proceedings.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

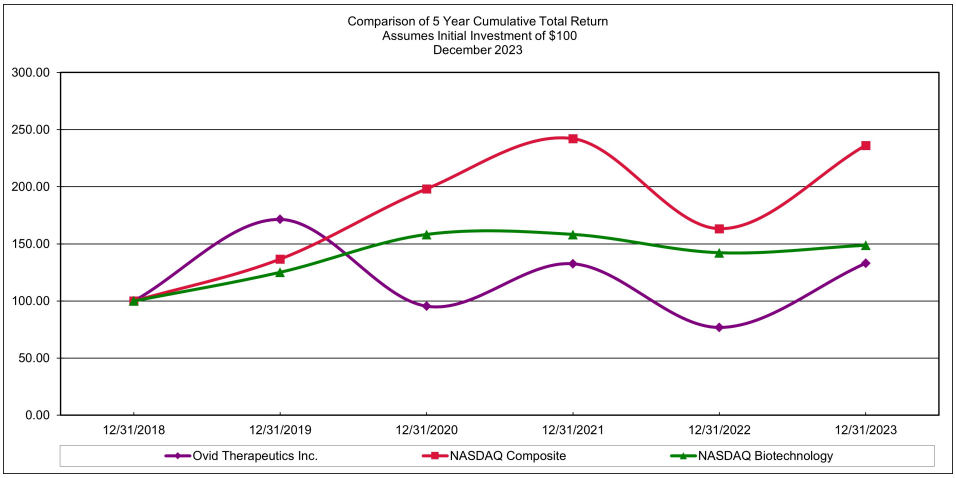
Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information

Our common stock began trading on The Nasdaq Global Select Market on May 5, 2017, under the symbol "OVID."

Comparative Stock Performance Graph

The following performance graph and related information shall not be deemed "soliciting material" or to be "filed" with the SEC, nor shall such information be incorporated by reference into any future filing under the Securities Act or Exchange Act. The following graph shows a comparison from December 31, 2018 through December 31, 2023, of the cumulative total return for our common stock, the Nasdaq Composite Index and the Nasdaq Biotechnology Index.



The graph assumes an initial investment of $100 on December 31, 2018. The comparisons in the graph are not intended to forecast or be indicative of possible future performance of our common stock.

Holders of Record

As of March 5, 2024, we had approximately 14 holders of record of our common stock. Certain shares are held in "street name" and accordingly, the number of beneficial owners of such shares is not known or included in the foregoing number. This number of holders of record also does not include stockholders whose shares may be held in trust by other entities.

Dividend Policy

We have never declared or paid any cash dividends on our common stock. We currently intend to retain future earnings to fund the development and growth of our business. We do not expect to pay any cash dividends in the foreseeable future. Any future determination to pay dividends will be made at the discretion of our board of directors and will depend on then-existing conditions, including our financial conditions, operating results, contractual restrictions, capital requirements, business prospects and other factors our board of directors may deem relevant.

Recent Sales of Unregistered Securities

None.

Item 6. [Reserved]

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis should be read in conjunction with our financial statements and related notes included elsewhere in this Annual Report on Form 10-K. This discussion and analysis and other parts of this Annual Report on Form 10-K contain forward-looking statements based upon current beliefs, plans and expectations that involve risks, uncertainties and assumptions, such as statements regarding our plans, objectives, expectations, intentions and projections. Our actual results and the timing of selected events could differ materially from those anticipated in these forward-looking statements as a result of several factors, including those set forth under "Risk Factors" and elsewhere in this Annual Report on Form 10-K. You should carefully read the "Risk Factors" section of this Annual Report on Form 10-K to gain an understanding of the important factors that could cause actual results to differ materially from our forward-looking statements. Please also see the section entitled "Special Note Regarding Forward-Looking Statements."

Overview

We are a biopharmaceutical company dedicated to meaningfully improving the lives of people affected by certain epilepsies and brain conditions with seizure symptoms. Our approach to achieve this goal is scientifically driven, patient focused, and coupled with an integrated and disciplined approach to research, clinical development and business development. Our team has significant experience with and understanding of rare epilepsies and neurological conditions, and we continue to gain insight into the ways the different molecular mechanisms and pathways underlying these disorders impact the symptoms patients suffer. We have set out to be a leader in the field, and have developed a differentiated pipeline containing four novel mechanisms of action to target different causes of certain epilepsies and brain conditions with seizure symptoms. We have built a scalable scientific platform with efficient development capabilities in epilepsies and conditions with seizure symptoms that focuses on clear, clinical endpoints. Three of our programs are in clinical trials in humans, and the fourth is in preclinical development and anticipated to advance into human safety studies in 2024. We are initially pursuing therapeutic assets for rare disorders as they can leverage accelerated development programs. If successfully developed and marketed in rare conditions, we intend to explore these assets for broader neurologic indications. Our cohesive focus in certain epilepsies and brain conditions with seizure symptoms reinforces our belief that we can develop and produce multiple novel medicines, scale our infrastructure, and thereby succeed in our mission.

Since our inception in April 2014, we have devoted substantially all of our efforts to organizing and planning our business, building our management and technical team, acquiring operating assets and raising capital.

During the years ended December 31, 2023 and 2022, we generated $0.4 million and $1.5 million of royalty and licensing revenue, respectively. We have otherwise primarily funded our business through the sale of our capital stock and through the closing of the RLT Agreement with Takeda, which resulted in a one-time up-front payment of $196.0 million in 2021. Through December 31, 2023, we have raised net proceeds of $275.4 million from the sale of our convertible preferred and common stock. As of December 31, 2023, we had $105.8 million in cash, cash equivalents and marketable securities. We recorded net loss of $52.3 million and $54.2 million for the years ended December 31, 2023 and 2022, respectively. As of December 31, 2023, we had an accumulated deficit of $277.9 million.

We expect to continue to incur significant expenses and increasing operating losses for at least the next several years. Our net losses may fluctuate significantly from period to period, depending on the timing of our planned clinical trials and expenditures on our other research and development and commercial development activities. We expect our expenses will increase substantially over time as we:

- continue the ongoing and planned preclinical and clinical development of our drug candidates;
- build a portfolio of drug candidates through the development, acquisition or in-license of drugs, drug candidates or technologies;
- initiate preclinical studies and clinical trials for any additional drug candidates that we may pursue in the future;
- seek marketing approvals for our current and future drug candidates that successfully complete clinical trials;
- establish a sales, marketing and distribution infrastructure to commercialize any drug candidate for which we may obtain marketing approval;
- develop, maintain, expand and protect our intellectual property portfolio;

- implement operational, financial and management systems; and
- attract, hire and retain additional administrative, clinical, regulatory, manufacturing, commercial and scientific personnel.

Significant Risks and Uncertainties

The global economic slowdown, the overall disruption of global healthcare systems and other risks and uncertainties associated with public health crises and global geopolitical tensions, like the ongoing war between Russia and Ukraine and the war in Israel, may have a material adverse effect on our business, financial condition, results of operations and growth prospects. The resulting high inflation rates may materially affect our business and corresponding financial position and cash flows. Inflationary factors, such as increases in the cost of our clinical trial materials and supplies, interest rates and overhead costs may adversely affect our operating results. High interest rates also present a recent challenge impacting the U.S. economy and could make it more difficult for us to obtain traditional financing on acceptable terms, if at all, in the future. Furthermore, economic conditions have produced downward pressure on share prices. Although we do not believe that inflation has had a material impact on our financial position or results of operations to date, we may experience increases in the near future (especially if inflation rates remain high or begin to rise again) on our operating costs, including our labor costs and research and development costs, due to supply chain constraints, global geopolitical tensions as a result of the ongoing war between Russia and Ukraine and the war in Israel, worsening global macroeconomic conditions and employee availability and wage increases, which may result in additional stress on our working capital resources.

In addition, we are subject to other challenges and risks specific to our business and our ability to execute on our strategy, as well as risks and uncertainties common to companies in the pharmaceutical industry with development and commercial operations, including, without limitation, risks and uncertainties associated with: identifying, acquiring or in-licensing products or product candidates; obtaining regulatory approval of product candidates; pharmaceutical product development and the inherent uncertainty of clinical success; and the challenges of protecting and enhancing our intellectual property rights; complying with applicable regulatory requirements.

Financial Operations Overview

Revenue

We have generated revenue primarily under the RLT Agreement, as well as nominal amounts from other licensing agreements and royalties. We have not generated any revenue from commercial drug sales and we do not expect to generate any revenue from commercial drug sales unless or until we obtain regulatory approval and commercialize one or more of our current or future drug candidates, or if we become entitled to revenue from our licensing agreements. In the future, we may also seek to generate revenue from a combination of research and development payments, license fees and other upfront or milestone payments.

Research and Development Expenses

Research and development expenses consist primarily of costs incurred for our research activities, including our product discovery efforts and the development of our product candidates, which include, among other things:

- employee-related expenses, including salaries, benefits and stock-based compensation expense;
- fees paid to consultants for services directly related to our drug development and regulatory effort;
- expenses incurred under agreements with contract research organizations, as well as contract manufacturing organizations and consultants that conduct preclinical studies and clinical trials;
- costs associated with preclinical activities and development activities;
- costs associated with technology and intellectual property licenses;
- milestone payments and other costs and payments under licensing agreements, research agreements and collaboration agreements; and
- depreciation expense for assets used in research and development activities.

Costs incurred in connection with research and development activities are expensed as incurred. Costs for certain development activities, such as clinical trials, are recognized based on an evaluation of the progress to completion of

specific tasks using data such as patient enrollment, clinical site activations or other information provided to us by our vendors.

Research and development activities are and will continue to be central to our business model. We expect our research and development expenses to increase for the foreseeable future as we advance our current and future drug candidates through preclinical studies and clinical trials. The process of conducting preclinical studies and clinical trials necessary to obtain regulatory approval is costly and time-consuming. It is difficult to determine with certainty the duration and costs of any preclinical study or clinical trial that we may conduct. The duration, costs and timing of clinical trial programs and development of our current and future drug candidates will depend on a variety of factors that include, but are not limited to, the following:

- number of clinical trials required for approval and any requirement for extension trials;
- per patient trial costs;
- number of patients who participate in the clinical trials;
- number of sites included in the clinical trials;
- countries in which the clinical trial is conducted;
- length of time required to enroll eligible patients;
- number of doses that patients receive;
- drop-out or discontinuation rates of patients;
- potential additional safety monitoring or other studies requested by regulatory agencies;
- duration of patient follow-up; and
- efficacy and safety profile of the drug candidate.

In addition, the probability of success for any of our current or future drug candidates will depend on numerous factors, including competition, manufacturing capability and commercial viability. We will determine which programs to pursue and how much to fund each program in response to the scientific and clinical success of each drug candidate, as well as an assessment of each drug candidate's commercial potential.

General and Administrative Expenses

General and administrative expenses consist primarily of employee-related expenses, including salaries, benefits and stock-based compensation expense, related to our executive, finance, business development and support functions. Other general and administrative expenses include costs associated with operating as a public company, travel expenses, conferences, professional fees for auditing, tax and legal services and facility-related costs.

Other Income (Expense), net

Other income (expense), net, consists primarily of interest income and accretion of discount on short-term investments and unrealized gains/losses on long-term equity investments.

Results of Operations

Comparison of the Years Ended December 31, 2023 and 2022

The following table summarizes the results of our operations for the periods indicated:

	Year Ended December 31, 2023	Year Ended December 31, 2022	Change $
		(in thousands)	
Revenue:			
License and other revenue	$ 392	$ 1,503	$ (1,111)
Total revenue	392	1,503	(1,111)
Operating expenses:			
Research and development	28,588	24,618	3,970
General and administrative	31,085	32,433	(1,348)
Total operating expenses	59,673	57,051	2,622
Loss from operations	(59,281)	(55,548)	(3,733)
Other income (expense), net	6,943	1,379	5,563
Loss before provision for income taxes	(52,339)	(54,169)	1,830
Provision for income taxes	—	—	—
Net loss	$ (52,339)	$ (54,169)	$ 1,830

Revenue

Revenue of $0.4 million was recognized for the year ended December 31, 2023 related to royalties. Revenue was $1.5 million for the year ended December 31, 2022 related to licensing and other agreements.

Research and Development Expenses

	Year Ended December 31, 2023	Year Ended December 31, 2022	Change $
		(in thousands)	
Preclinical and development expenses	$ 14,605	$ 9,715	$ 4,883
Payroll and payroll-related expenses	10,541	11,498	(957)
Other expenses	3,442	3,405	37
Total research and development	$ 28,588	$ 24,618	$ 3,963

Research and development expenses were $28.6 million for the year ended December 31, 2023 compared to $24.6 million for the year ended December 31, 2022. The increase of $4.9 million in preclinical and development expenses was due to additional activities related to our ongoing development programs, primarily relating to OV888 (GV101) and OV329. The decrease of $1.0 million in payroll and payroll-related expenses was primarily due to the impact of a reorganization in early 2022 which resulted in approximately $1.0 million in severance costs during the period.

General and Administrative Expenses

	Year Ended December 31, 2023	Year Ended December 31, 2022	Change $
		(in thousands)	
Payroll and payroll-related expenses	$ 17,131	$ 16,071	$ 1,060
Legal and professional fees	7,610	9,253	(1,643)
General office expenses	6,345	7,108	(763)
Total general and administrative	$ 31,085	$ 32,432	$ (1,347)

General and administrative expenses were $31.1 million for the year ended December 31, 2023 compared to $32.4 million for the year ended December 31, 2022. The decrease of $1.3 million was primarily due to reduced legal and professional fees and general office expenses, partially offset by an increase in non-cash compensation expenses.

Other Income (Expense), net

Other income (expense), net was $6.9 million for the year ended December 31, 2023, comprised of $4.9 million in interest and accretion income on investments in U.S. treasuries and $2.0 million of unrealized gain on long-term equity investments. For the year ended December 31, 2022, other income (expense), net of $1.4 million was comprised of $1.8 million in interest and accretion income on investments in U.S. treasuries and $0.4 million of unrealized loss on long-term equity investments.

Liquidity and Capital Resources

Overview

As of December 31, 2023 and 2022, we had total cash, cash equivalents and marketable securities of $105.8 million and $129.0 million, respectively. We believe that our cash, cash equivalents and marketable securities as of December 31, 2023 will fund our projected operating expenses and capital expenditure requirements for at least 12 months from the issuance of this Annual Report on Form 10-K.

Similar to other development-stage biotechnology companies, we have generated limited revenue. We have incurred losses and experienced negative operating cash flows in most years since our inception and anticipate that we will continue to incur losses for at least the next several years. We incurred net losses of $52.3 million and $54.2 million for the years ended December 31, 2023 and 2022, respectively. As of December 31, 2023, we had an accumulated deficit of $277.9 million and working capital of $98.1 million.

Future Funding Requirements

We believe that our available cash, cash equivalents and marketable securities are sufficient to fund existing and planned cash requirements into the first half of 2026. Our primary uses of capital are, and we expect will continue to be, compensation and related expenses, third-party clinical research and development services, clinical costs, legal and other regulatory expenses and general overhead costs. We have based our estimates on assumptions that may prove to be incorrect, and we could use our capital resources sooner than we currently expect. Additionally, the process of testing drug candidates in clinical trials is costly, and the timing of progress in these trials is uncertain. We cannot estimate the actual amounts necessary to successfully complete the development and commercialization of our product candidates or whether, or when, we may achieve profitability.

As of December 31, 2023, we had no material non-cancelable purchase commitments with service providers, as we have generally contracted on a cancelable, purchase order basis. We cannot estimate whether we will receive or the timing of any potential contingent payments upon the achievement by us of clinical, regulatory and commercial events, as applicable, or royalty payments that we may be required to make under license agreements we have entered into with various entities pursuant to which we have in-licensed certain intellectual property as contractual obligations or commitments, including agreements with AstraZeneca, Gensaic and Northwestern. Pursuant to these license agreements, we have agreed to make milestone payments up to an aggregate of $660.3 million upon the achievement of certain development, regulatory and sales milestones. We excluded these contingent payments from the consolidated financial statements given that the timing, probability, and amount, if any, of such payments cannot be reasonably estimated at this time.

In September 2021, we entered into a 10-year lease agreement for our corporate headquarters with a term commencing March 10, 2022, for approximately 19,000 square feet of office space at Hudson Commons in New York, New York. The lease provides for monthly rental payments over the lease term. The base rent under the lease is currently $2.3 million per year. Rent payments commenced January 10, 2023, and will continue for ten years following the rent commencement date. We issued a letter of credit in the amount of $1.9 million in association with the execution of the lease agreement, which is reflected as restricted cash on the consolidated balance sheets. Payment obligations under the lease agreement include approximately $2.3 million in the 12 months subsequent to December 31, 2023 and approximately $23.5 million over the term of the agreement. For additional information see Note 5 to our consolidated financial statements under the heading 'Leases.'

We have no products approved for commercial sale and have not generated any revenues from product sales to date. Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through a combination of equity offerings, debt financings and additional funding from license and collaboration arrangements. Except for any obligations of our collaborators to reimburse us for research and development expenses or to make milestone or royalty payments under our agreements with them, we will not have any committed external source of liquidity. To the extent that we raise additional capital through future equity offerings or debt financings, ownership interests may be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a common stockholder. Debt and equity financings, 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. There can be no assurance that such financings will be obtained on terms acceptable to us, if at all. Additionally, while the long-term economic impact of geopolitical tensions, including the war between Russia and Ukraine and war in Israel, is difficult to assess or predict, each of these events has caused significant disruptions to the global financial markets and contributed to a general global economic slowdown. Furthermore, inflation rates have increased recently to levels not seen in decades. In addition, the U.S. Federal Reserve has raised interest rates in response to concerns about inflation. High interest rates, especially if coupled with reduced government spending and volatility in financial markets, may further increase economic uncertainty and heighten these risks. If the disruptions and slowdown deepen or persist, we may not be able to access additional capital on favorable terms, or at all, which could in the future negatively affect our ability to pursue our business strategy. If we raise additional funds through collaborations, strategic alliances or licensing agreements with third parties for one or more of our current or future drug candidates, we may be required to relinquish valuable rights to our technologies, future revenue streams, research programs or drug candidates or to grant licenses on terms that may not be favorable to us. Our failure to raise capital as and when needed would have a material adverse effect on our financial condition and our ability to pursue our business strategy. See “Risk Factors” for additional risks associated with our capital requirements.

At-the-Market Offering Program

In November 2020, we filed a shelf registration statement on Form S-3 (Registration No. 333-250054) (the “Prior S-3 Registration Statement”). In November 2023, upon expiration of the of the Prior Registration Statement, we filed a new shelf registration statement on Form S-3 (Registration No. 333-275307) that allows us to sell up to an aggregate of $250.0 million of our common stock, preferred stock, debt securities and/or warrants (the “Current S-3 Registration Statement”), which includes a prospectus covering the issuance and sale of up to $75.0 million of common stock pursuant to an at-the-market (“ATM”) offering program, including the unsold securities under the Prior Registration Statement. During the years ended December 31, 2023 and 2022, we did not sell any shares under our ATM program. As of December 31, 2023, we had $250.0 million available under our Current S-3 Registration Statement, including $75.0 million available pursuant to our ATM program.

Cash Flows

The following table summarizes our cash flows for the periods indicated:

	Year Ended December 31, 2023	Year Ended December 31, 2022
	(in thousands)	
Net cash (used in) provided by:		
Operating activities	$ (45,781)	$ (55,170)
Investing activities	(2,581)	(87,940)
Financing activities	30,535	181
Net decrease in cash, cash equivalents, and restricted cash	$ (17,827)	$ (142,930)

Net Cash Used in Operating Activities

Net cash used in operating activities was $45.8 million for the year ended December 31, 2023, which consisted of net loss of $52.3 million offset by a net of $6.6 million of various non-cash charges and operating cash changes, most significantly $7.3 million in stock-based compensation. Net cash used in operating activities was $55.2 million for the year ended December 31, 2022, which consisted of net loss of $54.2 million and $8.3 million decrease in accounts payable and accrued expenses, partially offset by various non-cash charges and cash changes.

Net Cash Used in Investing Activities

Net cash used in investing activities was $2.6 million for the year ended December 31, 2023, which was primarily related to our purchases and sales/maturities of investments in U.S. treasury funds and the purchase of a long-term equity investment. For the year ended December 31, 2022, $87.9 million was used in investing activities, primarily comprised of purchases and sales/maturities of investments in U.S. treasury funds.

Net Cash Provided by Financing Activities

Net cash provided by financing activities was $30.5 million for the year ended December 31, 2023, which was primarily due to the $30.0 million received in connection with the Ligand Agreement. For the same period in 2022, cash provided by financing activities was $0.2 million, related to proceeds from the exercise of options and purchases made under the employee stock purchase plan.

Critical Accounting Estimates and Policies

Our management's discussion and analysis of financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the consolidated financial statements, as well as the revenue and expenses incurred during the reported periods. On an ongoing basis, we evaluate our estimates and judgments. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not apparent from other sources. Changes in estimates are reflected in reported results for the period in which they become known.

Actual results may differ from these estimates under different assumptions or conditions. In making estimates and judgments, management employs critical accounting policies. Our critical accounting policies are described in greater detail in Note 2 to our audited consolidated financial statements included in this Annual Report on Form 10-K.

We have listed below our critical accounting estimates that we believe to have the greatest potential impact on our consolidated financial statements. Historically, our assumptions, judgments and estimates relative to our critical accounting estimates have not differed materially from actual results.

Revenue Recognition

We recognize revenue under sublicense agreements in accordance with ASC 606, Revenue Recognition, which is applicable to the RLT Agreement. The terms of the agreements within this scope may contain multiple performance obligations, including but not limited to licenses and research and development activities. ASC 606 requires that we evaluate these agreements to determine the distinct performance obligations. Non-refundable, upfront fees that are not contingent on any future performance and require no consequential continuing involvement by us, are recognized as revenue when the license term commences and the licensed data, technology or product is delivered. We defer recognition of non-refundable upfront fees if the performance obligations are not satisfied.

During the year ended December 31, 2023, we recognized revenue of approximately $0.4 million related to royalty agreements.

Research and Development Accrual

When preparing our consolidated financial statements, we are required to estimate our accrued research and development expenses. This process involves reviewing open contracts and communicating with our personnel to identify services that have been performed on our behalf and estimating the level of service performed and the associated cost incurred for the service when we have not yet been invoiced or otherwise notified of the actual cost. Payments under certain contracts we have with third parties depend on factors, such as the successful enrollment of certain numbers of patients, site initiation and the completion of clinical trial milestones.

When accruing research and development expenses, we estimate the time period over which services will be performed and the level of effort to be expended in each period. If possible, we obtain information regarding unbilled services directly from our service providers. However, we may be required to estimate the cost of these services based only on information available to us. If we underestimate or overestimate the cost associated with a trial or service at a given point in time, adjustments to research and development expenses may be necessary in future periods. Historically, our estimated accrued research and development expenses have approximated actual expense incurred.

Smaller Reporting Company Status

We are a smaller reporting company as defined in the Exchange Act. We may take advantage of certain of the scaled disclosures available to smaller reporting companies and will be able to take advantage of these scaled disclosures for so long as (i) our voting and non-voting common stock held by non-affiliates is less than $250.0 million measured on the last business day of our second fiscal quarter or (ii) our annual revenue is less than $100.0 million during the most recently completed fiscal year and our voting and non-voting common stock held by non-affiliates is less than $700.0 million measured on the last business day of our second fiscal quarter.

As a smaller reporting company, we are permitted to comply with scaled-back disclosure obligations in our SEC filings compared to other issuers, including with respect to disclosure obligations regarding executive compensation in our periodic reports and proxy statements. We have elected to adopt the accommodations available to smaller reporting companies, including but not limited to:

- reduced disclosure obligations regarding executive compensation arrangements; and
- being permitted to provide only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

The primary objectives of our investment activities are to ensure liquidity and to preserve capital. As of December 31, 2023, we had cash, cash equivalents and marketable securities of $105.8 million. Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates. Due to the short-term maturities of our cash equivalents and marketable securities and the low risk profile of our investments, an immediate 100 basis point change in interest rates would not have a material effect on the fair market value of our cash equivalents and marketable securities. To minimize the risk in the future, we intend to maintain our portfolio of cash equivalents and marketable securities in institutional market funds that are comprised of U.S. Treasury and U.S. Treasury-backed repurchase agreements as well as treasury notes and high quality short-term corporate bonds.

Item 8. Financial Statements and Supplementary Data

Our financial statements, together with the report of our independent registered public accounting firm, appear in this Annual Report on Form 10-K beginning on page F-1.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Management's Evaluation of our Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in the reports that we file or submit under the Securities Exchange Act of 1934, as amended (the "Exchange Act") is (1) recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms and (2) accumulated and communicated to our management, including our principal executive officer and principal financial officer, to allow timely decisions regarding required disclosure.

As of December 31, 2023, our management, with the participation of our principal executive officer and principal financial officer, evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act). Our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives, and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Our principal executive officer and principal financial officer have concluded based upon the evaluation described above that, as of December 31, 2023 our disclosure controls and procedures were effective at the reasonable assurance level.

Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act. Our management, under the supervision and with the participation of our Chief Executive Officer and Principal Financial and Accounting Officer, conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2023 based on the framework in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 Framework). Based on the results of its evaluation, management concluded that our internal control over financial reporting was effective as of December 31, 2023.

Attestation Report of the Registered Public Accounting Firm

This Annual Report on Form 10-K does not include an attestation report on our internal control over financial reporting from our registered public accounting firm due to an exemption as a smaller reporting company and as a non-accelerated filer for the year ended December 31, 2023.

Changes in Internal Control over Financial Reporting

There have been no changes in internal controls over financial reporting during our most recent quarter ended December 31, 2023, that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

During the three months ended December 31, 2023, 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

Certain information required by Part III is omitted from this Annual Report because we will file with the SEC a definitive proxy statement pursuant to Regulation 14A, or the 2024 Proxy Statement, no later than 120 days after the end of our fiscal year, and certain information included therein is incorporated herein by reference.

Item 10. Directors, Executive Officers, and Corporate Governance

The information required by this item is incorporated by reference to the information set forth in the sections titled "Proposal 1 – Election of Directors," "Executive Officers," and "Information Regarding the Board and Corporate Governance" and "Delinquent Section 16(a) Reports," if any, in our 2024 Proxy Statement.

Information regarding our Code of Business Conduct and Ethics, or the Code of Conduct, required by this item will be contained in our 2024 Proxy Statement under the caption "Information Regarding the Board and Corporate Governance – Code of Business Conduct and Ethics," and is hereby incorporated by reference. If we make any substantive amendments to the Code of Conduct or grant any waiver from a provision of the Code of Conduct to any executive officer or director, we will promptly disclose the nature of the amendment or waiver on its website. The full text of our Code of Conduct is available at the Investors section of our website at *www.ovidrx.com*. The reference to our website address does not constitute incorporation by reference of the information contained at or available through our website, and you should not consider it to be a part of this Annual Report.

Item 11. Executive Compensation

The information required by this item is incorporated by reference to the information set forth in the section titled "Executive Officer and Director Compensation" in our 2024 Proxy Statement.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this item is incorporated by reference to the information set forth in the section titled "Security Ownership of Certain Beneficial Owners and Management" and "Equity Compensation Plan Information" in our 2024 Proxy Statement.

Item 13. Certain Relationships and Related Transactions and Director Independence

The information required by this item is incorporated by reference to the information set forth in the section titled "Transactions with Related Persons" and "Information Regarding the Board and Corporate Governance – Board Independence" in our 2024 Proxy Statement.

Item 14. Principal Accountant Fees and Services

The information required by this item is incorporated by reference to the information set forth in Proposal 3 under the section titled "Independent Registered Public Accounting Firm Fees" and "Pre-Approval Policies and Procedures" contained in our 2024 Proxy Statement.

PART IV

Item 15. Exhibit and Financial Statements and Schedules

(a)(1) Financial Statements.

(a)(2) Financial Statement Schedules.

All schedules have been omitted because they are not required or because the required information is given in the Financial Statements or Notes thereto.

(a)(3) Exhibits.

The exhibits listed below are filed as part of this Annual Report on Form 10-K.

Number	Description
3.1	Amended and Restated Certificate of Incorporation (incorporated herein by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K (File No. 001-38085), filed with the Commission on May 10, 2017).
3.2	Corrected Amended and Restated Certificate of Designation of Series A Convertible Preferred Stock (incorporated herein by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K (File No. 001-38085), filed with the Commission on September 24, 2019).
3.3	Amended and Restated Bylaws (incorporated herein by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K (File No. 001-38085), filed with the Commission on May 10, 2017).
4.1	Form of Common Stock Certificate of the Company (incorporated herein by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-1/A (File No. 333-217245), filed with the Commission on April 25, 2017).
4.2	Description of the Securities of Ovid Therapeutics Inc.
4.3	Form of Series A Preferred Stock Certificate (incorporated herein by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K (File No. 001-38085), filed with the Commission on February 21, 2019).
10.1+	Form of Indemnity Agreement by and between the Company and its directors and officers (incorporated herein by reference to Exhibit 10.1 to the Company's Registration Statement on Form S-1 (File No. 333-217245), filed with the Commission on April 10, 2017).
10.2+	2017 Equity Incentive Plan (incorporated herein by reference to Exhibit 4.12 to the Company's Registration Statement on Form S-8 (File No. 001-38085), filed with the Commission on May 22, 2017).
10.3+	Forms of Option Grant Notice and Option Agreement under 2017 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.3 to the Company's Registration Statement on Form S-1 (File No. 333-217245), filed with the Commission on April 10, 2017).
10.4+	2014 Equity Incentive Plan, as amended (incorporated herein by reference to Exhibit 10.5 to the Company's Registration Statement on Form S-1 (File No. 333-217245), filed with the Commission on April 10, 2017).
10.5+	Amendment to 2014 Equity Incentive Plan, effective as of March 9, 2015 (incorporated herein by reference to Exhibit 10.6 to the Company's Registration Statement on Form S-1 (File No. 333-217245), filed with the Commission on April 10, 2017).
10.6+	Amendment to 2014 Equity Incentive Plan, effective as of June 4, 2015 (incorporated herein by reference to Exhibit 10.7 to the Company's Registration Statement on Form S-1 (File No. 333-217245), filed with the Commission on April 10, 2017).

10.7+	Amendment to 2014 Equity Incentive Plan, effective as of July 28, 2015 (incorporated herein by reference to Exhibit 10.8 to the Company's Registration Statement on Form S-1 (File No. 333-217245), filed with the Commission on April 10, 2017).
10.8+	Amendment to 2014 Equity Incentive Plan, effective as of February 11, 2016 (incorporated herein by reference to Exhibit 10.9 to the Company's Registration Statement on Form S-1 (File No. 333-217245), filed with the Commission on April 10, 2017).
10.9+	Form of Restricted Stock Purchase Agreement under the 2014 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.10 to the Company's Registration Statement on Form S-1 (File No. 333-217245), filed with the Commission on April 10, 2017).
10.10+	Form of Stock Option Agreement—Early Exercise under the 2014 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.11 to the Company's Registration Statement on Form S-1 (File No. 333-217245), filed with the Commission on April 10, 2017).
10.11+	Forms of Stock Option Agreement under the 2014 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.12 to the Company's Registration Statement on Form S-1 (File No. 333-217245), filed with the Commission on April 10, 2017).
10.12+	2017 Employee Stock Purchase Plan (incorporated herein by reference to Exhibit 4.14 to the Company's Registration Statement on Form S-8 (File No. 001-38085), filed with the Commission on May 22, 2017).
10.13+	Amended Non-Employee Director Compensation Policy, effective May 5, 2022.
10.14+	Executive Employment Agreement between the Registrant and Jeremy M. Levin, dated June 5, 2015 (incorporated herein by reference to Exhibit 10.13 to the Company's Registration Statement on Form S-1 (File No. 333-217245), filed with the Commission on April 10, 2017).
10.15+	Executive Employment Agreement between the Company and Jeff Rona, effective June 2, 2021 (incorporated herein by reference to Exhibit 10.17 to the Company's Annual Report on Form 10-K (File No. 001-38085), filed with the Commission on March 15, 2021).
10.16+	Executive Employment Agreement between the Company and Jason Tardio, effective October 21, 2019 (incorporated herein by reference to Exhibit 10.18 to the Company's Annual Report on Form 10-K (File No. 001-38085), filed with the Commission on March 15, 2021).
10.17+	Amended and Restated Executive Employment Agreement between the Company and Thomas Perone, effective January 1, 2020 (incorporated herein by reference to Exhibit 10.19 to the Company's Annual Report on Form 10-K (File No. 001-38085), filed with the Commission on March 15, 2021).
10.18+	License Agreement by and between Northwestern University and the Company, dated December 15, 2016. (incorporated herein by reference to Exhibit 10.19 to the Company's Annual Report on Form 10-K (File No. 001-38085), filed with the Commission on April 10, 2017).
10.19+	Royalty, License and Termination Agreement, by and between the Company and Takeda Pharmaceutical Company Limited, dated March 2, 2021 (incorporated herein by reference to Exhibit 10.1 to the Company's Current Report on Form 10-Q (File No. 001-38085), filed with the Commission on May 13, 2021.
10.20†	License Agreement, dated as of December 30, 2021, by and between the Ovid Therapeutics Inc. and AstraZeneca AB (incorporated herein by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-38085), filed with the Commission on January 3, 2022).
10.21^	Purchase and Sale Agreement, dated as of October 17, 2023, by and between the Company and Ligand Pharmaceuticals Incorporated.
23.1	Consent of Independent Registered Public Accounting Firm
24.1	Power of Attorney (included on the signature page to this report)

31.1	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of Principal Executive Officer and Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
97	Incentive Compensation Recoupment Policy
101.INS	Inline XBRL Instance 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 within Exhibit 101)

* Furnished herewith and not deemed to be "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act (whether made before or after the date of the Form 10-K), irrespective of any general incorporation language contained in such filing.
+ Indicates a management contract or compensatory plan.
† Confidential treatment has been granted for certain portions of this exhibit. These portions have been omitted and filed separately with the SEC.
^ Pursuant to Item 601(b)(10)(iv) of Regulation S-K promulgated by the Securities and Exchange Commission, certain portions of this exhibit have been redacted. The Registrant hereby agrees to furnish supplementally to the Securities and Exchange Commission, upon its request, an unredacted copy of this exhibit.

Item 16. Form 10-K Summary

Not applicable.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report on Form 10-K to be signed on its behalf by the undersigned thereunto duly authorized.

OVID THERAPEUTICS INC.

Date: March 8, 2024

By: /s/ Jeremy M. Levin
Jeremy M. Levin
Chief Executive Officer
(Principal Executive Officer)

Date: March 8, 2024

By: /s/ Jeffrey Rona
Jeffrey Rona
Chief Business & Financial Officer
(Principal Financial and Accounting Officer)

POWER OF ATTORNEY

Each person whose individual signature appears below hereby authorizes and appoints Jeremy M. Levin, DPhil, MB BChir and Jeffrey Rona, and each of them, with full power of substitution and resubstitution and full power to act without the other, as his or her true and lawful attorney-in-fact and agent to act in his or her name, place and stead and to execute in the name and on behalf of each person, individually and in each capacity stated below, and to file any and all amendments to this report on Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing, ratifying and confirming all that said attorneys-in-fact and agents or any of them or their or his or her substitute or substitutes may lawfully do or cause to be done by virtue thereof.

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.

Signature	Title	Date
/s/ Jeremy M. Levin, DPhil, MB BChir Jeremy M. Levin, DPhil, MB BChir	Chief Executive Officer and Director *(Principal Executive Officer)*	March 8, 2024
/s/ Jeffrey Rona Jeffrey Rona	Chief Business and Financial Officer *(Principal Financial and Accounting Officer)*	March 8, 2024
/s/ Karen Bernstein, PhD Karen Bernstein, PhD	Director	March 8, 2024
/s/ Barbara Duncan Barbara Duncan	Director	March 8, 2024
/s/ Bart Friedman Bart Friedman	Director	March 8, 2024
/s/ Kevin Fitzgerald, PhD Kevin Fitzgerald, PhD	Director	March 8, 2024
/s/ Robert Michael Poole, MD, FACP Robert Michael Poole, MD, FACP	Director	March 8, 2024

OVID THERAPEUTICS INC.

Index to Consolidated Financial Statements

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Ovid Therapeutics Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Ovid Therapeutics Inc. and subsidiary (the Company) as of December 31, 2023 and 2022, the related consolidated statements of operations, comprehensive income (loss), changes in stockholders' equity, and cash flows for the years then ended, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2023 and 2022, and the results of its operations and its cash flows for the years then ended, in conformity with U.S. generally accepted accounting principles.

Basis for Opinion

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

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. 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 consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

Critical audit matters are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. We determined that there are no critical audit matters.

/s/ KPMG LLP

We have served as the Company's auditor since 2015.

New York, New York
March 8, 2024

PART I—FINANCIAL INFORMATION

Item 1. Financial Statements.

OVID THERAPEUTICS INC.
Consolidated Balance Sheets

	December 31, 2023	December 31, 2022
Assets		
Current assets:		
Cash and cash equivalents	$ 27,041,517	$ 44,867,846
Marketable securities	78,791,858	84,133,565
Prepaid expenses and other current assets	3,764,332	2,379,280
Total current assets	109,597,707	131,380,691
Long-term equity investments	17,625,620	5,622,547
Restricted cash	1,930,753	1,930,753
Right-of-use asset, net	13,894,376	14,922,669
Property and equipment, net	768,753	1,147,963
Other assets	209,574	261,191
Total assets	$ 144,026,783	$ 155,265,814
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 3,702,936	$ 1,952,910
Accrued expenses	6,525,235	4,504,669
Current portion, lease liability	1,246,119	533,946
Total current liabilities	11,474,290	6,991,525
Long-term liabilities:		
Lease liability	14,755,606	16,001,725
Royalty monetization liability	30,000,000	—
Total liabilities	56,229,896	22,993,250
Stockholders' equity:		
Preferred stock, $0.001 par value; 10,000,000 shares authorized; Series A convertible preferred stock, 10,000 shares designated, 1,250 shares issued and outstanding at December 31, 2023 and 2022	1	1
Common stock, $0.001 par value; 125,000,000 shares authorized; 70,691,992 and 70,466,885 shares issued and outstanding at December 31, 2023 and 2022, respectively	70,692	70,467
Additional paid-in-capital	365,590,993	357,770,825
Accumulated other comprehensive income (loss)	702	(42,187)
Accumulated deficit	(277,865,501)	(225,526,542)
Total stockholders' equity	87,796,887	132,272,564
Total liabilities and stockholders' equity	$ 144,026,783	$ 155,265,814

See accompanying notes to these consolidated financial statements

OVID THERAPEUTICS INC.
Consolidated Statements of Operations

	For the Year Ended December 31, 2023	For the Year Ended December 31, 2022
Revenue:		
License and other revenue	$ 391,695	$ 1,502,748
Total revenue	391,695	1,502,748
Operating expenses:		
Research and development	28,587,884	24,618,399
General and administrative	31,085,274	32,432,510
Total operating expenses	59,673,158	57,050,909
Loss from operations	(59,281,464)	(55,548,161)
Other income (expense), net	6,942,505	1,379,132
Loss before provision for income taxes	$ (52,338,959)	$ (54,169,029)
Provision for income taxes	—	—
Net loss	$ (52,338,959)	$ (54,169,029)
Net loss per share, basic	$ (0.74)	$ (0.77)
Net loss per share, diluted	$ (0.74)	$ (0.77)
Weighted-average common shares outstanding, basic	70,580,604	70,424,819
Weighted-average common shares outstanding, diluted	70,580,604	70,424,819

See accompanying notes to these consolidated financial statements

OVID THERAPEUTICS INC.
Consolidated Statements of Comprehensive Income (Loss)

	For the Year Ended December 31, 2023	For the Year Ended December 31, 2022
Net loss	$ (52,338,959)	$ (54,169,029)
Other comprehensive gain (loss):		
Unrealized gain (loss) on available-for-sale securities	702	(42,187)
Comprehensive loss	$ (52,338,257)	$ (54,211,216)

See accompanying notes to these consolidated financial statements

OVID THERAPEUTICS INC.
Consolidated Statement of Changes in Stockholders' Equity

	Convertible Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total
	Shares	Amount	Shares	Amount				
Balance, December 31, 2022	1,250	$ 1	70,466,885	$ 70,467	$ 357,770,825	$ (42,187)	$ (225,526,542)	$ 132,272,564
Issuance of common stock from exercise of stock options and employee stock purchase plan	—	—	225,107	225	534,976	—	—	535,201
Stock-based compensation expense	—	—	—	—	7,285,192	—	—	7,285,192
Other comprehensive income	—	—	—	—	—	42,889	—	42,889
Net loss	—	—	—	—	—	—	(52,338,959)	(52,338,959)
Balance, December 31, 2023	1,250	$ 1	70,691,992	$ 70,692	$ 365,590,993	$ 702	$ (277,865,501)	$ 87,796,887

	Convertible Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total
	Shares	Amount	Shares	Amount				
Balance, December 31, 2021	1,250	$ 1	70,364,912	$ 70,359	$ 351,033,589	$ —	$ (171,357,513)	$ 179,746,436
Issuance of common stock from exercise of stock options and employee stock purchase plan	—	—	101,973	108	180,550	—	—	180,658
Stock-based compensation expense	—	—	—	—	6,556,686	—	—	6,556,686
Other comprehensive loss	—	—	—	—	—	(42,187)	—	(42,187)
Net loss	—	—	—	—	—	—	(54,169,029)	(54,169,029)
Balance, December 31, 2022	1,250	$ 1	70,466,885	$ 70,467	$ 357,770,825	$ (42,187)	$ (225,526,542)	$ 132,272,564

See accompanying notes to these consolidated financial statements

OVID THERAPEUTICS INC.
Consolidated Statements of Cash Flows

	Year Ended December 31, 2023	Year Ended December 31, 2022
Cash flows from operating activities:		
Net loss	$ (52,338,959)	$ (54,169,029)
Adjustments to reconcile net loss to cash used in operating activities:		
Non-cash consideration received in licensing agreement transaction	—	(945,366)
Unrealized (gain) loss on equity investments	(2,003,073)	454,811
Change in accrued interest income and accretion of discount on marketable securities	(2,172,254)	(1,211,311)
Stock-based compensation expense	7,285,192	6,556,686
Depreciation and amortization expense	568,282	512,505
Amortization of right-of-use asset	1,028,293	869,100
Change in lease liability	(533,946)	936,927
Change in operating assets and liabilities:		
Prepaid expenses and other current assets	(1,385,052)	109,292
Accounts payable	1,750,026	(5,174,136)
Accrued expenses	2,020,566	(3,166,606)
Net cash used in operating activities	(45,780,925)	(55,227,127)
Cash flows from investing activities:		
Purchase of marketable securities	(112,443,150)	(172,964,441)
Sales/maturities of marketable securities	120,000,000	90,000,000
Purchase of long-term equity investments	(10,000,000)	(2,500,000)
Issuance of convertible short-term note receivable	—	(1,000,000)
Purchases of property and equipment	(40,308)	(1,224,379)
Software development and other costs	(97,147)	(194,397)
Net cash used in investing activities	(2,580,605)	(87,883,217)
Cash flows from financing activities:		
Proceeds from exercise of options and employee stock purchase plan	535,201	180,658
Proceeds from royalty monetization agreement	30,000,000	—
Net cash provided by financing activities	30,535,201	180,658
Net decrease in cash, cash equivalents and restricted cash	(17,826,329)	(142,929,686)
Cash, cash equivalents and restricted cash, at beginning of period	46,798,599	189,728,285
Cash, cash equivalents and restricted cash, at end of period	$ 28,972,270	$ 46,798,599
Non-cash investing and financing activities:		
Right-of-use asset in exchange for lease liability	$ —	$ 15,791,769
Conversion of short-term note receivable to long-term equity investment	$ —	$ 1,000,000

See accompanying notes to these consolidated financial statements

OVID THERAPEUTICS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1 – NATURE OF OPERATIONS

Ovid Therapeutics Inc. (the "Company") was incorporated under the laws of the state of Delaware, commenced operations on April 1, 2014, and maintains its principal executive office in New York, New York. The Company is a biopharmaceutical company that is dedicated to meaningfully improving the lives of people affected by certain epilepsies and brain conditions with seizure symptoms.

Since its inception, the Company has devoted substantially all of its efforts to business development, research and development, recruiting management and technical staff, and raising capital, and has financed its operations through the issuance of convertible preferred stock, common stock and other equity instruments, the sale and/or licensing of certain assets and the licensing of certain intellectual property. The Company is subject to risks and uncertainties common to early-stage companies in the biotechnology industry, including, but not limited to, development and regulatory success, development by competitors of new technological innovations, dependence on key personnel, protection of proprietary technology, compliance with government regulations, and the ability to secure additional capital to fund operations.

The Company's major sources of cash have been licensing revenue, proceeds from various public and private offerings of its capital stock, option exercises and interest income. As of December 31, 2023, the Company had approximately $105.8 million in cash, cash equivalents and marketable securities. Since inception, the Company has generated $222.8 million in revenue, primarily from the Company's royalty, license and termination agreement ("RLT Agreement") with Takeda Pharmaceutical Company Limited ("Takeda"). Historically, the Company has incurred recurring losses, has experienced recurring negative operating cash flows and has required significant cash resources to execute its business plans, which the Company expects will continue for the foreseeable future. The Company has an accumulated deficit of $277.9 million as of December 31, 2023, working capital of $98.1 million and had cash used in operating activities of $45.8 million for the year ended December 31, 2023.

The Company recorded a net loss of $52.3 million during the year ended December 31, 2023 and expects to incur losses in subsequent periods for at least the next several years. The Company is highly dependent on its ability to find additional sources of funding through either equity offerings, debt financings, collaborations, strategic alliances, licensing agreements or a combination of any such transactions. Management believes that the Company's existing cash, cash equivalents and marketable securities as of December 31, 2023 will be sufficient to fund its current operating plans through at least 12 months from the date of filing of the Company's Annual Report on Form 10-K. Adequate additional funding may not be available to the Company on acceptable terms or at all. The failure to raise capital as and when needed could have a negative impact on the Company's financial condition and ability to pursue its business strategy. The Company may be required to delay, reduce the scope of or eliminate research and development programs, or obtain funds through arrangements with collaborators or others that may require the Company to relinquish rights to certain drug candidates that the Company might otherwise seek to develop or commercialize independently.

The Company is subject to other challenges and risks specific to its business and its ability to execute on its strategy, as well as risks and uncertainties common to companies in the pharmaceutical industry with development and commercial operations, including, without limitation, risks and uncertainties associated with: delays or problems in the supply of the Company's product candidates, loss of single source suppliers or failure to comply with manufacturing regulations; identifying, acquiring or in-licensing additional products or product candidates; pharmaceutical product development and the inherent uncertainty of clinical success; the challenges of protecting and enhancing intellectual property rights; complying with applicable regulatory requirements; and obtaining regulatory approval of any of the Company's product candidates.

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

(A) Basis of Presentation and Consolidation

The accompanying consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP") and include the accounts of Ovid Therapeutics Inc. and its wholly owned subsidiary, Ovid Therapeutics Hong Kong Limited. All intercompany transactions and balances have been eliminated in consolidation.

(B) Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Actual results could differ materially from those estimates.

(C) Marketable Securities

Marketable securities consist of investments in U.S. treasury instruments which are considered available-for-sale securities. The Company classifies its marketable securities with maturities of less than one year from the balance sheet date as current assets on its consolidated balance sheets. The Company classifies its marketable securities with original maturities of less than three months as cash equivalents on its consolidated balance sheets. Unrealized gains and losses on these securities that are determined to be temporary are reported as a separate component of accumulated other comprehensive income (loss) in stockholders' equity.

(D) Restricted Cash

The Company classifies as restricted cash all cash pledged as collateral to secure long-term obligations and all cash for which use is otherwise limited by contractual provisions. Amounts are reported as non-current unless restrictions are expected to be released in the next 12 months.

(E) Long-term Equity Investments

Long-term equity investments consist of equity investments in the preferred shares of Gensaic, Inc., formerly M13 Therapeutics, Inc. (“Gensaic”), and Graviton Bioscience Corporation (“Graviton”), both privately held corporations. The preferred shares are not considered in-substance common stock, and the investments are accounted for at cost, with adjustments for observable changes in prices or impairments, and are classified within long-term equity investments on the consolidated balance sheets with adjustments recognized in other income (expense), net on the consolidated statements of operations. The Company has determined that these equity investments do not have a readily determinable fair value and elected the measurement alternative. Therefore, the carrying amount of the equity investments will be adjusted to fair value at the time of the next observable price change for the identical or similar investment of the same issuer, or when an impairment is recognized. Each reporting period, the Company performs a qualitative assessment to evaluate whether the investments are impaired. The assessment includes a review of recent operating results and trends, recent sales/acquisitions of the investees' securities, and other publicly available data. If an investment is determined to be impaired, the Company will then write it down to its estimated fair value. As of December 31, 2023 and 2022, the equity investment in Gensaic had a carrying value of $5.1 million. As of December 31, 2023, the equity investment in Graviton had a carrying value of $11.2 million, which reflects a $1.2 million unrealized gain recognized during the year and recorded in other income (expense), net, in the consolidated statements of operations due to an observable change in price.

Long-term equity investments also consist of an equity investment in the common shares of Marinus Pharmaceuticals, Inc. (“Marinus”) that was received as non-cash consideration via the terms of a licensing agreement executed between the two companies effective March 2022. The equity shares are marked-to-market at each reporting date with changes in the fair value being reflected in the carrying value of the investment on the Company's consolidated balance sheets and other income (expense), net on the Company's consolidated statements of operations. As of December 31, 2023 and 2022, the equity investment in Marinus had a carrying value of approximately $1.3 million and $0.5 million, respectively.

No impairments were recognized in the years ending December 31, 2023 and 2022.

(F) Note Receivable

On March 17, 2022, the Company issued a convertible promissory note with a principal amount of $1.0 million to Gensaic. The note included features that permitted the Company to acquire additional equity or to settle the note in cash. In August 2022, the Company executed an agreement with Gensaic which resulted in the conversion of the note into additional equity and was recorded as a long-term equity investment in the consolidated balance sheets. The Company received interest on the convertible promissory note at the rate of 1.5% per annum through the date of conversion.

(G) Fair Value of Financial Instruments

Financial Accounting Standards Board guidance specifies a hierarchy of valuation techniques based on whether the inputs to those valuation techniques are observable or unobservable. Observable inputs reflect market data obtained

from independent sources, while unobservable inputs reflect market assumptions. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurement) and the lowest priority to unobservable inputs (Level 3 measurement).

The three levels of the fair value hierarchy are as follows:

- Level 1—Unadjusted quoted prices in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date. Level 1 primarily consists of financial instruments whose value is based on quoted market prices such as exchange-traded instruments and listed equities. The Company's Level 1 assets consisted of investments in a U.S. treasury money market fund and equity securities totaling approximately $25.7 million and $42.5 million, respectively, as of December 31, 2023 and 2022.
- Level 2—Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly (e.g., quoted prices of similar assets or liabilities in active markets, or quoted prices for identical or similar assets or liabilities in markets that are not active). Level 2 includes financial instruments that are valued using models or other valuation methodologies. The Company's Level 2 assets consisted of U.S. treasury bills totaling approximately $78.8 million and $84.1 million, respectively, as of December 31, 2023 and 2022.
- Level 3—Unobservable inputs for the asset or liability. Financial instruments are considered Level 3 when the fair values are determined using pricing models, discounted cash flows or similar techniques and at least one significant model assumption or input is unobservable. The Company's Level 3 liabilities consist of a royalty monetization liability totaling $30.0 million at December 31, 2023. There were no Level 3 assets or liabilities as of December 31, 2022.

The carrying amounts reported in the consolidated balance sheets for cash, cash equivalents and marketable securities, other current assets, accounts payable, and accrued expenses approximate their fair values based on the short-term maturity of these instruments.

(H) Leases

The Company determines if an arrangement is a lease at inception and recognizes the lease in accordance with ASC 842, Lease Accounting. Operating leases are included in right-of-use (“ROU”) assets, current portion, lease liability and long-term lease liability in the Company's consolidated balance sheets. ROU assets represent the right to use an underlying asset for the lease term and lease liabilities represent the Company's obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at the lease commencement date based on the present value of the lease payments over the lease term. The Company determines the portion of the lease liability that is current as the difference between the calculated lease liability at the end of the current period and the lease liability that is projected 12 months from the current period.

(I) Property and Equipment

Property and equipment are stated at cost and depreciated over their estimated useful lives of three years using the straight-line method. Repair and maintenance costs are expensed. The Company reviews the recoverability of all long-lived assets, including the related useful life, whenever events or changes in circumstances indicate that the carrying amount of a long-lived asset might not be recoverable.

(J) Research and Development Expenses

The Company expenses the cost of research and development as incurred. Research and development expenses are comprised of costs incurred in performing research and development activities, including clinical trial costs, manufacturing costs for both clinical and preclinical materials as well as contracted services, license fees, and other external costs. Research and development expenses also include the cost of licensing agreements acquired from third-parties. Nonrefundable advance payments for goods and services that will be used in future research and development activities are expensed when the activity is performed or when the goods have been received in accordance with ASC 730, Research and Development.

(K) Stock-based Compensation

The Company accounts for its stock-based compensation in accordance with ASC 718, Compensation—Stock Compensation, which establishes accounting for stock-based awards granted to employees for services and requires

companies to expense the estimated fair value of these awards over the requisite service period. The Company estimates the fair value of all awards granted using the Black-Scholes valuation model. Key inputs and assumptions include the expected term of the option, stock price volatility, risk-free interest rate, dividend yield, stock price and exercise price. Many of the assumptions require significant judgment and any changes could have an impact in the determination of stock-based compensation expense. The Company elected an accounting policy to record forfeitures as they occur. The Company recognizes employee stock-based compensation expense based on the fair value of the award on the date of the grant. The compensation expense is recognized over the vesting period under the straight-line method.

The Company accounts for option awards granted to nonemployee consultants and directors in accordance with ASC 718. The fair value of the option issued or committed to be issued is used to measure the transaction, as this is more reliable than the fair value of the services received. The fair value is measured at the value of the Company's common stock award at the earlier of the date that the commitment for performance by the counterparty has been reached or the counterparty's performance is complete.

(L) Royalty Monetization Liability

The Company accounted for its sale to Ligand Pharmaceuticals Incorporated ("Ligand") of a 13% share of royalties and milestones owed to the Company related to the potential approval and commercialization of soticlestat in accordance with ASC 470, Debt, which addresses situations in which an entity receives cash from an investor in return for an agreement to pay the investor a specified percentage of the revenue from a contractual right. The Company classified the proceeds received from the sale to Ligand as debt as the Company determined that it had significant continuing involvement in the generation of the cash flows to Ligand. The Company further elected to account for the debt at fair value in accordance with ASC 825, Financial Instruments, which permits a company to elect the fair value option on an instrument specific basis for a recognized financial liability that is not specifically excluded.

If commercialized, the Company will recognize 100% of the royalties and milestones received for sales of soticlestat as revenue and the 13% share of royalties payable to Ligand Pharmaceuticals as a cash outflow from financing activities in the consolidated statements of cash flows. Changes in the fair value of the debt will be classified as a component of other income / expense in the consolidated statements of operations. The change in fair value of the debt was immaterial for the year-ended December 31, 2023.

(M) Income Taxes

The Company accounts for income taxes under the asset and liability method, which requires deferred tax assets and liabilities to be recognized for the estimated future tax consequences attributable to differences between financial statement carrying amounts and respective tax bases of existing assets and liabilities, as well as for net operating loss carryforwards and research and development credits. Valuation allowances are provided if it is more likely than not that some portion or all of the deferred tax assets will not be realized. The impact of a change in tax laws is recorded in the period in which the law is enacted.

(N) Net Loss per Share

Net loss per common share is determined by dividing net loss attributable to common stockholders by the basic and diluted weighted-average common shares outstanding during the period. The Company applies the two-class method to allocate earnings between common stock and participating securities.

Net loss per diluted share attributable to common stockholders adjusts the basic earnings per share attributable to common stockholders and the weighted-average number of shares of common stock outstanding for the potential dilutive impact of stock options using the treasury-stock method and the potential impact of preferred stock using the if-converted method.

(O) Retirement Plan

The Company maintains a 401(k)-retirement plan for its employees that is intended to qualify under Sections 401(a) and 501(a) of the U.S. Internal Revenue Code of 1986, as amended ("Code"). The Company provides all active employees with a 100% matching contribution equal to 3% of an employee's eligible deferred compensation and a 50% matching contribution on employee contributions that are between 3% and 5% of an employee's eligible deferred compensation. These safe harbor contributions vest immediately. For the years ended December 31, 2023 and 2022 the Company contributed $311,640 and $339,405, respectively.

(P) Revenue Recognition

Under ASC 606, Revenue from Contracts with Customers, an entity recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration that the entity expects to receive in exchange for those goods or services. In applying ASC 606, the Company performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the promises and performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the performance obligations are satisfied. The Company only applies the five-step model to contracts when it is probable that it will collect the consideration to which it is entitled in exchange for the goods or services transferred to the customer. At contract inception, once the contract is determined to be within the scope of ASC 606, the Company assesses the goods or services promised within each contract, determines those that are performance obligations and assesses whether each promised good or service is distinct. The Company then recognizes as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) the performance obligation is satisfied.

Prior to recognizing revenue, the Company makes estimates of the transaction price, including variable consideration that is subject to a constraint. Amounts of variable consideration are included in the transaction price to the extent that it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur and when the uncertainty associated with the variable consideration is subsequently resolved.

If there are multiple distinct performance obligations, the Company allocates the transaction price to each distinct performance obligation based on its relative standalone selling price. The standalone selling price is generally determined using expected cost and comparable transactions. Revenue for performance obligations recognized over time is recognized by measuring the progress toward complete satisfaction of the performance obligations using an input measure.

Non-refundable upfront fees allocated to licenses that are not contingent on any future performance and require no consequential continuing involvement by the Company, are recognized as revenue when the license term commences and the licensed data, technology or product is delivered. The Company defers recognition of upfront license fees if the performance obligations are not satisfied.

(Q) Recent Accounting Pronouncements

The Company has reviewed recently issued accounting standards and plans to adopt those that are applicable. The Company does not expect the adoption of those standards to have a material impact on its financial position, results of operations or cash flows.

The Company adopts new pronouncements relating to GAAP applicable to the Company as they are issued, and based upon the effective dates included in the pronouncements. Management does not believe that any recently issued, but not yet effective accounting standards, if currently adopted, would have a material effect on the accompanying consolidated financial statements.

NOTE 3 – CASH, CASH EQUIVALENTS AND MARKETABLE SECURITIES

The following tables summarize the fair value of cash, cash equivalents and marketable securities as well as gross unrealized holding gains and losses as of December 31, 2023 and 2022:

	December 31, 2023			
	Amortized cost	Gross unrealized holding gains	Gross unrealized holding losses	Fair value
Cash	$ 2,701,396	$ —	$ —	$ 2,701,396
Money market funds	24,340,121	—	—	24,340,121
Marketable securities	78,791,156	702	—	78,791,858
Total cash, cash equivalents and marketable securities	$ 105,832,673	$ 702	$ —	$ 105,833,375

	December 31, 2022			
	Amortized cost	Gross unrealized holding gains	Gross unrealized holding losses	Fair value
Cash	$ 2,853,042	$ —	$ —	$ 2,853,042
Money market funds	42,014,804	—	—	42,014,804
Marketable securities	84,175,752	—	(42,187)	84,133,565
Total cash, cash equivalents and marketable securities	$ 129,043,598	$ —	$ (42,187)	$ 129,001,411

The Company did not hold any securities that were in an unrealized loss position for more than 12 months as of December 31, 2023 and 2022.

There were no material realized gains or losses on available-for-sale securities during the years ended December 31, 2023 and 2022.

NOTE 4 – PROPERTY AND EQUIPMENT AND INTANGIBLE ASSETS

Property and equipment is summarized as follows:

	December 31, 2023	December 31, 2022
Furniture and equipment	$ 1,463,340	$ 1,423,032
Leasehold improvements	306,312	306,312
Less accumulated depreciation	(1,000,899)	(581,381)
Total property and equipment, net	$ 768,753	$ 1,147,963

Depreciation expense was $419,518 and $319,173 for the years ended December 31, 2023 and 2022 respectively.

Intangible assets, net of accumulated amortization, were $182,974 and $222,100 as of December 31, 2023 and 2022, respectively, and are included in other assets. Amortization expense was $148,764 and $193,333 for the years ended December 31, 2023 and 2022, respectively.

NOTE 5 – LEASES

During September 2021, the Company entered into a 10-year lease agreement for its corporate headquarters with a term commencing March 10, 2022, for approximately 19,000 square feet of office space at Hudson Commons in New York, NY. The lease provides for monthly rental payments over the lease term. The base rent under the lease is currently $2.3 million per year. Rent payments commenced 10 months following the commencement date of the lease, or January 10, 2023, and continue for 10 years following the rent commencement date. Rent also includes two months of free rent in the sixth and seventh months following the rent commencement date. The Company issued a letter of credit in the amount of $1.9 million in association with the execution of the lease agreement; the letter of credit is characterized as restricted cash on the Company's consolidated balance sheets.

The Hudson Commons lease has a remaining lease term of approximately nine years and includes a single renewal option for an additional five years. The Company did not include the renewal option in the lease term when calculating the lease liability as the Company is not reasonably certain that it will exercise the renewal option. The present value of the lease payments is calculated using an incremental borrowing rate of 7.02%. Lease expense is included in general and administrative and research and development expenses in the consolidated statements of operations.

ROU asset and lease liabilities related to the Company's operating lease are as follows:

	December 31, 2023	December 31, 2022
ROU asset	$ 13,894,376	$ 14,922,669
Current lease liability	$ 1,246,119	$ 533,946
Long-term lease liability	$ 14,755,606	$ 16,001,725

The components of operating lease cost for the year ended December 31, 2023 and 2022 were as follows:

	December 31, 2023	December 31, 2022
Operating lease cost	$ 2,167,233	$ 1,806,028
Variable lease cost	—	—
Short-term lease cost	—	—

Future minimum commitments under the non-cancelable operating lease are as follows:

2024	$ 2,316,303
2025	2,316,303
2026	2,316,303
2027	2,316,303
2028	2,469,447
Thereafter	9,877,788
	$ 21,612,447

NOTE 6 – ACCRUED EXPENSES

Accrued expenses consist of the following:

	December 31, 2023	December 31, 2022
Payroll and bonus accrual	$ 4,277,034	$ 3,233,802
Research and development accrual	1,395,751	395,247
Professional fees accrual	521,942	682,664
Other	330,508	192,956
Total	$ 6,525,235	$ 4,504,669

NOTE 7 – STOCKHOLDERS' EQUITY

The Company's capital structure consists of common stock and preferred stock. Pursuant to the Company's amended and restated certificate of incorporation, as amended, the Company is authorized to issue up to 125,000,000 shares of common stock and 10,000,000 shares of preferred stock. The Company has designated 10,000 of the 10,000,000 authorized shares of preferred stock as non-voting Series A Convertible Preferred Stock ("Series A Preferred Stock").

The holders of common stock are entitled to one vote for each share held. The holders of common stock have no preemptive or other subscription rights, and there are no redemption or sinking fund provisions with respect to such shares. Subject to preferences that may apply to any outstanding series of preferred stock, holders of the common stock are entitled to receive ratably any dividends declared on a non-cumulative basis. The common stock is subordinate to all series of Preferred Stock with respect to rights upon liquidation, winding up and dissolution of the Company. The holders of common stock are entitled to liquidation proceeds after all liquidation preferences for the preferred stock are satisfied.

There were 1,250 shares of Series A Preferred Stock outstanding as of December 31, 2023 and 2022. Each share of Series A Preferred Stock is convertible into 1,000 shares of common stock at any time at the holder's option. However, the holder will be prohibited, subject to certain exceptions, from converting shares of Series A Preferred Stock into shares of common stock if, as a result of such conversion, the holder, together with its affiliates, would own more than, at the written election of the holder, either 9.99% or 14.99% of the total number of shares of common stock then issued and outstanding, which percentage may be changed at the holder's election to any other number less than or equal to 19.99% upon 61 days' notice to the Company; provided, however, that effective 61 days after delivery of such notice, such beneficial ownership limitations shall not be applicable to any holder that beneficially owns either 10.0% or 15.0%, as applicable based on the holder's initial written election noted above, of the total number of shares of common stock issued and outstanding immediately prior to delivery of such notice. In the event of a liquidation, dissolution, or winding up of the

Company, holders of Series A Preferred Stock will receive a payment equal to $0.001 per share of Series A Preferred Stock before any proceeds are distributed to the holders of common stock.

Dividends

Through December 31, 2023, the Company has not declared any dividends. No dividends on the common stock shall be declared and paid unless dividends on the preferred stock have been declared and paid.

NOTE 8 – STOCK-BASED COMPENSATION

The Company's Board of Directors (the "Board") adopted and approved the 2014 Equity Incentive Plan ("2014 Plan"), which authorized the Company to grant shares of common stock in the form of incentive stock options, nonstatutory stock options, stock appreciation rights, restricted stock and restricted stock units. The types of stock-based awards, including share purchase rights amount, terms, and provisions for exercising grants were determined by the Board.

The Board adopted, and the Company's stockholders approved, the 2017 equity incentive plan ("2017 Plan"), which became effective on May 4, 2017. The initial reserve of shares of common stock under the 2017 Plan was 3,052,059 shares. The 2017 Plan provides for the grant of incentive stock options, non-statutory stock options, restricted stock awards, restricted stock unit awards, stock appreciation rights, performance-based stock awards, and other forms of stock-based awards. Additionally, the 2017 Plan provides for the grant of performance awards. The Company's employees, officers, directors, consultants and advisors are eligible to receive awards under the 2017 Plan. Upon the adoption of the 2017 Plan, no further awards were granted under the 2014 Plan. Pursuant to the terms of the 2017 Plan, on each January 1st, the plan limit shall be increased by the lesser of (x) 5% of the number of shares of common stock outstanding as of the immediately preceding December 31 and (y) such lesser number as the Board may determine in its discretion. On January 1, 2022, an additional 1,000,000 shares were reserved for issuance under the 2017 Plan. On January 1, 2023, an additional 3,523,344 shares were reserved for issuance under the 2017 Plan. As of December 31, 2023, there were 4,400,759 shares of the Company's common stock reserved for issuance under the 2017 Plan. On January 1, 2024, an additional 3,534,600 shares were reserved for issuance under the 2017 Plan.

The Board adopted, and the Company's stockholders approved the 2017 employee stock purchase plan ("ESPP"), which became effective on May 4, 2017. The initial reserve of shares of common stock that may be issued under the ESPP was 279,069 shares. The ESPP allows employees to purchase common stock of the Company at a 15% discount to the market price on designated purchase dates. During the years ended December 31, 2023 and 2022, 63,761 and 76,455 shares were purchased under the ESPP and the Company recorded expense of $57,148 and $85,319, respectively. The number of shares of common stock reserved for issuance under the ESPP will automatically increase on January 1 of each year, beginning on January 1, 2018 and continuing through and including January 1, 2027, by the lesser of (i) 1% of the total number of shares of the Company's capital stock outstanding on December 31 of the preceding calendar year, (ii) 550,000 shares or (iii) such lesser number of shares determined by the Board. The Board acted prior to January 1, 2024 to provide that there be no increase in the number of shares reserved for issuance under the ESPP. As of December 31, 2023 and 2022, there were 352,846 and 416,607 shares of the Company's common stock reserved for issuance under the ESPP.

Unless specified otherwise in an individual option agreement, stock options granted under the 2014 Plan and 2017 Plan have a ten-year term and a four-year graded vesting period. The vesting requirement is generally conditioned upon the grantee's continued service with the Company during the vesting period. Once vested, all options granted are exercisable from the date of grant until they expire. The option grants are non-transferable. Vested options remain exercisable for 90 days under the 2017 Plan and 30 days under the 2014 Plan subsequent to the termination of the option holder's service with the Company. In the event of the option holder's death or disability while employed by or providing service to the Company, the exercisable period extends to 18 months or 12 months, respectively under the 2017 Plan and 6 months under the 2014 Plan..

Performance-based option awards generally have similar vesting terms, with vesting occurring on the date the performance condition is achieved and expire in accordance with the specific terms of the agreement. At December 31, 2023 and 2022, there were zero and 100,000 performance-based options outstanding and unvested, respectively, that include options to vest upon the achievement of certain research and development milestones.

The fair value of options granted during the years ended December 31, 2023 and 2022 was estimated using the Black-Scholes option valuation model. The inputs for the Black-Scholes option valuation model require significant assumptions made by management and are detailed in the table below. The risk-free interest rates were based on the rate for U.S. Treasury securities at the date of grant with maturity dates approximately equal to the expected life at the grant

date. The expected life was based on the simplified method in accordance with the SEC Staff Accounting Bulletin No. Topic 14D. The expected volatility was estimated based on the Company's published historical stock prices.

All assumptions used to calculate the grant date fair value of nonemployee options are generally consistent with the assumptions used for options granted to employees. In the event the Company terminates any of its consulting agreements, the unvested options underlying the agreements would also be cancelled.

The Company granted 45,000 and zero stock options to nonemployee consultants for services rendered during the years ended December 31, 2023 and 2022, respectively. There were 98,542 and 127,459 unvested nonemployee options outstanding as of December 31, 2023 and 2022, respectively. Total expense recognized related to the nonemployee stock options for the years ended December 31, 2023 and 2022 was $202,114 and $575,995, respectively. Total unrecognized compensation expenses related to the nonemployee stock options was $133,769 and $626,977 as of December 31, 2023 and 2022, respectively. During the years ended December 31, 2023 and 2022, there were no expenses for nonemployee performance-based option awards recognized.

The Company granted 2,993,000 and 4,575,641 stock options to employees during the years ended December 31, 2023 and 2022, respectively. There were 5,376,910 and 6,090,889 unvested employee options outstanding as of December 31, 2023 and 2022, respectively. Total expense recognized related to the employee stock options for the years ended December 31, 2023 and 2022 was $7.5 million and $5.9 million, respectively. Total unrecognized compensation expense related to employee stock options was $9.3 million and $11.5 million as of December 31, 2023 and 2022, respectively. During the years ended December 31, 2023 and 2022, the Company recognized zero and $0.1 million, respectively, in expenses for employee performance-based option awards.

The Company’s stock-based compensation expense was recognized in operating expenses as follows:

	For the Year Ended December 31,	
	2023	2022
Research and development	$ 1,936,746	$ 1,770,599
General and administrative	5,348,446	4,786,087
Total	$ 7,285,192	$ 6,556,686

	For the Year Ended December 31,	
	2023	2022
Stock options	$ 7,228,044	$ 6,471,367
Employee stock purchase plan	57,148	85,319
Total	$ 7,285,192	$ 6,556,686

The fair value of employee options granted during the years ended December 31, 2023 and 2022, respectively, was estimated by utilizing the following assumptions:

	For the Year Ended December 31,	
	2023	2022
	Weighted Average	Weighted Average
Volatility	84.52 %	87.16 %
Expected term in years	6.07	6.07
Dividend rate	0.00 %	0.00 %
Risk-free interest rate	3.97 %	2.21 %
Fair value of option on grant date	$ 1.92	$ 2.12

The fair value of nonemployee options granted and remeasured during the years ended December 31, 2023 and 2022, respectively, was estimated by utilizing the following assumptions:

	For the Year Ended December 31,	
	2023	2022
	Weighted Average	Weighted Average
Volatility	83.73 %	— %
Expected term in years	5.32	0.00
Dividend rate	0.00 %	0.00 %
Risk-free interest rate	3.86 %	— %
Fair value of option on grant date	$ 2.21	$ —

The following table summarizes the number of options outstanding and the weighted average exercise price:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life in Years	Aggregate Intrinsic Value
Options outstanding at December 31, 2021	10,776,758	$ 4.97	6.07	$ 2,389,890
Vested and exercisable at December 31, 2021	6,188,200	$ 5.98	4.63	$ 1,531,907
Granted	4,575,641	2.89	9.26	
Exercised	(25,518)	1.91		
Forfeited or expired	(2,365,643)	5.56		
Options outstanding December 31, 2022	12,961,238	$ 4.13	7.42	$ 62,158
Vested and exercisable at December 31, 2022	6,742,890	$ 5.05	6.20	$ 61,214
Granted	3,038,000	2.63	9.20	
Exercised	(146,346)	2.76		
Forfeited or expired	(728,346)	3.44		
Options outstanding December 31, 2023	15,124,546	$ 3.87	6.90	$ 5,212,586
Vested and exercisable at December 31, 2023	9,649,094	$ 4.47	5.97	$ 2,464,620

At December 31, 2023, there was $9.4 million of unamortized stock-based compensation expense, which is expected to be recognized over a remaining average vesting period of 2.23 years. At December 31, 2022, there was $12.1 million of unamortized stock-based compensation expense, which is expected to be recognized over a remaining average vesting period of 2.26 years.

NOTE 9 – INCOME TAXES

At December 31, 2023, the Company has available $150.2 million and $190.2 million of unused net operating loss (“NOL”) carryforwards for federal and state tax purposes, respectively, that may be applied against future taxable income. The Company also has $163.9 million of unused NOL carryforwards for New York City purposes. The NOL carryforwards will begin to expire in the year 2037 if not utilized prior to that date.

Under Section 382 and Section 383 of the Internal Revenue Code of 1986, if a corporation undergoes an ownership change, the corporation’s ability to use its pre-change NOL carryforwards and other pre-change tax attributes to offset its post-change income may be limited. On each of August 10, 2015 and February 22, 2019 the Company experienced an ownership change. The Company anticipates a significant portion of its pre-change NOLs to be limited, however has not yet completed a formal Section 382 analysis subsequent to the last ownership change.

The Company maintains a full valuation allowance against its net deferred tax assets. The valuation allowance increased by $18.9 million and $10.4 million during the years 2023 and 2022, respectively. The increase in valuation allowance in 2023 is primarily due to increases in NOL carryforwards and capitalized research and experimental costs.

The tax effects of temporary differences that gave rise to significant portions of the deferred tax assets and liabilities were as follows:

	December 31,	
	2023	2022
Deferred tax assets/liabilities:		
Net operating loss carryovers	$ 55,653,286	$ 55,472,573
Intangible assets	7,522,067	6,332,176
Capitalized research and experimental costs	10,909,248	4,246,071
Stock-based compensation	7,248,199	4,384,751
Royalty monetization liability	8,427,970	—
Lease liability	4,495,402	3,544,624
Research and development tax credits	2,877,649	3,046,253
Accrued compensation	—	—
Charitable contributions	—	—
Depreciation	(166,075)	(241,096)
Right-of-use asset	(3,903,379)	(3,198,857)
Other	(434,957)	97,494
Total gross deferred tax assets/liabilities	92,629,410	73,683,989
Valuation allowance	(92,629,410)	(73,683,989)
Net deferred tax assets (liabilities)	$ —	$ —

A reconciliation of the statutory U.S. Federal rate to the Company's effective tax rate is as follows:

	December 31,	
	2023	2022
Federal income tax benefit at statutory rate	21.00	21.00
State income tax, net of federal benefit	9.12	(0.27)
Permanent items	(1.32)	(1.26)
Change in valuation allowance	(29.23)	(18.50)
Research and development tax credits	1.05	1.28
Other	(0.62)	(2.25)
Effective income tax expense rate	0.00 %	0.00 %

The Company's reserves related to taxes are based on a determination of whether and how much of a tax benefit taken by the Company in its tax filings or positions is more likely than not to be realized following resolution of any potential contingencies related to the tax benefit. For the years ended December 31, 2023 and 2022, the Company had no unrecognized tax benefits or related interest and penalties accrued. The Company would recognize both accrued interest and penalties related to unrecognized benefits in provision for income taxes. The Company's uncertain tax positions yet to be determined would be related to years that remain subject to examination by relevant tax authorities. Since the Company is in a loss carryforward position, the Company is generally subject to examination by the U.S. federal, state and local income tax authorities for all tax years in which a loss carryforward is available.

NOTE 10 – COMMITMENTS AND CONTINGENCIES

License Agreements

Northwestern University License Agreement

In December 2016, the Company entered into a license agreement ("Northwestern Agreement") ///8with Northwestern University ("Northwestern"), pursuant to which Northwestern granted the Company an exclusive, worldwide license to patent rights of certain inventions ("Northwestern Patent Rights") which relate to a specific compound and

related methods of use for such compound, along with certain know-how related to the practice of the inventions claimed in the Northwestern Patent Rights. The Company is developing OV329 under this agreement.

Under the Northwestern Agreement, the Company was granted exclusive rights to research, develop, manufacture and commercialize products utilizing the Northwestern Patent Rights for all uses. The Company has agreed that it will not use the Northwestern Patent Rights to develop any products for the treatment of cancer, but Northwestern may not grant rights in the technology to others for use in cancer. The Company also has an option, exercisable during the term of the agreement to an exclusive license under certain intellectual property rights covering novel compounds with the same or similar mechanism of action as the primary compound that is the subject of the license agreement. Northwestern has retained the right, on behalf of itself and other non-profit institutions, to use the Northwestern Patent Rights and practice the inventions claimed therein for educational and research purposes and to publish information about the inventions covered by the Northwestern Patent Rights.

Upon entry into the Northwestern Agreement, the Company paid an upfront non-creditable one-time license issuance fee of $75,000 and is required to pay an annual license maintenance fee of $20,000, which will be creditable against any royalties payable to Northwestern following first commercial sale of licensed products under the agreement. The Company is responsible for all ongoing costs of filing, prosecuting and maintaining the Northwestern Patent Rights, but also has the right to control such activities using its own patent counsel. In consideration for the rights granted to the Company under the Northwestern agreement, the Company is required to pay to Northwestern up to an aggregate of $5.3 million upon the achievement of certain development and regulatory milestones for the first product covered by the Northwestern Patent Rights, and upon commercialization of any such products, will be required to pay to Northwestern a tiered royalty on net sales of such products by the Company, its affiliates or sublicensees, at percentages in the low to mid-single-digits, subject to standard reductions and offsets. The Company’s royalty obligations continue on a product-by-product and country-by-country basis until the later of the expiration of the last-to-expire valid claim in a licensed patent covering the applicable product in such country and 10 years following the first commercial sale of such product in such country. If the Company sublicenses a Northwestern Patent Right, it will be obligated to pay to Northwestern a specified percentage of sublicense revenue received by the Company, ranging from the high single-digits to the low-teens.

The Northwestern agreement requires that the Company use commercially reasonable efforts to develop and commercialize at least one product that is covered by the Northwestern Patent Rights.

Unless earlier terminated, the Northwestern agreement will remain in force until the expiration of the Company’s payment obligations thereunder. The Company has the right to terminate the agreement for any reason upon prior written notice or for an uncured material breach by Northwestern. Northwestern may terminate the agreement for the Company’s uncured material breach or insolvency.

AstraZeneca AB License Agreement

In December 2021, the Company entered into an exclusive license agreement with AstraZeneca AB (“AstraZeneca”), for a library of early-stage small molecules targeting the KCC2 transporter, including lead candidate OV350. Upon execution of the agreement, the Company was obligated to pay an upfront cash payment of $5.0 million and issued shares of the Company's common stock in an amount that equaled $7.3 million based on the volume-weighted average price of shares of the Company's common stock for the 30 business days immediately preceding the execution date of the transaction. Since the intangibles acquired in the AstraZeneca license agreement do not have an alternative future use, all costs incurred were treated as research and development expense. The Company recorded a total of $12.3 million as research and development expense related to this agreement during December 2021.

Pursuant to the AstraZeneca license agreement, the Company agreed to potential milestone payments of up to $203.0 million upon the achievement of certain developmental, regulatory and sales milestones. The first payment of $3.0 million is due upon the successful completion of the first Phase 2 clinical study of a licensed product following a positive biomarker readout in a Phase 1 clinical study.

Gensaic Collaboration and Option Agreement

In August 2022, the Company entered into a collaboration and option agreement with Gensaic (“Gensaic Collaboration Agreement”). The Gensaic Collaboration Agreement involves the research and development of phage-derived particle (“PDP”) products on Gensaic's proprietary platform for certain rare central nervous system (“CNS”) disorder targets.

Under the Collaboration Agreement, Gensaic grants the Company an option to obtain an exclusive license with respect to certain identified lead PDP products, which are exercisable at any time prior to the expiration of the option period. Once a product is identified by the Company that demonstrates sufficient efficacy, the Company may exercise its option with respect to the specific research program for that PDP product.

The Company shall reimburse Gensaic for Gensaic's research costs related to the specific research plan for PDP products identified. The research plan and budget shall be mutually agreed upon by the parties and shall not exceed $3.0 million in any research year. The Company will record these reimbursement payments as research and development costs in the period the research costs are incurred. In May 2023, the Company identified a lead PDP candidate for further research and provided $3.5 million to Gensaic to support the approved research plan and budget. The amount is expensed as the research and development occurs with the remaining amount included in prepaid expenses and other current assets in the condensed consolidated balance sheets.

If a product is ultimately commercialized under this agreement, the Company shall make tiered royalty payments to Gensaic in the mid-single to low double-digit range based on the net sales of all licensed PDP products during the royalty term. The Company is also responsible for potential tiered milestone payments of up to $452.0 million based upon the achievement of certain sales milestone events and developmental milestone approvals for three or more products. Gensaic also has the option to become a collaborative partner in the development and commercialization of PDP products in exchange for a fee based on a percentage of the costs incurred by the Company through the date Gensaic exercises its option. The Company would no longer be required to pay Gensaic royalty or milestone payments if Gensaic elects to exercise its option.

The Company may terminate this agreement by providing written notice to Gensaic 90 days in advance of the termination date.

As of December 31, 2023, none of these contingent payments were considered probable.

Contingencies

Liabilities for loss contingencies arising from claims, assessments, litigation, fines, and penalties and other sources are recorded when it is probable that a liability has been incurred and the amount can be reasonably estimated. Legal costs incurred in connection with loss contingencies are expensed as incurred. The Company is not currently involved in any legal matters arising in the normal course of business.

Under the terms of their respective employment agreements, each of the Company's named executive officers is eligible to receive severance payments and benefits upon a termination without “cause” or due to “permanent disability,” or upon “resignation for good reason,” contingent upon the named executive officer’s delivery to the Company of a satisfactory release of claims, and subject to the named executive officer’s compliance with non-competition and non-solicitation restrictive covenants for two years following the termination date.

NOTE 11 – COLLABORATION AGREEMENTS

Takeda Collaboration

In January 2017, the Company entered into a license and collaboration agreement with Takeda under which the Company licensed from Takeda certain exclusive rights to develop and commercialize soticlestat in certain territories.

In March 2021, the Company entered into the RLT Agreement with Takeda, pursuant to which Takeda secured rights to the Company’s 50% global share in soticlestat, and the Company granted to Takeda an exclusive worldwide license under the Company’s relevant intellectual property rights to develop and commercialize the investigational medicine soticlestat for the treatment of developmental and epileptic encephalopathies, including Dravet syndrome and Lennox-Gastaut syndrome.

Under the RLT Agreement, all rights in soticlestat are owned by Takeda or exclusively licensed to Takeda by the Company. Takeda assumed all responsibility for, and costs of, both development and commercialization of soticlestat, and the Company will no longer have any financial obligation to Takeda under the original collaboration agreement, including milestone payments or any future development and commercialization costs. In March 2021, upon the closing of the RLT Agreement, the Company received an upfront payment of $196.0 million and, if soticlestat is successfully developed, will be eligible to receive up to an additional $660.0 million upon Takeda achieving developmental, regulatory and sales milestones. In addition, the Company will be entitled to receive tiered royalties beginning in the low double-digits, and up to 20% on sales of soticlestat if regulatory approval is achieved. Royalties will be payable on a country-by-country and product-by-product basis for any indications that soticlestat is approved for and sold during the period beginning on the date of the first commercial sale of such product in such country and ending on the later to occur of the expiration of patent rights covering the product in such country and a specified anniversary of such first commercial sale. In 2023, the Company sold a 13% stake in the royalty, regulatory and commercial milestone payments that the Company is eligible to receive under the RLT Agreement to Ligand for $30.0 million.

During the years ended December 31, 2023 and 2022, no income or expense was recognized pursuant to the RLT Agreement.

Healx License and Option Agreement

In February 2022, the Company entered an exclusive license option agreement ("Healx License and Option Agreement") with Healx, Ltd. ("Healx"). Under the terms of the Healx License and Option Agreement, Healx secured a one-year option to investigate gaboxadol ("OV101") as part of a potential combination therapy for Fragile X syndrome in a Phase 1B/2A clinical trial, as well as a treatment for other indications, for an upfront payment of $0.5 million, and fees to support prosecution and maintenance of the Company's relevant intellectual property rights. At the end of the one-year option period, Healx had the option to secure rights to an exclusive license under the Company's relevant intellectual property rights, in exchange for an additional payment of $2.0 million, development and commercial milestone payments, and low to mid-tier double-digit royalties. In February 2023, the Company granted an extension of the option period for up to four months for Healx to continue to investigate gaboxadol. Royalties are payable on a country-by-country and product-by-product basis during the period beginning on the date of the first commercial sale of such product in such country and ending on the later to occur of the expiration of patent rights covering the product in such country and a specified anniversary of such first commercial sale.

Healx will assume all responsibility for, and costs of, both development and commercialization of gaboxadol following the exercise of the option. The Company will retain the option to co-develop and co-commercialize the program with Healx ("Ovid Opt-In Right"), at the end of a positive readout of clinical Phase 2B and would share net profits and losses in lieu of the milestones and royalty payments. If the Ovid-Opt-In Right were exercised, the Company would be required to pay Healx 50% of development costs. The Company does not plan to conduct further trials of gaboxadol. The term of the Healx License and Option Agreement will continue until the later of (a) the expiration of all relevant royalty terms, or in the event that Healx does not exercise its option during the option period defined in the Healx License and Option Agreement ("Option Period"), the expiration of such period, or (b) in the event that Healx does exercise its option during the Option Period, and the Company does not exercise the Ovid Opt-In Right during the period of time it has to opt-in ("Opt-In Period") or the opt-in terms are otherwise terminated, upon the expiration of all payment obligations, or (c) in the event that Healx does exercise the Option during the Option Period, and the Company does exercise the Ovid Opt-In Right during the Opt-In Period, such time as neither Healx nor the Company is continuing to exploit gaboxadol. Further, if the Company exercises the Ovid Opt-In Right to co-develop and co-commercialize the program, it will owe an equal share of any net profits to a third party with which it previously established a licensing agreement. If the Company does not exercise the Ovid Opt-In Right, it will owe the third party an equal share of all milestone and royalty payments received.

In June 2023, the Company entered into an amendment to the Healx License and Option Agreement whereby revisions were made to terms regarding the timing of the option exercise fee payable by Healx to the Company, the clinical and regulatory milestone payment structure, and the royalty payment structure. Additionally, the parties agreed that following the exercise of the option, Healx would assume direct responsibility for patent maintenance and prosecution and that the Company would transfer to Healx all supply obligations with respect to the active pharmaceutical ingredient and finished gaboxadol products and any related licensed technology and know-how in the Company's possession that is relevant to the manufacture of such licensed products.

No revenue was recognized relating to this agreement during the year ended December 31, 2023. During the year ended December 31, 2022, the Company recorded revenue of $0.5 million associated with the Healx License and Option Agreement.

Marinus Pharmaceuticals Out-License Agreement

In March 2022 the Company entered into an exclusive patent license agreement with Marinus ("Marinus License Agreement"). Under the Marinus License Agreement, the Company granted Marinus an exclusive, non-transferable (except as expressly provided therein), royalty-bearing right and license under certain Ovid patents relating to ganaxolone to develop, make, have made, commercialize, promote, distribute, sell, offer for sale and import licensed products in the territory (which consists of the United States, the European Economic Area, United Kingdom and Switzerland) for the treatment of CDKL5 deficiency disorders. Following the date of regulatory approval by the FDA of the first licensed product in the territory which was received on March 18, 2022, Marinus issued, at the Company's option, 123,255 shares of Marinus common stock, par value $0.001 per share, as payment. The Marinus License Agreement also provides for payment of royalties from Marinus to the Company in single-digits on net sales of each such licensed product sold.

The Company recorded revenue and an associated investment in equity securities of approximately $0.9 million related to the Marinus License Agreement in March 2022, based on the price of Marinus common stock at that time. The Company had unrealized gains on the Marinus common stock of $0.8 million for the year ended December 31, 2023, and unrealized loss of $0.5 million for the year ended December 31, 2022, which were recorded as unrealized gains (losses) on equity securities and reflected in other income (expenses), net in the consolidated statements of operations.

Graviton License Agreement and Equity Purchase

In April 2023, the Company entered into a collaboration and license agreement with Graviton ("Graviton Agreement"), whereby it secured from Graviton an exclusive license to develop and commercialize Graviton's library of ROCK2 inhibitors including their lead program GV101 (OV888) in rare CNS disorders (excluding amyotrophic lateral sclerosis) worldwide (excluding China, Hong Kong, Macau and Taiwan). Under the Graviton Agreement, the Company and Graviton plan to investigate GV101 in cerebral cavernous malformations as well as Graviton's library of ROCK2 inhibitors in other rare CNS disorders. The Company will be responsible for all development and commercialization costs of the products. Should the Company receive regulatory approval and commercialize any of Graviton's ROCK2 inhibitors, it will pay Graviton tiered royalties on net sales ranging from the mid to high teens. As part of the Graviton Agreement, the Company also purchased shares of Graviton's preferred stock for $10.0 million. The Company recorded the purchase of the preferred stock as a long-term equity investment on its consolidated balance sheets. In December 2023, the Company recognized an unrealized gain on the investment due to an observable change in price, and recorded the gain in other income (expense), net, in the consolidated statements of operations.

NOTE 12 – RELATED PARTY TRANSACTIONS

In March 2021, the Company entered into the RLT Agreement with Takeda. For a description of the RLT Agreement, see Note 11.

NOTE 13 – NET LOSS PER SHARE

Basic net loss per share is calculated based upon the weighted-average number of common shares outstanding during the period, excluding outstanding stock options that have not yet vested. For any period in which the Company records net income, diluted net income per share is calculated based upon the weighted-average number of common shares outstanding during the period plus the dilutive impact of weighted-average common equivalent shares outstanding during the period resulting from the assumed exercise of outstanding stock options determined under the treasury stock method and the assumed conversion of preferred stock into common shares determined using the if-converted method. Diluted net loss per share is equivalent to the basic net loss per share due to the exclusion of outstanding stock options and convertible preferred stock because the inclusion of these securities would result in an anti-dilutive effect on per share amounts.

The basic and diluted net loss per common share is presented in conformity with the two-class method required for participating securities and multiple classes of shares. The Company considers its preferred stock to be participating securities.

For any period in which the Company records net income, undistributed earnings allocated to the participating securities are subtracted from net income in determining net income attributable to common stockholders. The undistributed earnings have been allocated based on the participation rights of preferred stock and common shares as if the earnings for the year have been distributed. For periods in which the Company recognizes a net loss, undistributed losses are allocated only to common shares as the participating securities do not contractually participate in the Company's losses. Basic net loss per share is computed by dividing the net loss attributable to common stockholders by the weighted-average number of common shares outstanding during the period. Participating securities are excluded from basic weighted-average common shares outstanding.

The following tables summarizes the calculation of basic and diluted net loss per share:

	For the Year Ended December 31,	
	2023	2022
Net loss	$ (52,338,959)	$ (54,169,029)
Net income attributable to participating securities	—	—
Net loss attributable to common stockholders	$ (52,338,959)	$ (54,169,029)

	For the Year Ended December 31,	
	2023	2022
Net loss attributable to common stockholders	$ (52,338,959)	$ (54,169,029)
Weighted average common shares outstanding used in computing net loss per share - basic	70,580,604	70,424,819
Weighted average common shares outstanding used in computing net loss per share - diluted	70,580,604	70,424,819
Net loss per share, basic	$ (0.74)	$ (0.77)
Net loss per share, diluted	$ (0.74)	$ (0.77)

The following potentially dilutive securities have been excluded from the computations of diluted weighted-average shares outstanding as they would be anti-dilutive:

	For the Year Ended December 31,	
	2023	2022
Stock options to purchase common stock	15,124,546	12,961,238
Common stock issuable upon conversion of Series A convertible preferred stock	1,250,000	1,250,000

Exhibit 4.2

DESCRIPTION OF THE SECURITIES OF OVID THERAPEUTICS INC.

The following description of our capital stock and provisions of our amended and restated certificate of incorporation, as amended, and amended and restated bylaws are summaries. You should also refer to the amended and restated certificate of incorporation, as amended, and the amended and restated bylaws, which are included as an exhibit to our Annual Report on Form 10-K. All references to the "we," "our," or "us" refer to Ovid Therapeutics Inc.

General

Under our amended and restated certificate of incorporation we are authorized to issue up to 125,000,000 shares of common stock, $0.001 par value per share, and 10,000,000 shares of preferred stock, $0.001 par value per share, all of which shares of preferred stock are undesignated. Our board of directors has designated 10,000 shares of preferred stock as Series A Convertible Preferred Stock, or Series A Preferred Stock, and may establish the rights and preferences of other series of preferred stock from time to time.

Common Stock

Voting Rights

Each holder of common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders. The affirmative vote of holders of at least 66 2/3% of the voting power of all of the then-outstanding shares of capital stock, voting as a single class, will be required to amend certain provisions of our amended and restated certificate of incorporation, including provisions relating to amending our amended and restated bylaws, the classified board, the size of our board, removal of directors, director liability, vacancies on our board, special meetings, stockholder notices, actions by written consent and exclusive jurisdiction.

Dividends

Subject to preferences that may apply to any outstanding preferred stock, holders of our common stock are entitled to receive ratably any dividends that our board of directors may declare out of funds legally available for that purpose on a non-cumulative basis.

Liquidation

In the event of our liquidation, dissolution or winding up, holders of our common stock are entitled to share ratably in all assets remaining after payment of liabilities and the liquidation preference of any outstanding preferred stock.

Rights and Preferences

Holders of our common stock have no preemptive, conversion, subscription or other rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of our common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of our preferred stock that we may designate in the future.

Preferred Stock

Pursuant to our amended and restated certificate of incorporation, our board of directors has the authority, without further action by our stockholders, to issue up to 10,000,000 shares of preferred stock in one or more series and to fix the number, rights, preferences, privileges and restrictions thereof. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences and sinking fund terms, and the number of shares constituting any series or the designation of such series, any or all of which may be greater than the rights of common stock. The issuance of our preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deferring or preventing a change of control or other corporate action, or make the removal of management more difficult.

Additionally, the issuance of preferred stock may have the effect of decreasing the market price of the common stock.

The Delaware General Corporation Law, or DGCL, which is the law of the state of our incorporation, provides that the holders of preferred stock will have the right to vote separately as a class (or, in some cases, as a series) on an amendment to our certificate of incorporation if the amendment would change the par value, the powers, preferences or special rights of the class or series so as to adversely affect the class or series, as the case may be, or, unless the certificate of incorporation provided otherwise, the number of authorized shares of the class. This right is in addition to any voting rights that may be provided for in the applicable certificate of designation.

Series A Convertible Preferred Stock

Our board of directors has designated 10,000 shares of preferred stock as Series A Preferred Stock. Our Series A Preferred Stock is not registered under Section 12 of the Securities Exchange Act of 1934, as amended. The following summary of certain terms and provisions of our Series A Preferred Stock is subject to, and qualified in its entirety by reference to, the terms and provisions set forth in our certificate of designation of preferences, rights and limitations of Series A Preferred Stock.

Rank

The Series A Preferred Stock ranks senior to all of our common stock.

Conversion

Each share of the Series A Preferred Stock is convertible into 1,000 shares of our common stock (subject to adjustment as provided in the related certificate of designation of preferences rights and limitations) at any time at the option of the holder, provided that the holder will be prohibited, subject to certain exceptions, from converting Series A Preferred Stock into shares of our common stock if, as a result of such conversion, the holder, together with its affiliates, would own more than, at the written election of the holder, either 9.99% or 14.99% of the total number of shares of our common stock then issued and outstanding, which percentage may be changed at the holder's election to any other number less than or equal to 19.99% upon 61 days' notice to us; *provided*, *however*, that effective 61 days after delivery of such notice, such beneficial ownership limitations shall not be applicable to any holder that beneficially owns at least either 10.0% or 15.0%, as applicable based on the holder's initial written election noted above, of the total number of shares of our common stock issued and outstanding immediately prior to delivery of such notice.

Liquidation Preference

In the event of our liquidation, dissolution or winding up, holders of the Series A Preferred Stock will receive a payment equal to $0.001 per share of Series A Preferred Stock before any proceeds are distributed to the holders of our common stock.

Fundamental Transaction

Upon consummation of a Fundamental Transaction (as defined below) pursuant to which holders of shares of our common stock are entitled to receive securities, cash or property, then upon any subsequent conversion of the Series A Preferred Stock, the holder thereof shall have the right to receive, in lieu of the right to receive the shares of our common stock underlying the Series A Preferred Stock, for each share of common stock that it would have otherwise been entitled to receive upon such conversion immediately prior to the occurrence of such Fundamental Transaction, the same kind and amount of securities, cash or property as it would have been entitled to receive upon the occurrence of such Fundamental Transaction if it had been, immediately prior to such Fundamental Transaction, the holder of one share of our common stock. If holders of our common stock are given a choice as to the securities, cash or property to be received in a Fundamental Transaction, then the holder of the Series A Preferred Stock shall be given the same choice as to the consideration it receives upon any exercise of the Series A Preferred Stock following such Fundamental Transaction.

A "Fundamental Transaction" means:

- we effect any merger or consolidation with or into another person or any stock sale to, or other business combination (including, without limitation, a reorganization, recapitalization, spin-off, share exchange or scheme of arrangement) with or into another person (other than such a transaction in which we are the surviving or continuing entity and our common stock is not exchanged for or converted into other securities, cash or property);
- we effect any sale of all or substantially all of our assets in one transaction or a series of related transactions;
- any tender offer or exchange offer (whether by us or another person) is completed pursuant to which more than 50% of the common stock not held by us or such person is exchanged for or converted into other securities, cash or property; or
- we effect any reclassification of our common stock or any compulsory share exchange pursuant (other than specified dividends, subdivisions or combinations) to which our common stock is effectively converted into or exchanged for other securities, cash or property.

Voting Rights

Shares of Series A Preferred Stock will generally have no voting rights, except as required by law and except that the consent of the holders of a majority of the outstanding shares of Series A Preferred Stock will be required to amend the terms of the Series A Preferred Stock.

Dividends

Shares of Series A Preferred Stock will be entitled to receive dividends at a rate equal to (on an as-if-converted-to-common stock basis), and in the same form and manner as, dividends actually paid on shares of common stock.

Redemption

We are not obligated to redeem or repurchase any shares of Series A Preferred Stock. Shares of Series A Preferred Stock are not otherwise entitled to any redemption rights or mandatory sinking fund or analogous fund provisions.

Anti-Takeover Provisions

Section 203 of the Delaware General Corporation Law

We are subject to Section 203 of the DGCL, which prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years after the date that such stockholder became an interested stockholder, with the following exceptions:

- before such date, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction began, excluding for purposes of determining the voting stock outstanding, but not the outstanding voting stock owned by the interested stockholder, those shares owned (i) by persons who are directors and also officers and (ii) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or after such date, the business combination is approved by the board of directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 defines a "business combination" to include the following:

- any merger or consolidation involving the corporation and the interested stockholder; any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits by or through the corporation.

In general, Section 203 defines an "interested stockholder" as an entity or person who, together with the entity or person's affiliates and associates, beneficially owns, or is an affiliate or associate of the corporation and within three years prior to the time of determination of interested stockholder status did own, 15% or more of the outstanding voting stock of the corporation.

Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws

Among other things, our amended and restated certificate of incorporation and amended and restated bylaws:

- permit our board of directors to issue up to 10,000,000 shares of preferred stock, with any rights, preferences and privileges as they may designate, including the right to approve an acquisition or other change in control;
- provide that the authorized number of directors may be changed only by resolution of our board of directors;
- provide that our board of directors will be classified into three classes of directors;
- provide that, subject to the rights of any series of preferred stock to elect directors, directors may only be removed for cause, which removal may be effected, subject to any limitation imposed by law, by the holders of at least a majority of the voting power of all of our then-outstanding shares of the capital stock entitled to vote generally at an election of directors;
- provide that all vacancies, including newly created directorships, may, except as otherwise required by law, be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum;
- require that any action to be taken by our stockholders must be effected at a duly called annual or special meeting of stockholders and not be taken by written consent or electronic transmission;
- provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide advance notice in writing, and also specify requirements as to the form and content of a stockholder's notice;
- provide that special meetings of our stockholders may be called only by the chairman of our board of directors, our chief executive officer or president or by our board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors; and
- not provide for cumulative voting rights, therefore allowing the holders of a majority of the shares of common stock entitled to vote in any election of directors to elect all of the directors standing for election, if they should so choose.
- The amendment of any of these provisions would require approval by the holders of at least 66 2/3% of the voting power of all of our then-outstanding common stock entitled to vote generally in the election of directors, voting together as a single class.

The combination of these provisions will make it more difficult for our existing stockholders to replace our board of directors as well as for another party to obtain control of us by replacing our board of directors. Because our board of directors has the power to retain and discharge our officers, these provisions could also make it more difficult for existing stockholders or another party to effect a change in management. In addition, the authorization of

undesignated preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change our control.

These provisions are intended to enhance the likelihood of continued stability in the composition of our board of directors and its policies and to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to reduce our vulnerability to hostile takeovers and to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and may have the effect of delaying changes in our control or management. As a consequence, these provisions may also inhibit fluctuations in the market price of our stock that could result from actual or rumored takeover attempts. We believe that the benefits of these provisions, including increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure our company, outweigh the disadvantages of discouraging takeover proposals, because negotiation of takeover proposals could result in an improvement of their terms.

Choice of Forum

Our amended and restated certificate of incorporation provides that unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall (or, if and only if the Court of Chancery of the State of Delaware lacks subject matter jurisdiction, any state court located within the State of Delaware or, if and only if all such state courts lack subject matter jurisdiction, the federal district court for the District of Delaware), the Court of Chancery of the State of Delaware will be the exclusive forum for (1) any derivative action or proceeding brought on our behalf, (2) any action or proceeding commenced by any of our stockholders (including any class action) asserting a breach of fiduciary duty owed, or other wrongdoing, by any director, officer, employee or agent to us or our stockholders, (3) any action or proceeding commenced by any of our stockholders (including any class action) asserting a claim against us arising pursuant to the DGCL our amended and restated certificate of incorporation or our amended and restated bylaws, (4) any action or proceeding commenced by any of our stockholders (including any class action) to interpret, apply, enforce or determine the validity of our amended and restated certificate of incorporation or our amended and restated bylaws, or (5) any action or proceeding commenced by any of our stockholders (including any class action) asserting a claim against us that is governed by the internal affairs doctrine. The enforceability of similar choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that, in connection with one or more actions or proceedings described above, a court could find the choice of forum provisions contained in our amended and restated certificate of incorporation to be inapplicable or unenforceable.

OVID THERAPEUTICS INC.

NON-EMPLOYEE DIRECTOR COMPENSATION POLICY

This amended Non-Employee Director Compensation Policy, effective May 5, 2022 (this "Policy"), supersedes and replaces that certain Non-Employee Director Compensation Policy dated July 24, 2015, as amended from time to time.

Each member of the Board of Directors (the "Board") of Ovid Therapeutics Inc. (the "Company") who is not also serving as an employee of the Company or any of its subsidiaries (each such member, an "Eligible Director") will receive the compensation described in this Policy. An Eligible Director may decline all or any portion of his or her compensation by giving notice to the Company prior to the date cash is to be paid or equity awards are to be granted, as the case may be. This Policy may be amended at any time in the sole discretion of the Board or the Compensation Committee of the Board.

Annual Cash Compensation

The annual cash compensation amount set forth below is payable to Eligible Directors in equal quarterly installments, payable in arrears on the last day of each fiscal quarter in which the service occurred. If an Eligible Director joins the Board or a committee of the Board at a time other than effective as of the first day of a fiscal quarter, each annual retainer set forth below will be pro-rated based on days served in the applicable fiscal year, with the pro-rated amount paid for the first fiscal quarter in which the Eligible Director provides the service, and regular full quarterly payments to be paid thereafter. All annual cash fees are vested upon payment.

1. Annual Board Service Retainer:
   a. All Eligible Directors: $40,000
   b. Lead Independent Director: $20,000

2. Annual Committee Member Service Retainer:
   a. Member of the Audit Committee: $7,500
   b. Member of the Compensation Committee: $5,000
   c. Member of the Nominating and Corporate Governance Committee: $5,000

3. Annual Committee Chair Service Retainer (in addition to Committee Member Service Retainer):
   a. Chairperson of the Audit Committee: $15,000
   b. Chairperson of the Compensation Committee: $12,500
   c. Chairperson of the Nominating and Corporate Governance Committee: $12,500

The Company will also reimburse each of the Eligible Directors for his or her travel expenses incurred in connection with his or her attendance at Board and committee meetings. Such reimbursements shall be paid on the same date as the annual cash fees are paid.

Equity Compensation

The equity compensation set forth below will be granted under the Company's 2017 Equity Incentive Plan (the "Plan"), subject to the approval of the Plan by the Company's stockholders. All stock

options granted under this Policy will be nonstatutory stock options, with an exercise price per share equal to 100% of the Fair Market Value (as defined in the Plan) of the underlying common stock on the date of grant, and a term of 10 years from the date of grant (subject to earlier termination in connection with a termination of service as provided in the Plan).

1. Initial Grant: For each Eligible Director who is first elected or appointed to the Board following the effective date of this Policy, on the date of such Eligible Director's initial election or appointment to the Board (or, if such date is not a market trading day, the first market trading day thereafter), the Eligible Director will be automatically, and without further action by the Board or Compensation Committee of the Board, granted a stock option to purchase a number of shares of the Company's common stock equal to 30,000 shares of the Company's common stock. The shares subject to each such stock option will vest monthly over a three-year period, subject to the Eligible Director's Continuous Service (as defined in the Plan) on each vesting date.

2. Annual Grant: On the day that the Company's Board or Compensation Committee grants annual equity awards to the Company's executive officers and other employees, each Eligible Director who is serving as a member of the Board on such date will be automatically, and without further action by the Board or Compensation Committee of the Board, be granted a stock option to purchase 15,000 shares of the Company's common stock. The shares subject to each such stock option will vest in full on the date that is 12 months after the grant date, subject to the Eligible Director's Continuous Service (as defined in the Plan) through such vesting date.

Approved: May 5, 2022

Exhibit 10.21

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY [***], HAS BEEN OMITTED BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE AND CONFIDENTIAL

PURCHASE AND SALE AGREEMENT

dated as of October 17, 2023

between

OVID THERAPEUTICS INC.

and

LIGAND PHARMACEUTICALS INCORPORATED

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PURCHASE AND SALE AGREEMENT

This PURCHASE AND SALE AGREEMENT (this "Agreement") dated as of October 17, 2023 is between Ovid Therapeutics Inc. a Delaware corporation (the "Seller"), and Ligand Pharmaceuticals Incorporated, a Delaware corporation (the "Purchaser") (each of Seller and Purchaser a "Party" and collectively, the "Parties").

W I T N E S S E T H :

WHEREAS, Seller has the right to receive royalties and milestones based on Net Sales of the Royalty Product (as defined below) under the Takeda Agreement (as defined below); and

WHEREAS, Seller desires to sell, assign, transfer, convey and grant to Purchaser, and Purchaser desires to purchase, acquire and accept from Seller, the Purchased Assets (as defined below), upon and subject to the terms and conditions set forth in this Agreement.

NOW, THEREFORE, in consideration of the premises and the mutual agreements, representations and warranties set forth herein and of other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the Parties covenant and agree as follows:

ARTICLE I
DEFINED TERMS AND RULES OF CONSTRUCTION

Section 1.1 Defined Terms. The following terms, as used herein, shall have the following respective meanings:

"Acquisition Event" has the meaning set forth in Section 5.6(d).

"Action" means any claim, action, cause of action, suit, litigation, demand, charge, summons, arbitration, mediation, investigation, opposition, interference, examination, hearing, complaint, or other legal proceeding (whether sounding in statute, contract, tort or otherwise, whether administrative, civil or criminal, and whether brought at law or in equity).

"Adverse Market Event" means the date on which [***].

"Affiliate" means, with respect to any designated Person, any other Person that, directly or indirectly, controls, is controlled by or is under common control with such designated Person. For purposes of this definition, "control" of a Person means the possession, directly or indirectly, of greater than fifty percent (50%) of the outstanding voting securities of such Person, on an as converted basis, or otherwise the power to direct or cause the direction of the management and policies of such Person, whether through the ownership of voting securities, by contract or otherwise, and the terms "controlled" and "controlling" have meanings correlative to the foregoing.

"Agreed Amount" has the meaning set forth in Section 7.5.

"Agreement" has the meaning set forth in the preamble.

"Ancillary Agreements" has the meaning set forth in Section 1.4 of the Takeda Agreement.

"Applicable Percentage" means on any date, with respect to any Royalty Party, such Royalty Party's percentage interest in the Royalty/Milestone Interests on such date. For the avoidance of doubt, Purchaser's Applicable Percentage in the Royalty/Milestone Interests, on any date, equals the Purchaser Applicable Percentage on such date.

"Bankruptcy Code" means Title 11 of the United States Code.

"Bill of Sale" means that certain bill of sale, dated as of the Closing Date, executed by Seller and Purchaser, substantially in the form attached hereto as Exhibit A.

"Business Day" means any day that is not a Saturday, Sunday or other day on which commercial banks in New York City are authorized or required by applicable Law to remain closed. For the avoidance of doubt, solely with respect to any notice or other communication required to be given or delivered hereunder, limitations on the operations of commercial banks due to the outbreak of a contagious disease, epidemic or pandemic (including COVID-19), or any quarantine, shelter-in-place or similar or related directive, shall not prevent a day that would otherwise be a Business Day hereunder from so being a Business Day.

"Calendar Year" means each twelve (12) month period ending on December 31; *provided* that the first Calendar Year under this Agreement shall begin on the Closing Date and end on December 31, 2023 and the last Calendar Year under this Agreement shall end on the date of expiration or termination of this Agreement.

"Claim Amount" has the meaning set forth in Section 7.5.

"Claim Notice" has the meaning set forth in Section 7.5.

"Closing" has the meaning set forth in Section 6.1.

"Closing Date" has the meaning set forth in Section 6.1.

"Code" means the U.S. Internal Revenue Code of 1986, as amended, and the regulations thereunder.

"Commercialize" has the meaning set forth in Section 1.17 of the Takeda Agreement.

"Competing Product" has the meaning set forth in Section 1.18 of the Takeda Agreement.

"Competitor" means any Person that has publicly disclosed that such Person is directly (including through any subsidiaries) engaged [***].

"Confidential Information" has the meaning set forth in Section 8.1.

"Confidentiality Agreement" has the meaning set forth in Section 8.3.

"Confidentiality Restriction" has the meaning set forth in Section 8.7.

"Covered" or "Covering" means, with respect to a Royalty Product, and a patent or patent application in a particular country, that the manufacture, importation, offer for sale, use or sale of such Royalty Product in such country would: (a) in the absence of a license, infringe a Valid Claim of a patent; or (b) with respect to a patent application, infringe a Valid Claim of such application if it were issued as a patent.

"Develop" has the meaning set forth in Section 1.24 of the Takeda Agreement.

"Disclosing Party" has the meaning set forth in Section 8.1.

"Disproportionate MAE" has the meaning set forth in Section 5.7(b).

"Disputes" has the meaning set forth in Section 3.9(d).

"Divestment Transaction" has the meaning set forth in Section 1.31 of the Takeda Agreement.

"Epilepsy Field" has the meaning set forth in Section 15.1 of the Takeda Agreement.

"Escrow Account" means the segregated account established pursuant to the Escrow Agreement, into which all payments of the Royalty/Milestone Interests are to be remitted, including payments of amounts payable by Takeda pursuant to the Instruction Letter.

"Escrow Agent" means Wilmington Trust, National Association, as escrow agent.

"Escrow Agreement" means that certain escrow agreement, dated as of the Closing Date, executed by Seller, Purchaser and the Escrow Agent, substantially in the form attached hereto as Exhibit C.

"Excluded Assets" has the meaning set forth in Section 2.3.

"Excluded Liabilities and Obligations" has the meaning set forth in Section 2.2.

"Expense Reimbursement" means the out-of-pocket expenses incurred by Purchaser in connection with the negotiation of the Transaction Documents that is agreed to be reimbursed by Seller to Purchaser, up to $100,000.

"FDA" means the U.S. Food and Drug Administration and any successor agency thereto.

"Fundamental Representations" means the representations and warranties contained in [***].

"GAAP" means generally accepted accounting principles in effect in the United States from time to time.

"Governmental Authority" means the government of the United States, any other nation or any political subdivision thereof, whether state or local, and any agency, authority (including supranational authority), commission, instrumentality, regulatory body, court, central bank or other Person exercising executive, legislative, judicial, taxing, regulatory or administrative powers

or functions of or pertaining to government, including each Patent Office, the FDA and any other government authority in any jurisdiction.

"Instruction Letter" means the direction letter to Takeda in the form attached hereto as Exhibit B.

"IRS" has the meaning set forth in Section 5.12(a).

"Joint Patent" has the meaning set forth in Section 1.57 of the Takeda Agreement.

"Judgment" means any judgment, order, writ, assessment, ruling, verdict, injunction, stipulation, citation, award, or decree of any nature.

"Key Terms" means any and all economic terms described in Section 7.1(b), Section 7.2, Section 7.3, Section 7.4 and Section 7.6 of the Takeda Agreement, including [***].

"Knowledge of Purchaser" means the actual knowledge, as of the date of this Agreement, of any of the officers of Purchaser identified on Schedule 1.1(a).

"Knowledge of Seller" means the actual knowledge, as of the date of this Agreement, of any of the officers of Seller identified on Schedule 1.1(b).

"Law" means, with respect to any Person, all laws (including common law), statutes, rules, regulations and orders of Governmental Authorities applicable to such Person or any of its properties or assets.

"Lead Compound" has the meaning set forth in Section 1.19 of the Takeda Agreement.

"Lien" means any security interest, mortgage, pledge, hypothecation, assignment, deposit arrangement, encumbrance, lien (statutory or otherwise), option, right of first offer or first refusal, charge against or interest in property or other priority or preferential arrangement of any kind or nature whatsoever, in each case to secure payment of a debt or performance of an obligation, including any conditional sale or any sale with recourse; *provided* that Takeda's rights under Section 8.1 of the Takeda Agreement are expressly excluded from this definition and shall not be deemed to be a "Lien" for purposes of this Agreement.

"Loss" means any loss, assessment, cause of action, claim, charge, cost, expense (including expenses of investigation and reasonable attorneys' fees), fine, Judgment, liability, obligation, or penalty.

"Material Adverse Effect" means, when considered individually or in the aggregate, (a) a material adverse effect on the legality, validity or enforceability of any of the Transaction Documents or the Takeda Agreement, (b) a material adverse effect on the ability of Seller to perform its obligations under any of the Transaction Documents or under the Takeda Agreement, (c) a material adverse effect on the rights of Seller under the Takeda Agreement that relate to, or involve or otherwise affect, the Purchased Assets, (d) any adverse effect on the timing, amount or duration of the Purchased Assets or (e) a material adverse effect on the rights or remedies of

Purchaser under any of the Transaction Documents, including the right of Purchaser to receive the Purchased Assets.

"Milestones" means all amounts due, paid or payable under Section 7.1(b) of the Takeda Agreement.

"Net Sales" has the meaning set forth in Section 1.66 of the Takeda Agreement.

"New Arrangement" has the meaning set forth in Section 5.6(d).

"New Arrangement Escrow Account" has the meaning set forth in Section 5.6(d).

"Non-Permitted Set-Off" means (i) any right of set-off, counterclaim, credit, reduction or deduction, in each case by contract and exercised by Takeda in respect of a claim against Seller, including any amounts actually or allegedly owed by Seller to Takeda, other than a Royalty Reduction, (ii) any set-off, credit, reduction or deduction exercised by Takeda pursuant to a Judgment, other than a Royalty Reduction, or (iii) any other set-off, credit, reduction or deduction exercised by Takeda in respect of a claim against Seller, other than a Royalty Reduction, that Seller does not, after consultation with Purchaser, use commercially reasonable efforts to contest against Takeda and seek recoupment thereof. For purposes of clarity, the Parties acknowledge and agree that any deduction taken by Takeda in calculating Net Sales in accordance with the definition of Net Sales set forth in the Takeda Agreement will not be a Non-Permitted Set-Off for any purposes of this Agreement.

"Non-Seller Royalty Parties" means the Royalty Parties other than Seller and its Affiliates, except that, for purposes of Section 5.5(a), Purchaser shall be excluded from the definition of "Non-Seller Royalty Parties".

"Non-Warranting Parties" has the meaning set forth in Section 10.5(a).

"Ovid Intellectual Property" has the meaning set forth in Section 1.71 of the Takeda Agreement.

"Ovid Patents" has the meaning set forth in Section 1.73 of the Takeda Agreement.

"Party" or "Parties" has the meaning set forth in the preamble.

"Patent Office" means the applicable patent office, including the United States Patent and Trademark Office and any comparable foreign patent office.

"Payment Date" has the meaning set forth in Section 5.5(e).

"Person" means any natural person, firm, corporation, limited liability company, partnership, joint venture, association, joint-stock company, trust, unincorporated organization, Governmental Authority or any other legal entity, including public bodies, whether acting in an individual, fiduciary or other capacity.

"Proceeds" means any amounts actually recovered or received by Seller (including, for the avoidance of doubt, damages of any kind including punitive damages) as a result of any settlement or resolution of any Actions related to the Royalty/Milestone Interests, except for any amounts that are permitted to be used by this Agreement or the Takeda Agreement, and that are actually used, to reimburse or indemnify Takeda for costs, expenses, legal fees or other fees relating to such Actions or disputes. For clarity, Proceeds shall include any amounts actually recovered or received by Seller as an equitable remedy or quasi-contractual remedy pursuant to any Action related to the Royalty/Milestone Interests.

"Purchase Price" has the meaning set forth in Section 2.1(a).

"Purchased Assets" means that (a) portion of the Royalty/Milestone Interests determined as the product of the Royalty/Milestone Interests multiplied by the Purchaser Applicable Percentage and (b) to the extent Seller commercializes any Royalty Product in accordance with Section 5.6(d), the Seller Commercialization Royalty.

"Purchaser" has the meaning set forth in the preamble.

"Purchaser Recipients" means Purchaser's employees, officers, directors, advisors, attorneys, accountants and other professional representatives.

"Purchaser Account" means the account set forth on Exhibit D or such other account as may be designated by Purchaser in writing from time to time.

"Purchaser Applicable Percentage" means, as of the Closing Date, 13% and as of any other date, the Applicable Percentage held by Purchaser as of the date of determination, subject to adjustment as provided in Section 2.5.

"Purchaser Indemnified Party" has the meaning set forth in Section 7.1.

"Quarterly Reports" has the meaning set forth in Section 7.4(a) of the Takeda Agreement.

"Receiving Party" has the meaning set forth in Section 8.1.

"Recipient Confidentiality Breach" has the meaning set forth in Section 8.1.

"Regulatory Approval" has the meaning set forth in Section 1.92 of the Takeda Agreement.

"Regulatory Authority" has the meaning set forth in Section 1.93 of the Takeda Agreement.

"Representatives" means, collectively, with respect to any Person, the trustees, directors, members, partners, managers, officers, employees, agents, advisors or other representatives (including attorneys, accountants, consultants, and financial advisors) of such Person.

"Restricted Period" has the meaning set forth in Section 1.97 of the Takeda Agreement.

"Restriction Period" has the meaning set forth in Section 2.4(a).

"Royalty/Milestone Interests" means (a) all amounts owed to Seller from and after the Closing Date under Section 7.1(b) and Section 7.2 of the Takeda Agreement (for clarity, after giving effect to all Royalty Reductions and deductions for withholding taxes pursuant to Section 7.8 of the Takeda Agreement applicable thereto), (b) all Proceeds payable in lieu of such payments in clause (a) and proceeds (as defined under UCC) of the amounts described in (a), (c) any interest on any amounts described in clause (a) owed to Seller under Section 7.11 of the Takeda Agreement, (d) any payment made in lieu of any amounts referred to in the immediately preceding clauses, whether under the Takeda Agreement or otherwise (and whether at Law or in equity), and (e) any of the foregoing payments payable by Takeda pursuant to Section 365(n) of the Bankruptcy Code in respect of any of the foregoing in the event of rejection of the Takeda Agreement.

"Royalty Monetization Transaction" has the meaning set forth in Section 1.100 of the Takeda Agreement.

"Royalty Parties" means Purchaser, Seller, any Person(s) to whom Seller may sell, transfer, assign, contribute or convey any right, title or interest in or to all or a portion of the Royalty/Milestone Interests that are not the Purchased Assets, and their respective permitted assignees pursuant to Section 10.3 (other than, in each case, Takeda and its Affiliates).

"Royalty Product" means any "Product," as such term is defined in Section 1.81 of the Takeda Agreement.

"Royalty Product Patents" has the meaning set forth in Section 3.9(a).

"Royalty Reduction" means any adjustments, modifications, credits, offsets, reductions or deductions to payments made under Section 7.1(b) or Section 7.2 of the Takeda Agreement pursuant to Section 7.3 of the Takeda Agreement, Section 7.6 of the Takeda Agreement (and subject to the limitation imposed by Section 7.3(d) and the last sentence of Section 7.6 of the Takeda Agreement).

"SEC" means the U.S. Securities and Exchange Commission.

"SEC Documents" means all reports, schedules, forms, statements, and other documents (including exhibits (including without limitation this Agreement) and all other information incorporated therein) required to be filed by Seller or Purchaser with the SEC.

"Seller" has the meaning set forth in the preamble.

"Seller Account" means the account set forth on Exhibit E hereto or such other account as may be designated by Seller in writing from time to time.

"Seller Commercialization Royalty" means, for each Calendar Year following the effective date of an Acquisition Event in which Seller, pursuant to Section 5.6(d), commercializes any Royalty Product Covered, at any time while the Royalty Term (as defined in the Takeda Agreement) would still be in effect had such Acquisition Event not occurred, by any Royalty Product Patents acquired by Seller pursuant to such Acquisition Event or enters into a New Arrangement that provides for royalties (on a country-by-country and product-by-product basis) and milestones payable to Seller with respect to any Royalty Product Covered, at any time while

the Royalty Term (as defined in the Takeda Agreement) would still be in effect had such Acquisition Event not occurred, by any Royalty Product Patents acquired by Seller pursuant to such Acquisition Event, in each case in all or some portion of the Territory, an amount equal to the Purchaser Applicable Percentage of all amounts that would have been due to Seller under the Takeda Agreement as Royalty/Milestone Interests as if such Acquisition Event did not occur. For purposes of this definition, (a) the definition of "Net Sales" and (b) all references to "Takeda" in Article 7 of the Takeda Agreement are deemed to be amended to replace "Takeda" with "Seller" in each place that it appears. For purposes of this definition, the first Calendar Year following the effective date of an Acquisition Event shall commence on the date of the closing of the Acquisition Event and end on December 31 of such Calendar Year.

"Seller Indemnified Party" has the meaning set forth in Section 7.2.

"Solvent" means, with respect to any Person on any date of determination, that on such date (a) the fair value of the assets of such Person is greater than the total amount of liabilities, including contingent liabilities, of such Person, (b) the present fair saleable value of the assets of such Person is not less than the amount that will be required to pay the probable liability of such Person on its debts as they become absolute and matured, (c) such Person does not intend to, and does not believe that it will, incur debts or liabilities beyond such Person's ability to pay such debts and liabilities as they mature, (d) such Person is not engaged in business or a transaction, and is not about to engage in business or a transaction, for which such Person's property would constitute an unreasonably small capital and (e) such Person is able to pay its debts and liabilities, contingent obligations and other commitments as they mature in the ordinary course of business. The amount of contingent obligations or contingent liabilities, as applicable, at any time shall be computed as the amount that, in light of all the facts and circumstances existing at such time, represents the amount that can reasonably be expected to become an actual or matured liability or obligation, as applicable.

"Syndication" has the meaning set forth in Section 2.4(a).

"Syndication Agreement" has the meaning set forth in Section 2.4(a).

"Takeda" means Takeda Pharmaceutical Company Limited, a company incorporated under the laws of Japan, and its successors and permitted assigns.

"Takeda Agreement" means that certain Royalty, License and Termination Agreement Relating to License and Collaboration Agreement dated January 6, 2017, dated as of March 2, 2021, by and between Seller and Takeda, and as may be further amended pursuant to Section 5.6(a).

"Takeda Confidential Information" means, collectively, the Takeda Consent, the Ancillary Agreements, the Takeda Agreement and any and all Confidential Information (as defined in the Takeda Agreement) disclosed by or on behalf of Takeda under the Takeda Agreement, including the Quarterly Reports, any notices or correspondence delivered to Seller by Takeda pursuant to Section 7.9 of the Takeda Agreement and any audit reports disclosed to Seller pursuant to Section 7.10 of the Takeda Agreement.

"Takeda Consent" means the letter agreement dated October 10, 2023, by and between Seller and Takeda, a copy of which is attached as Exhibit I.

"Takeda Patents" has the meaning set forth in Section 1.113 of the Takeda Agreement.

"Territory" has the meaning set forth in Section 1.116 of the Takeda Agreement.

"Third Party Claim" has the meaning set forth in Section 7.4(a).

"Transaction Documents" means this Agreement, the Escrow Agreement, the Bill of Sale, the Takeda Consent and the Instruction Letter.

"UCC" means the Uniform Commercial Code as in effect from time to time in the State of New York; *provided*, that, if, with respect to any financing statement or by reason of any provisions of applicable Law, the perfection or the effect of perfection or non-perfection of the back-up security interest or any portion thereof granted pursuant to Section 2.1(b) is governed by the Uniform Commercial Code as in effect in a jurisdiction of the United States other than the State of New York, then "UCC" means the Uniform Commercial Code as in effect from time to time in such other jurisdiction for purposes of the provisions of this Agreement and any financing statement relating to such perfection or effect of perfection or non-perfection.

"U.S." or "United States" means the United States of America, each territory thereof and the District of Columbia.

"U.S.-Japan Tax Treaty" means the Convention Between the Government of the United States of America and the Government of Japan for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion With Respect to Taxes on Income, dated November 6, 2003, as amended by protocol dated January 24, 2013.

"Valid Claim" means, with respect to a particular country, any claim of: (i) an issued and unexpired patent in such country that (a) has not been permanently revoked or held unenforceable or invalid by a decision of a Governmental Authority, which decision is unappealable or unappealed within the time allowed for appeal, and (b) has not been abandoned, disclaimed, denied or admitted to be invalid or unenforceable through reexamination, opposition, reissue or disclaimer or otherwise in such country; or (ii) a patent application in such country (which application is for a patent that has been pending less than [***] from the earliest date on which such patent application claims priority and which has not been cancelled, withdrawn, abandoned or finally rejected by an administrative agency action from which no appeal can be taken) if it were issued as a patent.

Section 1.2 Rules of Construction. Unless the context otherwise requires, in this Agreement:

(a) a term has the meaning assigned to it and an accounting term not otherwise defined has the meaning assigned to it in accordance with GAAP;

(b) words of the masculine, feminine or neuter gender shall mean and include the correlative words of other genders;

(c) the definitions of terms shall apply equally to the singular and plural forms of the terms defined;

(d) references to the term "or" will be interpreted in the inclusive sense commonly associated with the term "and/or";

(e) the terms "include", "including" and similar terms shall be construed as if followed by the phrase "without limitation";

(f) unless otherwise specified, references to an agreement or other document include references to such agreement or document as from time to time amended, restated, reformed, supplemented or otherwise modified in accordance with the terms thereof (subject to any restrictions on such amendments, restatements, reformations, supplements or modifications set forth herein) and include any annexes, exhibits and schedules attached thereto;

(g) references to any Law shall include such Law as from time to time in effect, including any amendment, modification, codification, replacement or reenactment thereof or any substitution therefor; *provided* that, for purposes of Article III and Article IV, reference to a Law shall mean such Law as in effect as of the date hereof;

(h) references to any Person shall be construed to include such Person's successors and permitted assigns (subject to any restrictions on assignment, transfer or delegation set forth herein or in any of the other Transaction Documents), and any reference to a Person in a particular capacity excludes such Person in other capacities;

(i) the words "actual knowledge" when used in the definitions of "Knowledge of Purchaser" and "Knowledge of Seller" shall mean the actual knowledge of the respective individuals on Schedule 1.1, without any duty of inquiry of any other Person (including Takeda), public records or otherwise.

(j) the word "will" shall be construed to have the same meaning and effect as the word "shall";

(k) the words "hereof", "herein", "hereunder" and similar terms when used in this Agreement shall refer to this Agreement as a whole and not to any particular provision hereof, and Article, Section and Exhibit references herein are references to Articles and Sections of, and Exhibits to, this Agreement unless otherwise specified;

(l) in the computation of a period of time from a specified date to a later specified date, the word "from" means "from and including" and each of the words "to" and "until" means "to but excluding"; and

(m) where any payment is to be made, any funds are to be applied or any calculation is to be made under this Agreement on a day that is not a Business Day, unless this Agreement otherwise provides, such payment shall be made, such funds shall be applied and such calculation shall be made on the succeeding Business Day, and payments shall be adjusted accordingly.

ARTICLE II
PURCHASE AND SALE OF THE PURCHASED ASSETS

Section 2.1 Purchase and Sale.

(a) Upon the terms and subject to the conditions of this Agreement, upon the payment of $30,000,000, *minus* the Expense Reimbursement (the "Purchase Price"), which constitutes full consideration for the sale, assignment, transfer, and conveyance of the Purchased Assets, Seller shall sell, assign, transfer and convey to Purchaser, and Purchaser shall purchase, acquire and accept from Seller, all of Seller's right, title and interest in and to the Purchased Assets, free and clear of any and all Liens, other than those Liens created in favor of Purchaser by this Agreement and the Escrow Agreement. Without limiting the foregoing, it is understood and agreed that Purchaser shall not, by purchase of the Purchased Assets, acquire any assets or rights of Seller under, or relating to, the Takeda Agreement other than those specified in this Agreement.

(b) It is the intention of the Parties that the sale, transfer, assignment and conveyance contemplated by this Agreement be, and is, a true, complete, absolute and irrevocable sale, transfer, assignment and conveyance by Seller to Purchaser of all of Seller's right, title and interest in, to, and under the Purchased Assets free and clear of all Liens, other than those created in favor of Purchaser by this Agreement and the Escrow Agreement. Neither Seller nor Purchaser intends the transactions contemplated by this Agreement to be, or for any purpose characterized as, a loan from Purchaser to Seller or a pledge, a security interest, a financing transaction or a borrowing. Each of Seller and Purchaser hereby waives, to the maximum extent permitted by applicable Law, any right to contest or otherwise assert that this Agreement does not constitute a true, complete, absolute and irrevocable sale, transfer, assignment and conveyance by Seller to Purchaser of all of Seller's right, title and interest in, to, and under the Purchased Assets under applicable Law, which waiver shall, to the maximum extent permitted by applicable Law, be enforceable against Seller in any bankruptcy or insolvency proceeding relating to Seller. Not in derogation of the foregoing statement of the intent of the Parties in this regard, and for the purposes of providing additional assurance to Purchaser in the event that, despite the intent of the Parties, the sale, transfer, assignment and conveyance contemplated hereby is hereafter held not to be a sale, Seller does hereby grant to Purchaser, as security for the payment of amounts to Purchaser equal to the Purchased Assets as it becomes due and payable and as may be necessary to perfect the sale of the Purchased Assets to Purchaser, a security interest in, to, and under all right, title and interest of Seller, in, to and under the Purchased Assets and any "proceeds" (as such term is defined in the UCC) thereof, and Seller does hereby authorize Purchaser, from and after the Closing, to file such financing statements (and continuation statements with respect to such financing statements when applicable) in such manner and such jurisdictions as are necessary or appropriate to perfect such security interest; *provided* that such financing statements shall not describe as collateral anything other than the Purchased Assets and any "proceeds" thereof (as defined in the UCC) and shall not contain an "all asset" (or words of similar effect) collateral description.

(c) The Parties agree that, notwithstanding anything herein to the contrary, except as may be limited by applicable Law or by general principles of equity (whether considered in a proceeding in equity or at law), Seller shall not enter into any contracts that would, as of the date Seller enters into any such contract, individually or in the aggregate, reasonably be expected

to adversely affect the timing, amount or duration of the Purchased Assets, the Purchaser's ownership interest in the Purchased Assets or the Purchaser Applicable Percentage.

Section 2.2 No Assumed Obligations. Notwithstanding any provision in this Agreement or any other writing to the contrary, Purchaser is purchasing, acquiring and accepting only the Purchased Assets and is not assuming any liability or obligation of Seller or any of Seller's Affiliates of whatever nature, whether presently in existence or arising or asserted hereafter (including any liability or obligation of Seller under the Takeda Agreement). All such liabilities and obligations shall be retained by and remain liabilities and obligations of Seller or Seller's Affiliates, as the case may be (the "Excluded Liabilities and Obligations").

Section 2.3 Excluded Assets. Other than the Purchased Assets, Purchaser does not, by purchase, acquisition or acceptance of the right, title or interest granted hereunder or otherwise pursuant to any of the Transaction Documents, purchase, acquire or accept any assets or contract rights of Seller (the "Excluded Assets").

Section 2.4 Syndication; Right of First Offer; Other Sale Transactions.

(a) Syndication. With the prior written consent of Purchaser (such consent not to be unreasonably withheld, conditioned, or delayed), and notwithstanding any other provision in this Agreement to the contrary but conditioned upon compliance with Section 2.5 and, if applicable, Section 10.3, Seller may at any time before the earliest to occur of (a) the [***] month anniversary of the Closing Date, (b) the first public disclosure after the date hereof of any data resulting from any clinical trial in respect of the Royalty Product, and (c) an Adverse Market Event (such period the "Restriction Period"), sell additional portions of the Royalty/Milestone Interests (and grant, incur or suffer to exist Liens on such additional portions of the Royalty/Milestone Interests) that are not the Purchased Assets to one or more third parties (which, for the avoidance of doubt, may include Takeda) that would result in aggregate proceeds to Seller of [***] on terms substantially similar to this Agreement and no more favorable to (i) such approved third party than the terms under this Agreement and Transaction Documents and (ii) to Seller in respect of the value of the Royalty/Milestone Interests contemplated by this Agreement (such transaction or series of transactions, a "Syndication" and each definitive agreement in respect of a Syndication, a "Syndication Agreement"). No later than [***] prior to the closing of any Syndication, Seller shall provide to Purchaser a fully negotiated copy of any Syndication Agreement for Purchaser to be able to confirm compliance with this Section 2.4(a), and, following closing of a Syndication, such approved third parties (other than Takeda) shall thereafter be deemed both Royalty Parties and Non-Seller Royalty Parties, and Seller will send Purchaser an executed copy of such Syndication Agreement(s), which shall be in the form previously provided to Purchaser.

(b) Right of First Offer. During the period beginning on the last day of the Restriction Period and ending on the [***], if Seller has a *bona fide* intention to sell, or otherwise convey rights to, additional portions of the Royalty/Milestone Interests that are not the Purchased Assets (and/or grant, incur or suffer to exist Liens on such Royalty/Milestone Interests) in a Royalty Monetization Transaction or otherwise, Seller will provide written notice to Purchaser of the proposed transaction, including any proposed terms thereof, and Purchaser will have [***] to notify Seller in writing whether or not Purchaser is interested in purchasing all or a portion of such additional portions, after which Seller will discuss with Purchaser on a non-exclusive basis and in

good faith the sale of such additional portions of the Royalty/Milestone Interests to Purchaser, *provided*, that Seller shall have the right at any time to complete such proposed transaction(s) with any third party or third parties and cease such discussions with Purchaser. In the event of any sale, assignment, contribution or other transfer of additional portions of the Royalty/Milestone Interests by Seller under this Section 2.4(b), the third party or parties receiving such Royalty/Milestone Interests (other than Takeda) shall thereafter be deemed both Royalty Parties and (other than Affiliates of Seller) Non-Seller Royalty Parties, and Seller will, promptly [***] following the entry into any definitive agreement with each such Non-Seller Royalty Party providing for such sale, assignment, contribution or other transfer, provide Purchaser with written notice informing Purchaser of such transaction, and shall disclose to Purchaser the identity of such Non-Seller Royalty Party and the Applicable Percentage of the Royalty/Milestone Interests sold, assigned, contributed or transferred.

(c) Other Sale Transactions. For purposes of clarity, Purchaser acknowledges and agrees that at any time following the end of the Restriction Period, subject to complying with Section 2.4(b), Section 2.5 and, if applicable, Section 10.3, Seller shall have the right, without the consent of Purchaser, to sell, assign, contribute or transfer all or any portions of the Royalty/Milestone Interests that are not the Purchased Assets (and/or grant, incur or suffer to exist Liens on such Royalty/Milestone Interests) in a Royalty Monetization Transaction or otherwise to one or more third parties, including Takeda, on such terms (including the value of the Royalty/Milestone Interests) as Seller may determine in its sole discretion. In the event of any sale, assignment, contribution or other transfer of Royalty/Milestone Interests to a Non-Seller Royalty Party under this Section 2.4(c), then Seller will, promptly [***] following the entry into any definitive agreement with such Non-Seller Royalty Party providing for such sale, assignment, contribution or other transfer, provide Purchaser with written notice informing Purchaser of such transaction, and shall disclose to Purchaser the identity of such Non-Seller Royalty Party and the Applicable Percentage of the Royalty/Milestone Interests sold, assigned, contributed or transferred.

Section 2.5 Adjustment of Purchaser Applicable Percentage. In the event of any sale, assignment, contribution or other transfer by Seller to Takeda of all or any portion of the Royalty/Milestone Interests that are not the Purchased Assets pursuant to Section 2.4 that has the effect of reducing the Royalty/Milestone Interests, the Purchaser Applicable Percentage shall be adjusted as necessary so that the amount payable to Purchaser in respect of the Purchased Assets will be the amount that would have been payable to Purchaser as if such Royalty/Milestone Interests had not been sold, assigned, contributed or transferred by Seller to Takeda.

ARTICLE III
REPRESENTATIONS AND WARRANTIES OF SELLER

Seller hereby represents and warrants to Purchaser as of the date hereof as follows:

Section 3.1 Existence; Organization. Seller is a corporation duly organized, validly existing and in good standing under the Laws of Delaware. Seller is duly licensed or qualified to do business in each jurisdiction in which the nature of the business conducted by it or the character or location of the properties and assets owned, leased, or operated by it makes such licensing or qualification necessary, except where the failure to be so licensed or qualified has not and would

not reasonably be expected to have, either individually or in the aggregate, a Material Adverse Effect. Other than its wholly-owned subsidiary Ovid Therapeutics Hong Kong Limited, Seller has no Affiliates as of the Closing Date.

Section 3.2 No Conflicts. The execution, delivery and performance by Seller of the Transaction Documents and the consummation of the transactions contemplated thereby do not (a) violate any provision of the certificate of incorporation or bylaws of Seller, (b) violate any provision of any Judgment applicable to Seller, to which it is a party, or by which it or any of its properties or assets are bound, (c) violate any provision of any Law applicable to Seller, except for such violations that, individually or in the aggregate, would not reasonably be expected to result in a Material Adverse Effect; nor (d) violate, breach, conflict with, constitute a default (or an event which with notice or lapse of time or both would become a default), or require consent under any provision of, or give to any Person any rights of termination, cancellation or acceleration of (i) the Takeda Agreement or (ii) any other material contract (other than the Takeda Agreement) to which Seller is a party or by which Seller is bound, except in the case of this clause (ii) for such violations, breaches, conflicts or defaults that, individually or in the aggregate and with or without the passage of time, would not reasonably be expected to have a Material Adverse Effect.

Section 3.3 Authorization; Enforceability. Seller has all necessary corporate power and authority to (a) conduct its affairs as currently conducted, including to exercise its rights and perform its obligations under the Takeda Agreement and (b) execute, deliver and perform the Transaction Documents and to consummate the transactions contemplated thereby. The execution, delivery and performance of the Transaction Documents, and the consummation of the transactions contemplated thereby, have been duly authorized by Seller. Each of the Transaction Documents has been duly executed and delivered by Seller and constitutes the legal, valid and binding obligation of Seller, enforceable against Seller in accordance with its terms, except as may be limited by general principles of equity (regardless of whether considered in a proceeding at law or in equity) and by applicable bankruptcy, insolvency, reorganization, moratorium or similar laws affecting creditors' rights generally, general equitable principles and principles of public policy.

Section 3.4 Ownership. Seller has good and valid title to the Purchased Assets, free and clear of all Liens (other than those created in favor of Purchaser and expressly contemplated by this Agreement and the Escrow Agreement), and is the exclusive owner of the entire right, title (legal and equitable), and interest in the Purchased Assets. Upon payment of the Purchase Price by Purchaser, Purchaser will have acquired, subject to the terms and conditions set forth in this Agreement, good and valid title to the Purchased Assets, free and clear of all Liens (other than those created in favor of Purchaser and expressly contemplated by this Agreement and the Escrow Agreement).

Section 3.5 Governmental and Third Party Authorizations. The execution, delivery, and performance by Seller of the Transaction Documents and the consummation of any of the transactions contemplated thereby do not require any consent, approval, license, order, authorization or declaration from, notice to, action or registration by or filing with any Governmental Authority or any other Person, except for (a) the Instruction Letter, (b) a Current Report on Form 8-K by Seller with the U.S. Securities and Exchange Commission, (c) the UCC financing statements contemplated by Section 2.1(b), and (d) the Takeda Consent.

Section 3.6 No Litigation. There is no Action pending or, to the Knowledge of Seller, threatened, by or against Seller (a) that, individually or in the aggregate, (i) challenges or seeks to prevent or delay the consummation of any of the transactions contemplated by any of the Transaction Documents to which Seller is a party or (ii) would reasonably be expected to result in a Material Adverse Effect, (b) in respect of the Purchased Assets.

Section 3.7 No Brokers' Fees. Seller has not taken any action that would entitle any Person or entity to any commission or broker's fee in connection with the transactions contemplated by this Agreement. There is no Person or entity retained by Seller entitled to any commission or broker's fee from Purchaser in connection with the transactions contemplated by this Agreement.

Section 3.8 Compliance with Laws. Seller (a) has not violated, nor is it in violation of, has not been given notice of any violation of, and, to the Knowledge of Seller, is not under investigation with respect to nor has it been threatened to be charged with, any violation of, any applicable Law or any Judgment, permit, or license granted, issued or entered by any Governmental Authority that would reasonably be expected to have a Material Adverse Effect, and (b) is not subject to any Judgment of any Governmental Authority that would reasonably be expected to have a Material Adverse Effect.

Section 3.9 Intellectual Property Matters.

(a) Exhibit F sets forth an accurate and complete list of (i) the Takeda Patents as disclosed to Seller by Takeda on Exhibit D of the Takeda Agreement on March 2, 2021, (ii) the Joint Patents assigned by Seller to Takeda on March 30, 2021 pursuant to Section 2.3(c)(iv) of the Takeda Agreement and (iii) the Ovid Patents existing as of the Closing Date (collectively, the "Royalty Product Patents"). To the Knowledge of Seller, Takeda is the sole, true and correct owner of the Takeda Patents listed in Exhibit F and has the sole right to assert such Takeda Patents.

(b) As of the Closing Date, there are no Ovid Patents or Joint Patents licensed to Takeda under Section 4.1 of the Takeda Agreement.

(c) Neither Seller nor, to the Knowledge of Seller, Takeda, has committed any act, or failed to commit any required act, that would reasonably be expected to cause any of the Royalty Product Patents to expire prematurely, lapse, or be declared invalid or unenforceable, or that estops the enforcement of such Royalty Product Patent against any third party. There are no unpaid maintenance or renewal fees or annuities payable by Seller or, to the Knowledge of Seller, Takeda, to any third party that currently are overdue for any of the Royalty Product Patents. To the Knowledge of Seller, no Royalty Product Patents have lapsed or been abandoned, cancelled, disclaimed, or expired, and to the Knowledge of Seller, there is no fact, circumstance or event that would constitute a basis for any such lapse, abandonment, cancellation, or expiration. To the Knowledge of Seller, each individual associated with the filing and prosecution of the Royalty Product Patents previously owned in part by Seller, including the named inventors of such Royalty Product Patents, has complied in all material respects with all applicable duties of candor and good faith in dealing with any Patent Office, including any duty to disclose to any Patent Office all information known by such inventors to be material to the patentability of each such Royalty

Product Patents (including any relevant prior art), in each case, in those jurisdictions in the Territory where such duties exist.

(d) Seller has not received any written notice from Takeda or any other Person, and to the Knowledge of Seller, there is no pending or threatened Action, reexamination, reissue, inter partes review, post grant review, cancellation, notification, injunction, citation, subpoena, hearing, inquiry, (by the International Trade Commission or otherwise), Judgment or other dispute, or disagreement(collectively, "Disputes") challenging the validity, enforceability, scope, inventorship, or ownership of any of the Royalty Product Patents or that would reasonably be expected to give rise to any Non-Permitted Set-Off against the payments due to Seller under the Takeda Agreement. The Ovid Patents, and to the Knowledge of Seller the Royalty Product Patents owned by Takeda, are not subject to any outstanding Judgment, settlement, or other final disposition of a Dispute.

(e) To the Knowledge of Seller, the Royalty Product Patents that have been issued or granted by the applicable Patent Office are not invalid and are not unenforceable.

(f) Seller has not received and, to the Knowledge of Seller, Takeda has not received any claim or notice disputing or threatening to dispute the inventorship of any of the Royalty Product Patents or otherwise alleging that any Person who is not named as an inventor on any of the Royalty Product Patents should be so named, and to the Knowledge of Seller, there is no reasonable basis for such a claim with respect to any of the Ovid Patents.

(g) Seller has not received any written notice under the Takeda Agreement or otherwise and, to the Knowledge of Seller, Takeda has not received any notice of infringement, misappropriation, or violation of any Royalty Product Patent.

(h) To the Knowledge of Seller, there is no pending or threatened Action that claims that the development, manufacture, use, marketing, sale, offer for sale, importation or distribution of the Royalty Product does or will infringe, misappropriate, or violate any patent or other intellectual property rights of any other Person or constitute misappropriation of any other Person's trade secrets or other intellectual property rights. To the Knowledge of Seller, the manufacture, use, marketing, sale, offer for sale, importation or distribution of the Royalty Product by Takeda does not and will not constitute an infringement of any patent or other intellectual property rights of any other Person or constitute misappropriation of any other Person's trade secrets or other intellectual property rights.

(i) Other than the Takeda Agreement and the Ancillary Agreements, there are no other contracts between Seller or any of its Affiliates, on the one hand, and Takeda or its respective Affiliates, on the other hand, involving or related to a Royalty Product, the Royalty Product Patents, or the Royalty/Milestone Interests or that would otherwise reasonably be expected to result in a Material Adverse Effect.

(j) To the Knowledge of Seller, the Royalty Product Patents are not subject to the requirements of the Bayh-Dole Act, 35 USC 200-212 and 37 CFR 401.

(k) To the Knowledge of Seller, there are no compulsory licenses granted or threatened to be granted with respect to the Royalty Product Patents. To the Knowledge of Seller,

no event or condition exists that would permit or require Takeda to grant any such compulsory license to any Person. Seller has not received any written notice from or on behalf of Takeda expressing an intention by Takeda to grant any such compulsory license or otherwise exercise a Non-Permitted Set-Off or Royalty Reduction of any amount from the Purchased Assets because of any amount owed or claimed to be owed from Seller to Takeda pursuant to Section 7.6 of the Takeda Agreement, or otherwise.

(l) If Takeda were engaged in the sale of any Royalty Product as of the Closing Date in any country in the Territory, to the Knowledge of Seller, no amounts payable to Seller under Section 7.2 of the Takeda Agreement in respect of Net Sales corresponding to sales of any such Royalty Product on the Closing Date would be subject to any Royalty Reduction.

Section 3.10 Takeda Agreement.

(a) Attached hereto as Exhibit G is a true, correct, and complete copy of the Takeda Agreement.

(b) Other than the Transaction Documents, the Takeda Agreement and the Ancillary Agreements, there is no contract, agreement or other arrangement (whether written or oral) between Seller, on the one hand, and a third party, on the other hand, (i) that creates a Lien on the Purchased Assets, the Royalty/Milestone Interests, the Takeda Agreement or the Ovid Intellectual Property; or (ii) that relates to the Royalty/Milestone Interests, the Royalty Products or the Royalty Product Patents. To the Knowledge of Seller, no license or sublicense has been granted by Takeda of any rights related to the Royalty Products other than licenses granted to third parties acting on behalf of Takeda in the ordinary course of business.

(c) The Takeda Agreement is in full force and effect and is the legal, valid, and binding obligation of Seller and, to the Knowledge of Seller, Takeda, enforceable against Seller and, to the Knowledge of Seller, Takeda in accordance with its terms, except as may be limited by general principles of equity (regardless of whether considered in a proceeding at law or in equity) and by applicable bankruptcy, insolvency, moratorium and other similar Laws of general application relating to or affecting creditors' rights generally. Seller has not received nor provided any written notice or any other communication, from or on behalf of Takeda challenging or threatening to challenge the validity or enforceability of the Takeda Agreement or any obligation of Takeda thereunder, including any obligation to pay the Royalty/Milestone Interests or any other payment thereunder.

(d) Seller is not in breach or violation of or in default under the Takeda Agreement, and, to the Knowledge of Seller, Takeda has not breached, and is not in violation or default under, any provision of the Takeda Agreement, including the requirements during the Restricted Period.

(e) Other than the Takeda Consent, Seller has not granted or been granted any written waiver under the Takeda Agreement or released Takeda, in whole or in part, from any of its obligations under the Takeda Agreement. Other than the Takeda Consent, there are no modifications (or pending requests therefor) in respect of the Takeda Agreement. Other than the

Takeda Consent, Seller has not received from Takeda any proposal, and has not made any proposal to Takeda, to amend or waive any provision of the Takeda Agreement.

(f) To the Knowledge of Seller, no event has occurred that, upon notice or the passage of time or both, would reasonably be expected to give rise to a breach of the Takeda Agreement by Seller or Takeda, or, to the Knowledge of Seller, that would otherwise give Seller or Takeda the right to terminate the Takeda Agreement or give Takeda the right to cease paying the Royalty/Milestone Interests thereunder. Seller has not received any notice of an intention by Takeda to terminate or breach the Takeda Agreement, in whole or in part, or challenging the validity or enforceability of the Takeda Agreement or the obligation to pay the Royalty/Milestone Interests thereunder, or that Seller or Takeda is in default of its obligations under the Takeda Agreement. Seller has no intention of terminating the Takeda Agreement and has not given Takeda any notice of termination of the Takeda Agreement, in whole or in part.

(g) Neither Seller nor, to the Knowledge of Seller, Takeda, has assigned, sold, or transferred the Takeda Agreement or any of its rights, interests, or obligations thereunder (including with respect to the Royalty/Milestone Interests) to any Person, and Seller has not consented to any such assignment by Takeda, as applicable. Except as contemplated by the Transaction Documents, Seller has not assigned, sold or transferred (nor has entered into any agreement relating to the present or future assignment, sale or transfer), in whole or in part, any of Seller's right, title, or interest in or to the Royalty/Milestone Interests, except in accordance with a Syndication pursuant to Section 2.4(a). Under the Takeda Agreement, (i) Takeda has not provided notice to Seller of a Divestment Transaction pursuant to Section 8.2 of the Takeda Agreement and (ii) to the Knowledge of Seller, a Divestment Transaction has not occurred.

(h) Seller has not exercised its rights to conduct an audit under Section 7.10 of the Takeda Agreement.

(i) Neither Seller nor, to the Knowledge of Seller, Takeda, have, directly or indirectly (through a third party or otherwise), Developed or Commercialized a Competing Product in the Epilepsy Field in the United States, or conducted Development of a Competing Product outside of the United States for the purposes of obtaining Regulatory Approval for such Competing Product in the United States pursuant to Section 15.1 of the Takeda Agreement.

(j) To the Knowledge of Seller, Seller has received all amounts owed to it under the Takeda Agreement, to the extent such amounts have come due, including the Initial Payment (as defined in the Takeda Agreement).

(k) Seller has not sent or received any written notice or, to the Knowledge of Seller, any other communication of any dispute from Takeda for resolution pursuant to Article 13 of the Takeda Agreement or otherwise.

(l) Seller has (i) provided to Purchaser a list of all categories of written records provided by Seller to Takeda pursuant to Section 5.1 of the Takeda Agreement; (ii) not received from Takeda (other than Takeda's public announcement in May 2022 that its regulatory filings for the Royalty Product are anticipated in Takeda's fiscal 2024) or delivered to Takeda any material written notices or other material written correspondence, pursuant to the Takeda Agreement or

otherwise, relating to, affecting, or involving the Purchased Assets or the Takeda Agreement, or that could reasonably be expected to have an effect on the value of the Purchased Assets in any material respect, or that would reasonably be expected to result in a Material Adverse Effect, in each case since March 2, 2021; and (iii) not received any adverse information from Takeda since March 2, 2021 (other than Takeda's public announcement in May 2022 that its regulatory filings for the Royalty Product are anticipated in Takeda's fiscal 2024) regarding any material impact on the manufacturing, supply chain, development or commercialization of any Royalty Product.

(m) There are no agreements between Seller or, to the Knowledge of Seller, Takeda, and any third party or Person that would give rise to a right of Takeda to reduce any payment under Section 7.2 of the Takeda Agreement pursuant to Section 7.6 of the Takeda Agreement, and to the Knowledge of Seller, there are no ongoing discussions related to any such agreements.

(n) The finance and accounting working group formed pursuant to Section 7.12 of the Takeda Agreement has disbanded and no longer meets.

(o) Seller has provided notice to Takeda of its intent to enter into a Royalty Monetization Transaction pursuant to Section 8.1 of the Takeda Agreement [***].

(p) Any pharmaceutical product comprising (i) the Lead Compound, as the therapeutically active agent, either alone or in combination with other therapeutically active ingredients, in any formulation or mode of administration; and (ii) the applicable delivery device that is intended to deliver the Lead Compound, if any, is deemed a Royalty Product.

(q) Neither Seller nor Takeda has made any claim of indemnification under the Takeda Agreement.

Section 3.11 UCC Matters. Seller's exact legal name is, and since its inception has been, "Ovid Therapeutics Inc." Seller's principal place of business is, and since its inception has been, located in the State of New York. Seller's jurisdiction of organization is, and since its inception has been, the State of Delaware.

Section 3.12 Non-Permitted Set-Off. Takeda has not exercised, and, to the Knowledge of Seller, has not had and does not have the right to exercise, and, to the Knowledge of Seller, no event or condition exists that, upon notice or passage of time or both, would reasonably be expected to permit Takeda to exercise, any Non-Permitted Set-Off against the Purchased Assets or any other amounts payable to Seller under the Takeda Agreement.

Section 3.13 Compliance. All applications, submissions, information and data related to any Royalty Product submitted or utilized as the basis for any request to any Regulatory Authority by Seller, or to the Knowledge of Seller, by or on behalf of Takeda, were true and correct in all material respects as of the date of such submission or request, and, to the Knowledge of Seller, any material updates, changes, corrections or modifications to such applications, submissions, information or data required under applicable Laws have been submitted to the necessary Regulatory Authorities. Neither Seller, nor to the Knowledge of Seller, Takeda, has committed any act, made any statement or failed to make any statement that would reasonably be expected to provide a basis for the FDA or any other Regulatory Authority to invoke its policy with respect to

"Fraud, Untrue Statements of Material Facts, Bribery, and Illegal Gratuities," or similar policies set forth in any applicable Laws.

Section 3.14 Solvency. Seller is Solvent.

Section 3.15 Tax Matters. No deduction or withholding for or on account of any tax has been made or was required to be made under applicable Law from any payment to Seller under the Takeda Agreement. Seller is entitled to full relief from any withholding of tax on any amount paid by Takeda to Seller under the Takeda Agreement pursuant to the U.S.-Japan Tax Treaty.

ARTICLE IV
REPRESENTATIONS AND WARRANTIES OF PURCHASER

Purchaser hereby represents and warrants to Seller as of the date hereof as follows:

Section 4.1 Organization. Purchaser is a corporation duly organized, validly existing and in good standing under the Laws of Delaware.

Section 4.2 No Conflicts. The execution, delivery, and performance by Purchaser of any of the Transaction Documents and the consummation of the transactions contemplated thereby do not constitute a breach or default under, or require prepayment under any provision of (a) any applicable Law or any Judgment applicable to Purchaser that would reasonably be expected to have a material adverse effect on the legality, validity or enforceability of any of the Transaction Documents, (b) any contract to which Purchaser is a party or by which Purchaser is bound, or (c) the organizational documents of Purchaser.

Section 4.3 Authorization. Purchaser has all powers and authority to conduct its affairs as currently conducted, and to execute and deliver, and perform its obligations under, the Transaction Documents to which it is party and to consummate the transactions contemplated hereby and thereby. The execution and delivery of each of the Transaction Documents to which Purchaser is party and the performance by Purchaser of its obligations hereunder and thereunder have been duly authorized by Purchaser. Each of the Transaction Documents to which Purchaser is party has been duly executed and delivered by Purchaser. Each of the Transaction Documents to which Purchaser is party constitutes the legal, valid, and binding obligation of Purchaser, enforceable against Purchaser in accordance with its respective terms, subject to applicable bankruptcy, insolvency, reorganization, moratorium, or similar applicable Laws affecting creditors' rights generally, general equitable principles and principles of public policy.

Section 4.4 Governmental and Third Party Authorizations. The execution, delivery, and performance by Purchaser of the Transaction Documents and the consummation of any of the transactions contemplated hereunder and thereunder do not require any consent, approval, license, order, authorization, or declaration from, notice to, action or registration by or filing with any Governmental Authority or any other Person, except as described in Section 3.5.

Section 4.5 No Litigation. There is no (a) Action (whether civil, criminal, administrative, regulatory, investigative or informal) pending or, to the Knowledge of Purchaser, threatened by or against Purchaser, at law or in equity, or (b) inquiry or investigation (whether civil, criminal, administrative, regulatory, investigative, or informal) by or before a Governmental

Authority pending or, to the Knowledge of Purchaser, threatened against Purchaser, that, in each case, challenges or seeks to prevent or delay the consummation of any of the transactions contemplated by any of the Transaction Documents to which Purchaser is party.

Section 4.6 Funds Available. Purchaser has sufficient funds on hand or binding and enforceable commitments to provide it with sufficient funds to satisfy its obligations, in each case to pay the Purchase Price.

Section 4.7 No Implied Representations and Warranties. PURCHASER ACKNOWLEDGES AND AGREES THAT, (A) OTHER THAN THE EXPRESS REPRESENTATIONS AND WARRANTIES OF SELLER SPECIFICALLY CONTAINED IN ARTICLE III, THERE ARE NO REPRESENTATIONS OR WARRANTIES OF SELLER EITHER EXPRESSED OR IMPLIED, (B) PURCHASER DOES NOT RELY ON, AND SHALL HAVE NO REMEDIES IN RESPECT OF, ANY REPRESENTATION OR WARRANTY NOT SPECIFICALLY SET FORTH IN ARTICLE III, AND (C) ALL OTHER REPRESENTATIONS AND WARRANTIES, INCLUDING WITH RESPECT TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY EXPRESSLY DISCLAIMED BY SELLER. PURCHASER FURTHER ACKNOWLEDGES AND AGREES THAT SELLER HAS NO RIGHTS OR RESPONSIBILITIES OF ANY KIND WITH RESPECT TO, AND BY VIRTUE OF THE TRANSACTIONS CONTEMPLATED BY THE TRANSACTION DOCUMENTS HAS NOT BECOME ENTITLED TO ANY RIGHTS OR ASSUMED ANY RESPONSIBILITIES OF ANY KIND WITH RESPECT TO, THE DESIGN, DEVELOPMENT, MANUFACTURE, USE, SALE, DISTRIBUTION, MARKETING OR OTHER ACTIVITIES WITH RESPECT TO ANY ROYALTY PRODUCTS, ALL OF THE RIGHTS AND RESPONSIBILITY FOR WHICH IS WITH TAKEDA. PURCHASER FURTHER ACKNOWLEDGES AND AGREES THAT SELLER SHALL HAVE NO LIABILITY TO PURCHASER WITH RESPECT TO ANY ACT OR OMISSION OF TAKEDA RELATING TO SUCH DESIGN, DEVELOPMENT, MANUFACTURING, USE, SALE, DISTRIBUTION, MARKETING OR OTHER ACTIVITIES. NOTWITHSTANDING ANYTHING TO THE CONTRARY HEREIN, CLAIMS FOR FRAUD SHALL NOT BE WAIVED OR LIMITED IN ANY WAY BY THIS SECTION 4.7 OR OTHERWISE.

Section 4.8 Access to Information. Purchaser acknowledges that it has reviewed the Takeda Agreement, the Transaction Documents and such other documents and information relating to the Royalty Products and the Purchased Assets and the transactions contemplated by the Transaction Documents provided to it by Seller and has had the opportunity to ask such questions of, and to receive answers from, representatives of Seller concerning the Takeda Agreement, the Transaction Documents, the Royalty Products, the Purchased Assets and the transactions contemplated by the Transaction Documents, in each case as it deemed necessary to make an informed decision to purchase the Purchased Assets in accordance with the terms of this Agreement. Purchaser has such knowledge, sophistication and experience in financial and business matters that it is capable of evaluating the risks and merits of purchasing the Purchased Assets in accordance with the terms of this Agreement. Notwithstanding anything to the contrary herein, claims for fraud shall not be waived or limited in any way by this Section 4.8 or otherwise.

ARTICLE V
COVENANTS

Section 5.1 Public Announcement. Except (a) for a press release previously approved in form and substance by the Parties and attached hereto as Exhibit H, or any other public announcement using substantially the same text as such press release, and (b) subject to Section 5.10, any disclosure required by applicable Law, by the rules and regulations of any securities exchange or market on which any security of a Party may be listed or traded or by any Governmental Authority of competent jurisdiction, no Party shall, and each Party shall cause its Affiliates not to, without the prior written consent of the other Party (which consent shall not be unreasonably withheld, conditioned, or delayed), issue any press release or make any other public disclosure with respect to this Agreement or any of the other Transaction Documents or any of the transactions contemplated hereby or thereby.

Section 5.2 Further Assurances. Subject to the terms and conditions of this Agreement, each Party shall execute and deliver such other documents, certificates, instruments, agreements and other writings, take such other actions and perform such additional acts under applicable Law as may be reasonably requested by the other Party and necessary to implement expeditiously the transactions contemplated by, and to carry out the purposes and intent of the provisions of, this Agreement and the other Transaction Documents, including to (i) perfect the sale, assignment, transfer, conveyance, and granting of the Purchased Assets to Purchaser pursuant to this Agreement, (ii) perfect, protect, more fully evidence, vest, and maintain in Purchaser good, valid and marketable rights and interests in, to, and under the Purchased Assets free and clear of all Liens (other than those Liens created in favor of Purchaser by this Agreement and the Escrow Agreement) and (iii) create, evidence and perfect Purchaser's back-up security interest granted pursuant to Section 2.1(b).

Section 5.3 Quarterly Reports; Notices and Correspondence. Promptly (and in any event no later than [***]) following the receipt by Seller from Takeda under the Takeda Agreement of (a) a Quarterly Report or (b) subject to Section 8.7, any material written notice or material written correspondence relating to or involving the Purchased Assets (including notification regarding the achievement of any of the Milestones by Takeda), except any material written notice or material written correspondence pursuant to Section 5.7, of which the terms of Section 5.7 shall apply, Seller shall furnish a copy of the same to Purchaser. Seller shall consult with Purchaser prior to Seller sending any material written notice or material written correspondence to Takeda that relates to, or involves the Purchased Assets; *provided* that, the determination whether to send such material written notice or material written correspondence, if such material written notice or material written correspondence would not reasonably be expected to result in a Material Adverse Effect, shall be made solely in the discretion of Seller. Except for the Instruction Letter and notices and correspondence required to be given or made by Seller (x) under the Takeda Agreement or (y) by applicable Law, Seller shall not send any material written notice or material written correspondence to Takeda that both (A) relates to or involves the Royalty/Milestone Interests or Purchased Assets and (B) that would reasonably be expected to result in a Material Adverse Effect, without the prior written consent of Purchaser. Without limiting the foregoing, Seller shall, promptly (and in any event no later than [***]) following the delivery thereof by Seller to Takeda, subject to Section 8.7, furnish to Purchaser a copy of any material written notice or material written correspondence sent by Seller to Takeda that both (I) relates to or involves the Purchased Assets and (II) would reasonably be expected to result in a Material Adverse Effect. If Takeda delivers a notice for a need for correction in calculating the Net Sales pursuant to Section 7.9 of the Takeda Agreement, then Seller will consult with Purchaser regarding the validity and appropriateness of

such correction, and may verify or determine with Takeda the amount to be corrected in its sole discretion.

Section 5.4 Payments on Account of Purchased Assets; Escrow. At the Closing, Seller shall deliver the Instruction Letter to Takeda in accordance with Section 6.3(f), and thereafter Seller shall use best efforts, to cause Takeda to pay amounts owed pursuant to the Royalty/Milestone Interests into an escrow account in accordance with the Escrow Agreement. The Parties shall cause the Escrow Agent to disburse all amounts held in escrow in accordance with the Escrow Agreement.

Section 5.5 Misdirected Payments.

(a) Notwithstanding the terms of the Instruction Letter and the Escrow Agreement, commencing on the Closing Date and at all times thereafter, if any portion of the Purchased Assets is paid to Seller or any Non-Seller Royalty Party, then (i) Seller shall, or shall use commercially reasonable efforts to cause such Non-Seller Royalty Party, as applicable, to hold such amount in trust for the benefit of Purchaser in a segregated account, (ii) neither Seller nor such Non-Seller Royalty Party shall have any right, title, or interest whatsoever in such amount and shall not create or suffer to exist any Lien thereon, and (iii) Seller shall, or shall use commercially reasonable efforts to cause such Non-Seller Royalty Party, as applicable, to promptly (and in any event no later than [***]) following the receipt by Seller or such Non-Seller Royalty Party, as applicable, of such amount, remit such amount to the Purchaser Account. Seller shall, or shall use commercially reasonable effects to cause such Non-Seller Royalty Party to, notify Purchaser of such wire transfer and provide reasonable details regarding the Purchased Assets payment so received by Seller or such Non-Seller Royalty Party.

(b) Notwithstanding the terms of the Instruction Letter and the Escrow Agreement, commencing on the Closing Date and at all times thereafter, if any amount due under the Takeda Agreement that does not constitute the Purchased Assets is paid to Purchaser, then (i) Purchaser shall hold such amount in trust for the benefit of Seller or any applicable Non-Seller Royalty Party in a segregated account, (ii) Purchaser shall have no right, title, or interest whatsoever in such amount and shall not create or suffer to exist any Lien thereon, and (iii) Purchaser shall promptly remit such amount to the Seller Account or account of such Non-Seller Royalty Party pursuant to wire instructions provided to Purchaser by such Non-Seller Royalty Party, as applicable. Purchaser shall notify Seller or any applicable Non-Seller Royalty Party, as applicable, of such wire transfer and provide reasonable details regarding the erroneous payment so received by Purchaser.

(c) If Takeda exercises any Non-Permitted Set-Off against any payment of the Purchased Assets, then Seller shall promptly (and in any event no later than [***] following the payment of the Purchased Assets affected by such Non-Permitted Set-Off), make a true-up payment to Purchaser such that Purchaser receives the full amount of such Purchased Assets payment that would have been paid to Purchaser had such Non-Permitted Set-Off not occurred. Notwithstanding anything to the contrary herein, to the extent Seller shall have made a true-up payment to Purchaser pursuant to this Section 5.5(c) in respect of any Non-Permitted Set-Off, any subsequent payment received from Takeda in respect, and to the extent, of such Non-Permitted Set-Off shall not be included in the Purchased Assets, such that the subsequent payment is included

in the Excluded Assets. For all purposes hereunder, any true-up payment made pursuant to this Section 5.5(c) will be treated as paid with respect to the Purchased Assets for U.S. federal income tax purposes to the fullest extent permitted by applicable Law. For the avoidance of doubt, withholding taxes (including any withholding taxes deducted by Takeda from payments under Section 7.1(b) or Section 7.2 of the Takeda Agreement pursuant to Section 7.8 of the Takeda Agreement) shall not be treated as a Non-Permitted Set-Off and shall be governed by the provisions of Section 5.12 of this Agreement.

(d) All remittances pursuant to this Section 5.5 shall be made (i) without set-off or deduction of any kind (except as required by applicable Law) and (ii) by wire transfer of immediately available funds to such account as the relevant payee has designated under this Agreement or, for Non-Seller Royalty Parties other than Purchaser, as they may otherwise designate in writing (such designation to be made at least [***] prior to any such payment).

(e) A late fee of [***] over the prime rate published by the Wall Street Journal as the prime rate as of the Payment Date shall accrue on all unpaid amounts on an annualized basis with respect to any sum payable under Section 5.5(a) or Section 5.5(b) beginning [***] after a Party has actual knowledge of its receipt of such payment in error (the "Payment Date"). Notwithstanding the foregoing, Seller shall not be responsible for any late fee under this Section 5.5(e) arising from the failure of a Non-Seller Royalty Party to timely pay any sum payable under Section 5.5(a) except to the extent such failure is a result of Seller's failure to use commercially reasonable efforts pursuant to Section 5.5(a) and to the extent of Seller's indemnification obligations for such breach under Section 7.1(b), subject to the terms and conditions of Article VII.

Section 5.6 Maintenance of Takeda Agreement.

(a) Seller shall not (i) forgive, release, or compromise any portion of the Purchased Assets payable under the Takeda Agreement or (ii) amend, modify, supplement, restate, waive, cancel, or terminate (or consent to any cancellation or termination of), in whole or in part, any provision of or right under the Takeda Agreement that relates to the Purchased Assets or that would reasonably be expected to result in a Material Adverse Effect (except, in the cases of clauses (i) and (ii), with the prior written consent of Purchaser). In addition, Seller shall perform and comply with all of its obligations under the Takeda Agreement, except where Seller's failure to perform or comply would not reasonably be expected to result in a Material Adverse Effect, and shall not take any action or forego any action under the Takeda Agreement, in each case that would reasonably be expected to (x) constitute a breach or default by Seller under any provision of the Takeda Agreement and (y) result in a Material Adverse Effect. If Seller reasonably determines that it may amend, modify, supplement, restate or waive, in whole or in part, any provision or right under the Takeda Agreement that relates to the Royalty/Milestone Interests or Purchased Assets without the prior written consent of Purchaser, Seller shall provide to Purchaser a near final draft of such amendment, modification, supplement, restatement or waiver of the Takeda Agreement at least [***] in advance of execution.

(b) Seller shall not, directly or indirectly, through a third party, Develop or Commercialize a Competing Product in the Epilepsy Field in the United States, or conduct Development of a Competing Product outside of the United States for the purposes of obtaining

Regulatory Approval for such Competing Product in the United States pursuant to Section 15.1 of the Takeda Agreement until after the fifth anniversary of the Closing Date (as defined in the Takeda Agreement).

(c) Within [***] after (i) Seller obtains Knowledge of, whether by written notice or otherwise, (A) Takeda's intent to terminate the Takeda Agreement (in whole or in part) or (B) breach or default by Seller under the Takeda Agreement or any allegation of a breach or default by Seller under the Takeda Agreement or (ii) Seller obtains Knowledge of any fact, circumstance or event that would reasonably be expected to give rise to a breach or default under the Takeda Agreement by Seller, Seller shall, subject to Section 8.7, give written notice thereof to Purchaser. Such notice shall (x) subject to Section 8.7, describe in reasonable detail such breach or default, (y) subject to Section 8.7, include a copy of any written notice received from Takeda with respect thereto, and (z) in the case of any breach or default or alleged breach or default by Seller, describe in reasonable detail any corrective action Seller proposes to take in respect of such breach or default. In consultation with Purchaser, Seller shall use commercially reasonable efforts to promptly cure any breach or default by it under the Takeda Agreement and, in any case, shall give written notice to Purchaser upon curing such breach or default. In connection with any dispute regarding an alleged breach that is related to the Royalty/Milestone Interests or Purchased Assets and would reasonably be expected to have a Material Adverse Effect, Seller shall select and employ counsel reasonably acceptable to Purchaser.

(d) Without limiting the provisions of Section 5.6(c), if Seller acquires rights to the Royalty Product Patents (pursuant to a Divestment Transaction or otherwise) and such transaction is reasonably be expected to have, either individually or in the aggregate, a Material Adverse Effect (each, an "Acquisition Event"), then Seller shall use commercially reasonable efforts to commercialize a Royalty Product in the Territory subject to its agreement to pay to Purchaser the Seller Commercialization Royalty (with payments being payable to the Escrow Account or any New Arrangement Escrow Account (as defined below), as applicable, no less frequently than provided for under Section 7.1(b) and Section 7.4 of the Takeda Agreement); *provided*, *however*, if Seller chooses to pursue the negotiation of and entry into a license of the Royalty Product Patents relating to the Purchased Assets, then the terms of such license shall be no less favorable to Seller than those contained in the Takeda Agreement with respect to the royalty rates and milestone terms set forth in Article 7 of the Takeda Agreement, disclaimers of Seller's liability, and indemnification of Seller (any such license, a "New Arrangement"). Following an Acquisition Event, Seller shall consult with Purchaser, in a customary manner and on a reasonable basis, regarding Seller's own commercialization activities with respect to any Royalty Product in the Territory, or, if applicable, the status of any efforts of Seller to pursue a New Arrangement. Purchaser shall provide assistance to and cooperate with Seller, at Purchaser's cost and expense, in such efforts as Seller may undertake in connection with such New Arrangement. In the event Seller enters into a New Arrangement, Seller agrees to comply in all material respects with the provisions of this Agreement and references in this Agreement to the Purchased Assets and the Takeda Agreement shall be deemed to be references to any new purchased asset and the new license agreement constructed under the New Arrangement, and references to Takeda shall be deemed to be references to the other party to such new license agreement. Such New Arrangement shall also provide, for no additional consideration from Purchaser, that (i) Purchaser shall have the same rights as those acquired under the Takeda Agreement pursuant to this Agreement and (ii) all payments and other consideration (including any upfront fees) thereunder (to the extent that such

payments or other consideration would have constituted Royalty/Milestone Interests) be made by the other party to such New Arrangement directly to the Escrow Account or another escrow account established in connection with the New Arrangement and having terms and conditions mutually satisfactory to Purchaser and Seller (a "New Arrangement Escrow Account"). Seller will promptly and no later than with effect as of the date of such New Arrangement do all such acts and execute all such documents as Purchaser may reasonably specify (and in such form as Purchaser may reasonably require) to perfect the sale of Purchased Assets under this Agreement in respect of such New Arrangement.

Section 5.7 Enforcement of Takeda Agreement.

(a) Promptly after Seller obtains Knowledge of any breach by Takeda of Section 7.1(b), Section 7.2 or Section 14.2 of the Takeda Agreement or any other breach of or default under, the Takeda Agreement by Takeda related to the Purchased Assets, the Royalty Products or the Royalty Product Patents or of the existence of any facts, circumstances or events that, alone or together with other facts, circumstances or events, would reasonably be expected (with or without the giving of notice or passage of time, or both) to give rise to any such breach or default, Seller shall promptly (but in any event within [***] after Seller obtains such Knowledge), subject to Section 8.7, give written notice to Purchaser (i) stating that the relevant breach or default has occurred and (ii) describing in reasonable detail the relevant breach or default. In addition, Seller shall, subject to Section 8.7, provide to Purchaser a copy of any written notice of breach or alleged breach of the Takeda Agreement delivered by Seller to Takeda as soon as practicable and in any event not less than [***] following such delivery.

(b) In the case of any breach or default by Takeda referred to in Section 5.7(a) that would not reasonably be expected to have a Material Adverse Effect that is disproportionate as compared to such material adverse effect on the rights of Seller under the Takeda Agreement that relate to, or involve or otherwise affect (including with respect to the timing, amount or duration of payments by Takeda to Seller with respect to), the Royalty/Milestone Interests other than the Purchased Assets (without giving effect to any differences in effect caused by the Purchased Assets and the Royalty/Milestone Interests other than the Purchased Assets representing different percentage interests in the Royalty/Milestone Interests as a whole) (such effect, a "Disproportionate MAE"), Seller shall consult with Purchaser regarding Takeda's breach or default, and shall use commercially reasonable efforts to enforce Seller's rights and remedies (whether under the Takeda Agreement or by operation of Law) and Takeda's obligations under the Takeda Agreement and shall keep Purchaser reasonably updated as to any material developments relating to such breach. In the case of any breach or default by Takeda referred to in Section 5.7(a) that would reasonably be expected to have a Disproportionate MAE, Seller shall, at Purchaser's reasonable direction, (A) use commercially reasonable efforts to promptly and fully enforce Seller's rights and remedies (whether under the Takeda Agreement or by operation of Law) and Takeda's obligations under the Takeda Agreement, including, if reasonably requested by Purchaser, instituting formal legal proceedings against Takeda, (B) employ counsel selected by Seller and reasonably acceptable to Purchaser, and (C) keep Purchaser reasonably updated as to any material developments relating to such breach. The Non-Seller Royalty Parties shall reimburse Seller for a proportion of its out-of-pocket costs and expenses (including the fees and expenses of Seller's counsel) incurred by Seller in an amount equal to their respective Applicable Percentages, as such costs and expenses are incurred, in connection with any actions taken or the

exercise of rights or remedies by Seller at the direction of Purchaser pursuant to this Section 5.7(b); *provided*, *however*, that such out-of-pocket costs and expenses (including the fees and expenses of Seller's counsel) shall be entirely borne by Seller if such breach or default by Takeda under the Takeda Agreement is finally determined in a non-appealable Judgment by a court of competent jurisdiction to have been solely caused by a breach or default by Seller under the Takeda Agreement or any other contract or arrangement between Seller and Takeda, subject to Section 7.7(b).

(c) All Proceeds resulting from any enforcement of Takeda's obligations under the Takeda Agreement pursuant to this Section 5.7, after deduction (and reimbursement to Seller and Non-Seller Royalty Parties) of all costs and expenses (including attorneys' fees and expenses) incurred by Seller and Non-Seller Royalty Parties, as applicable, in connection with such enforcement pursuant to Section 5.7(b) above, shall be allocated to Seller and the Non-Seller Royalty Parties in an amount equal to the Applicable Percentage of Seller and each such Non-Seller Royalty Party during the time period of the breach that led to such enforcement, which amount shall be promptly (and in any event no later than [***]) paid to Seller and the Non-Seller Royalty Parties. Seller hereby assigns and, if not presently assignable, agrees to assign to Purchaser the amount of Proceeds due to Purchaser in accordance with this Section 5.7(c).

Section 5.8 No Assignment; No Liens. Except in connection with an assignment by Seller to any other Person with which Seller may merge or consolidate or to which Seller may sell all or substantially all of its assets (whether by merger, sale of assets or otherwise) in accordance with the provisions of Section 10.3 and in accordance with the Takeda Agreement, Seller shall not dispose of, assign, or otherwise transfer, or grant, incur or suffer to exist any Lien on the Purchased Assets or any of Seller's right, title, or interest in and to the Ovid Intellectual Property.

Section 5.9 Audits.

(a) Consultation. Following the Closing Date, Seller and Purchaser shall consult with each other regarding the timing, manner and conduct of any review or audit of Takeda's books and records pursuant to Section 7.10 of the Takeda Agreement, *provided* that, the timing, manner and conduct of any such review or audit shall be determined by Seller in its sole discretion.

(b) Audits under Takeda Agreement. In the event that following consultation with Purchaser in accordance with Section 5.9(a), Seller elects to conduct a review or audit, Seller shall, to the extent permitted by Section 7.10 of the Takeda Agreement, provide written notice to Takeda to cause an inspection or audit to determine the correctness of any Royalty/Milestone Interests payments made under the Takeda Agreement. All of the expenses of any inspection or audit that would otherwise have been borne by Seller pursuant to the Takeda Agreement, including such fees and expenses of any independent certified public accounting firm engaged by Seller and reasonably acceptable to Purchaser in connection with such an inspection or audit shall be borne by the Non-Seller Royalty Parties in an amount equal to the Applicable Percentage of each such Non-Seller Royalty Party, with Seller bearing the remainder, if any; *provided* that, in the event that any such inspection or audit reveals an underpayment during the applicable time period of more than [***] of the amount due, then such costs and expenses shall be borne by Takeda in accordance with Section 7.10 of the Takeda Agreement. Seller will promptly furnish to the Non-Seller Royalty

Parties a true, correct, and complete copy of any inspection or audit report prepared in connection with such an inspection or audit. If, following the completion of such inspection or audit, Seller is required to reimburse Takeda for overpayment of the Royalty/Milestone Interests, then the Non-Seller Royalty Parties shall promptly upon request (and in any event within [***] following such request) reimburse Seller, or, at Seller's request, Takeda on behalf of Seller, for the portion of such overpaid amount that was actually paid to the Non-Seller Royalty Parties, and shall promptly (and in any event within [***]) after making such payment provide documentation to Seller evidencing that such payment was made.

(c) Audits of Seller's Books and Records. Seller shall keep and maintain, or cause to be kept and maintained, for a period of at least [***] following the Calendar Year to which they pertain, full and accurate books and records adequate to reflect all amounts paid or payable in respect of any Seller Commercialization Royalty and all financial information received by Seller from any Persons with respect to such amounts. For the term of this Agreement and for a period of [***] thereafter, upon prior written notice to Seller, Purchaser shall have the right to inspect, at Purchaser's expense, those accounts and records of Seller necessary to verify the accuracy of payments made under or on account of any Seller Commercialization Royalty to Purchaser hereunder or other report or information provided by Seller to Purchaser pursuant to Article V in respect of any Seller Commercialization Royalty. Any such inspection shall occur upon not less than [***] notice to Seller, during Seller's normal business hours and on Seller's premises. Purchaser shall not be entitled to make any copies of Seller's records and shall, and shall cause any of its Representatives to, keep confidential all information obtained during such inspection. If such inspection results in a determination that any payment, or portion thereof, with respect to any Seller Commercialization Royalty that is payable by Seller to Purchaser was not paid to the Escrow Account or any New Arrangement Escrow Account, as applicable, when due, then an amount equal to the underpayment shall be promptly paid by Seller to the Escrow Account or any New Arrangement Escrow Account, as applicable.

Section 5.10 SEC Filings. Prior to the submission by Seller or Purchaser to the SEC of any SEC Documents that contain any Confidential Information of the other Party, or that contain information related to the existence or subject matter of this Agreement or the identity of the other Party, the Party making such filing shall provide drafts of relevant portions of such SEC Documents to the other Party within a reasonable period of time, but in any event no less than [***] prior to the planned date of such submission. The Party making such filing shall cooperate in good faith with the other Party to obtain confidential treatment with respect to the portions of this Agreement that the other Party reasonably requests to be kept confidential and to redact any Confidential Information of the other Party therein as requested by the other Party, unless reasonably advised by counsel that such Confidential Information is required to be included by Law. Notwithstanding the foregoing, a Party making such a filing shall have no obligation to provide a draft of a proposed filing of an SEC Document or otherwise comply with this Section 5.10 with respect to a proposed filing of an SEC Document if the description of or reference to this Agreement or to the subject Confidential Information of the other Party or the identity of the other Party contained in, or attached as an exhibit to, the proposed SEC Document, has been included in any previous SEC Document filed by either Party in accordance with this Section 5.10 or otherwise approved by the other Party in writing. For the avoidance of doubt, notwithstanding the foregoing, Purchaser agrees that it shall not disclose any of the Key Terms in its SEC Documents without the express prior written consent of Seller (which Seller may withhold in its sole discretion), unless

Purchaser's external counsel advises that disclosure of any of the Key Terms is required by applicable Law to be included in Purchaser's SEC Documents, in which case the provisions of Section 8.4(a) shall apply to Purchaser's disclosure of the Key Terms in its SEC Documents. The Parties agree that any disclosure by Purchaser of the Key Terms in any of Purchaser's SEC Documents made in accordance with the immediately preceding sentence may be included in any of Purchaser's future SEC Documents and that no prior written consent of Seller shall be required with respect to the disclosure of any Key Terms that have previously been disclosed in the SEC Documents of Seller.

Section 5.11 Instruction Letter. Prior to the termination of this Agreement pursuant to Section 9.1, Seller shall not, without Purchaser's prior written consent, deliver any further directions to Takeda regarding the payment of the Purchased Assets.

Section 5.12 Tax Matters.

(a) Purchaser and Seller agree that the Purchase Price is not subject to deduction or withholding *provided* that, on or prior to the Closing Date, Seller delivers to Purchaser a duly completed and valid Internal Revenue Service ("IRS") Form W-9.

(b) Notwithstanding the accounting treatment therefor and unless otherwise required by applicable Law, for all U.S. federal and applicable state and local tax purposes, Seller and Purchaser shall treat (i) the transactions contemplated by the Transaction Documents as a sale and Purchaser's payment of the Purchase Price (pursuant to Section 2.1(a) of this Agreement) as received by Seller in a taxable transaction and (ii) Purchaser as the direct recipient of the payments made with respect to the Purchased Assets. If there is an inquiry by any Governmental Authority of Seller or Purchaser related to this Section 5.12 or Section 10.4, the Parties shall cooperate with each other in responding to such inquiry in a commercially reasonable manner consistent with this Section 5.12 and Section 10.4.

(c) Seller and Purchaser agree that for United States federal income tax purposes, (i) any and all amounts in respect of the Purchased Assets remitted by Seller to Purchaser pursuant to Section 5.5(a) or otherwise under this Agreement shall be treated as received by Seller as agent for Purchaser, and (ii) any and all amounts remitted by Purchaser to Seller pursuant to Section 5.5(b) of this Agreement shall be treated as remittances of amounts collected by Purchaser on behalf of Seller.

(d) On or prior to the Closing Date, Purchaser shall deliver to Seller a duly completed and valid IRS Form W-9 certifying that Purchaser is a United States person, as such term is defined in Section 7701(a)(30) of the Code, and Purchaser shall provide an updated IRS Form W-9 to Seller throughout the term of the Transaction Documents whenever required in order for Seller to have on file a duly completed and valid IRS Form W-9.

(e) All payments to Purchaser under the Transaction Documents shall be made without any deduction or withholding by Seller for or on account of any tax except as required by applicable Law. If any applicable Law (as reasonably determined by Seller) requires the deduction or withholding of any tax on payments to Purchaser by Seller, then Seller shall be entitled to make such deduction or withholding and shall timely pay the full amount deducted or withheld to the

relevant Governmental Authority in accordance with applicable Law. Except as provided in this Section 5.12(e), any such withheld or deducted amounts shall be treated for all purposes of the Transaction Documents as having been paid to Purchaser. Seller shall use commercially reasonable efforts to give or cause to be given to Purchaser such assistance as may reasonably be necessary to enable Purchaser to claim exemption from any such withholding, reduction thereof, or credit therefor, and in each case shall furnish Purchaser with proper evidence of the taxes paid by Seller (or a third party) on its behalf.

(f) Notwithstanding the foregoing, if deduction or withholding of any tax is required from any such payment under this Agreement as a result of an assignment by Seller pursuant to Section 10.3(b), any redomiciling or change in tax residency of Seller, or any failure on the part of Seller to comply with applicable tax laws or filing or record retention requirements, then Seller shall pay such additional amounts to Purchaser as necessary so that the net amount received by Purchaser, after all required deductions and withholdings (including with respect to such additional amounts), is an amount equal to the amount that it would have received had no such deductions or withholdings been made.

(g) The Parties agree not to take any position that is inconsistent with the provisions of this Section 5.12 and Section 10.4 on any tax return or in any audit or other judicial or administrative proceeding unless (i) the other party hereto has consented to the taking of such position (such consent not to be unreasonably withheld, conditioned or delayed), (ii) the party hereto that contemplates taking such an inconsistent position has been advised by a nationally recognized tax counsel in writing that it is unable to conclude that the position specified in this Section 5.12 or Section 10.4 is more likely than not to prevail if challenged by the tax authority having jurisdiction of the relevant tax, or (iii) required by a tax authority in connection with the resolution of an audit or examination diligently contested.

Section 5.13 Seller's Commercially Reasonable Efforts and Judgment. It is understood and agreed that, in determining whether Seller's efforts or judgments are "commercially reasonable" with respect to any covenant that specifically references such term in this Article V, Seller shall be deemed to be acting or making a judgment in a commercially reasonable manner only if Seller would reasonably be expected to act in the same manner, and shall be deemed to be using commercially reasonable efforts only if Seller would reasonably be expected to use at least an equal degree of effort, if Seller had the sole right, title, and interest in and to the Purchased Assets and the Royalty/Milestone Interests and without taking into account any of its other products or product candidates in its portfolio. For the avoidance of doubt, any act or failure to act by Seller that would not be commercially reasonable in regard to Seller's interests or position as of immediately prior to the Closing, but is commercially reasonable when accounting for the effects of the Transaction Documents on Seller's interests or position, shall be deemed not to be commercially reasonable for purposes of this Article V.

Section 5.14 Change in Name or Organization. Seller shall provide Purchaser with written notice within [***] following any change in, or amendment or alteration of, Seller's (a) legal name, (b) form or type of organization, or (c) jurisdiction of organization.

ARTICLE VI
THE CLOSING

Section 6.1 Closing. The closing of the transactions contemplated hereby (the "Closing") shall take place at 10:00 a.m. Boston time on the date hereof (the "Closing Date") at the offices of Ropes & Gray LLP located at 800 Boylston Street, Boston, MA 02199, or such other place as the Parties mutually agree.

Section 6.2 Payment of Purchase Price. At the Closing, Purchaser shall deliver to Seller the Purchase Price by wire transfer of immediately available funds to the Seller Account, without any deduction for withholding or other taxes and without any other set off or deduction of any kind.

Section 6.3 Closing Deliverables.

(a) At the Closing, each of Seller and Purchaser shall deliver or cause to be delivered to the other party hereto a duly executed counterpart to the Escrow Agreement and shall receive a duly executed counterpart to the Escrow Agreement from the Escrow Agent.

(b) At the Closing, each of Seller and Purchaser shall deliver to the other party hereto a duly executed counterpart to the Bill of Sale, evidencing the sale and assignment to Purchaser of the Purchased Assets.

(c) At the Closing, Seller shall deliver to Purchaser a certificate of an executive officer of Seller, dated as of the Closing, certifying as to the (i) attached copies of the organizational documents of Seller and resolutions of the governing body of Seller authorizing and approving the execution, delivery and performance by Seller of the Transaction Documents and the transactions contemplated thereby and (ii) the incumbency of the officer or officers of Seller who have executed and delivered the Transaction Documents, including therein a signature specimen of each such officer or officers.

(d) At the Closing, Purchaser shall deliver to Seller a certificate of an executive officer or other authorized signatory of Purchaser, dated as of the Closing, certifying as to the incumbency of the officer or officers of Purchaser who have executed and delivered the Transaction Documents, including therein a signature specimen of each such officer or officers.

(e) At or prior to the Closing, Purchaser shall deliver to Seller a duly completed and executed IRS W-9 pursuant to Section 5.12(d).

(f) Promptly following the Closing (and in any event on the same day thereof), Seller shall deliver to Takeda a duly executed copy of the Instruction Letter. Within [***] thereafter, Seller shall deliver to Purchaser evidence reasonably satisfactory to Purchaser confirming, with respect to the Instruction Letter, the delivery to Takeda.

(g) As soon as practicable [***] Seller shall deliver to Purchaser a duly executed receipt for payment of the Purchase Price.

ARTICLE VII
INDEMNIFICATION

Section 7.1 Indemnification by Seller. Seller agrees to indemnify and hold harmless Purchaser, its Affiliates and its and their respective Representatives (each, a "Purchaser Indemnified Party") from and against, and will pay to each Purchaser Indemnified Party the amount of, any and all Losses awarded against or incurred or suffered by such Purchaser Indemnified Party, whether or not involving a Third Party Claim, arising out of or resulting from (a) any fraud or breach of any representation or warranty made by Seller in any of the Transaction Documents or certificates delivered by Seller to Purchaser in writing pursuant to this Agreement, (b) any breach of or default under any covenant or agreement of Seller in any of the Transaction Documents, (c) any Recipient Confidentiality Breach by any Person who receives Confidential Information from or on behalf of Seller under Article VIII, and (d) any Excluded Liabilities and Obligations; *provided*, *however*, that the foregoing shall exclude any Losses of any Purchaser Indemnified Party to the extent resulting from acts or omissions of Seller taken (or omitted to be taken) pursuant to any written direction to Seller from any Purchaser Indemnified Party. Any amounts determined to be due to any Purchaser Indemnified Party hereunder in accordance with and subject to the terms, conditions and procedures of this Article VII shall (if not otherwise paid) be payable by Seller to such Purchaser Indemnified Party within [***] following written demand delivered to Seller by such Purchaser Indemnified Party.

Section 7.2 Indemnification by Purchaser. Purchaser agrees to indemnify and hold each of Seller and its Affiliates and any or all of their respective Representatives (each, a "Seller Indemnified Party") harmless from and against, and will pay to each Seller Indemnified Party the amount of, any and all Losses awarded against or incurred or suffered by such Seller Indemnified Party, whether or not involving a Third Party Claim, arising out of or resulting from (a) any fraud or breach of any representation or warranty made by Purchaser in any of the Transaction Documents, (b) any breach of or default under any covenant or agreement of Purchaser in any Transaction Document to which Purchaser is party, and (c) any Recipient Confidentiality Breach by any Person who receives Confidential Information from or on behalf of Purchaser under Article VIII; *provided*, *however*, that the foregoing shall exclude any Losses of any Seller Indemnified Party to the extent resulting from acts or omissions of Purchaser taken (or omitted to be taken) pursuant to any written direction to Purchaser from any Seller Indemnified Party. Any amounts determined to be due to any Seller Indemnified Party hereunder in accordance with and subject to the terms, conditions and procedures of this Article VII shall (if not otherwise paid) be payable by Purchaser to such Seller Indemnified Party within [***] following written demand delivered to Seller by such Seller Indemnified Party.

Section 7.3 Materiality. For purposes of determining the existence of any breach and the amount of any Losses resulting from any breach by Seller or Purchaser of their respective representations and warranties or covenants pursuant to Section 7.1 or Section 7.2, as applicable, and without limiting Section 7.7 or Section 7.8, all such representations and warranties or covenants that are qualified by materiality or by reference to a Material Adverse Effect shall be deemed to be not so qualified, as applicable.

Section 7.4 Procedures for Third Party Claims.

(a) If any claim or demand made by any Person other than Purchaser or Seller against a Purchaser Indemnified Party or a Seller Indemnified Party, as applicable (a "Third Party Claim") shall be brought or alleged against an indemnified party in respect of which indemnity is to be sought against an indemnifying party pursuant to Section 7.1 or Section 7.2, the indemnified party shall, promptly after receipt of notice of the commencement of such Third Party Claim, notify the indemnifying party in writing of the commencement thereof, enclosing a copy of all papers served, if any; *provided*, that the failure to so notify such indemnifying party will not relieve the indemnifying party from any liability that it may have to any indemnified party under Section 7.1 or Section 7.2 unless, and only to the extent that, the indemnifying party is actually materially prejudiced by such failure.

(b) In the event that any Third Party Claim is brought against an indemnified party and it notifies the indemnifying party of the commencement thereof in accordance with this Section 7.4, the indemnifying party will be entitled, at the indemnifying party's sole cost and expense, to participate therein and, to the extent that it may wish, to assume the defense thereof, with counsel reasonably satisfactory to such indemnified party, and, after notice from the indemnifying party to such indemnified party of its election so to assume the defense thereof, the indemnifying party will not be liable to such indemnified party under this Article VII for any legal or other expenses subsequently incurred by such indemnified party in connection with the defense thereof other than reasonable costs of investigation. Notwithstanding the foregoing, the indemnifying party may not assume the defense to a Third Party Claim (i) involving criminal liability or in which equitable relief other than monetary damages is sought against the indemnified party or its Affiliates, (ii) involving a purported class action, (iii) if the indemnifying party has not notified the indemnified party in writing that it will be liable to indemnify the indemnified party with respect to all Losses relating to such Third Party Claim to the extent required by, and subject to the terms and conditions of, this Article VII, or (iv) if the Third Party Claim relates to taxes.

(c) In any such Third Party Claim, an indemnified party shall have the right to retain its own counsel, but the reasonable fees and expenses of such counsel shall be at the sole cost and expense of such indemnified party unless (a) the indemnifying party and the indemnified party shall have mutually agreed to the retention of such counsel, (b) the indemnifying party has assumed the defense of such proceeding and has failed within a reasonable time to retain counsel reasonably satisfactory to such indemnified party, (c) the named parties to any such Third Party Claim (including any impleaded parties) include both the indemnifying party and the indemnified party and representation of both parties by the same counsel would be inappropriate due to actual or potential conflicts of interests between them based on the advice of counsel to the indemnified party or (d) the indemnifying party is not permitted to assume the defense of such Third Party Claim pursuant to Section 7.4(b).

(d) The indemnifying party shall not be liable for any settlement of any Third Party Claim effected without its written consent, but, if settled with such consent or if there is a final judgment for the plaintiff, the indemnifying party agrees to indemnify the indemnified party from and against any Loss indemnifiable pursuant to Section 7.1 or Section 7.2 by reason of such settlement or judgment. No indemnifying party shall, without the prior written consent of the indemnified party, effect any settlement, compromise or discharge of any pending or threatened Third Party Claim in respect of which any indemnified party is or could have been a party and indemnity could be sought hereunder by such indemnified party, unless such settlement,

compromise or discharge, as the case may be, (i) includes an unconditional written release of such indemnified party and its Affiliates, in form and substance reasonably satisfactory to the indemnified party, from all liability on claims that are the subject matter of such claim or proceeding, (ii) does not include any statement as to an admission of fault, culpability or failure to act or violation of Law or rights of any Person by or on behalf of any indemnified party or its Affiliates, (iii) does not impose any continuing material obligation or restrictions on any indemnified party, and (iv) does not involve any injunctive relief binding on the indemnified party or its Affiliates.

Section 7.5 Other Claims. A claim by an indemnified party under this Article VII for any matter not involving a Third Party Claim and in respect of which such indemnified party would be entitled to indemnification hereunder may be made by delivering, in good faith, a written notice of claim to the indemnifying party (a "Claim Notice"), which notice shall contain (a) a description and the amount of any Losses incurred or suffered or an estimate of Losses reasonably expected to be incurred or suffered by the indemnified party if known or reasonably capable of estimation, and the method of computation of such Losses (the "Claim Amount"), (b) a statement that the indemnified party is entitled to indemnification under this Article VII for such Losses and a reasonable explanation of the basis therefor, and (c) a demand for payment in the amount of such Losses or an estimate of such Losses if known; *provided*, that the failure to so notify such indemnifying party will not relieve the indemnifying party from any liability that it may have to any indemnified party under Section 7.1 or Section 7.2 unless, and only to the extent that, the indemnifying party is actually materially prejudiced by such failure. Within [***] after delivery of a Claim Notice, the indemnifying party shall deliver to the indemnified party a written response in which the indemnifying party shall either (i) agree that the indemnified party is entitled to receive the Claim Amount (in which case such response shall be accompanied by a payment to the indemnified party of the Claim Amount by the indemnifying party by wire transfer of immediately available funds), (ii) agree that the indemnified party is entitled to receive part, but not all, of the Claim Amount (the amount so agreed in (i) or (ii), the "Agreed Amount") (in which case such response shall be accompanied by a payment to the indemnified party of the Agreed Amount by the indemnifying party by wire transfer of immediately available funds) or (iii) contest that the indemnified party is entitled to receive any of the Claim Amount. If any such dispute described in clause (iii) of the preceding sentence is not resolved within [***] following the delivery by the indemnifying party of such response, the indemnifying party and the indemnified party shall each have the right to submit such dispute to a court of competent jurisdiction in accordance with the provisions of Section 10.8. If the indemnifying party does not notify the indemnified party within [***] following its receipt of a Claim Notice that the indemnifying party disputes its liability to the indemnified party with respect to the Claim Amount in whole or in part, such claim specified by the indemnified party in such Claim Notice shall be conclusively deemed a liability of the indemnifying party under Section 7.1 or Section 7.2, as applicable, with respect to the undisputed portion of the Claim Amount and the indemnifying party shall pay the amount of such liability to the indemnified party on demand or, in the case of any Claim Notice in which the amount of the claim (or any portion thereof) is estimated, on such later date when the amount of such claim (or such portion thereof) becomes finally determined. For all purposes of this Section 7.5, Seller shall be entitled to deliver Claim Notices to Purchaser on behalf of Seller Indemnified Parties, and Purchaser shall be entitled to deliver Claim Notices to Seller on behalf of the Purchaser Indemnified Parties.

Section 7.6 Time Limitations.

(a) Seller shall have liability under Section 7.1 with respect to any breach of any representation or warranty made by Seller in Article III of this Agreement only if, on or prior to the date that is [***] after the Closing Date, Purchaser notifies Seller of a claim in respect of such breach, specifying the factual basis of such claim in reasonable detail (other than (i) the Fundamental Representations, as to which a claim may be made at any time until [***] or (ii) any breach of a representation or warranty resulting from fraud or willful misconduct on the part of Seller, as to which a claim may be made at any time until the applicable statute of limitations).

(b) Purchaser shall have liability under Section 7.2 with respect to any breach of any representation or warranty made by Purchaser in Article IV of this Agreement only if, on or prior to the date that is [***] after the Closing Date, Seller notifies Purchaser of a claim in respect of such breach, specifying the factual basis of such claim in reasonable detail (other than (i) Purchaser's representations and warranties in Section 4.1, Section 4.2, Section 4.3, and Section 4.4, as to which a claim may be made at any time until the date that is [***] following the Closing Date or (ii) any breach of a representation or warranty resulting from fraud or willful misconduct on the part of Purchaser, as to which a claim may be made at any time until the applicable statute of limitations).

(c) To the extent not performed, and except as otherwise set forth in this Agreement, the covenants contained in this Agreement shall survive the Closing until the date that is the later of (i) [***] after the termination of this Agreement or (ii) the applicable statute of limitations.

(d) Notwithstanding the foregoing, any claim for breach of a representation or warranty in respect of which indemnification may be sought under this Agreement shall survive the time at which it would otherwise terminate pursuant to this Section 7.6 if written notice of such claim has been given to the Party against whom such indemnification may be sought prior to the end of the applicable survival period described in this Section 7.6.

Section 7.7 Limitations on Liability.

(a) No Party shall be liable for any consequential (including lost profits), punitive, special, indirect, or incidental damages under this Article VII (and no claim for indemnification hereunder shall be asserted) as a result of any breach or violation of any representation, warranty, covenant or agreement of such party (including under this Article VII) in or pursuant to this Agreement, except in respect of a claim for fraud, willful misconduct, intentional misrepresentation, or breaches of Article VIII or to the extent a court of competent jurisdiction awards such damages to a third party in connection with a Third Party Claim. Notwithstanding the foregoing, Purchaser shall be entitled to make indemnification claims, in accordance with the procedures set forth in this Article VII, for Losses that include any portion of the Purchased Assets that Purchaser was entitled to receive but did not receive timely or at all due to any indemnifiable events under this Agreement, and such portion of the Purchased Assets shall not be deemed consequential (including lost profits), punitive, special, indirect or incidental damages for any purpose of this Agreement.

(b) Other than in respect of claims for fraud, willful misconduct, intentional misrepresentation, Excluded Liabilities and Obligations and breaches of Article VIII, in no event shall (i) Seller's aggregate liability for Losses under Section 7.1(a) or Purchaser's aggregate liability for Losses under Section 7.2(a) exceed the Purchase Price less amounts in respect of the Purchased Assets actually received by Purchaser and (ii) Seller shall not have any liability for Losses under Section 7.1 and Purchaser shall not have any liability for Losses under Section 7.2, unless and until the aggregate amount of all Losses incurred by the indemnified party equals or exceeds $[***], in which event the indemnifying party shall be liable for Losses only to the extent of such excess.

Section 7.8 Exclusive Remedy. Except in the case of fraud and except as set forth in Section 10.1 (including, for the avoidance of doubt, for purposes of Article VIII), the indemnification afforded by this Article VII shall be the sole and exclusive remedy for any and all Losses awarded against or incurred or suffered by a Party in connection with the transactions contemplated by the Transaction Documents, including with respect to any breach of any representation or warranty made by a Party in any of the Transaction Documents or any certificate delivered by a Party to the other Party in writing pursuant to this Agreement or any breach of or default under any covenant or agreement by a Party pursuant to any Transaction Document. Nothing in this Agreement shall operate to limit the rights of a Party to seek equitable remedies (including specific performance or injunctive relief) or, in the case of fraud committed by or on behalf of the other Party, any remedies available to it under applicable Law.

ARTICLE VIII
CONFIDENTIALITY

Section 8.1 Confidentiality. Except as provided in this Article VIII or otherwise agreed in writing by the Parties, the Parties agree that, during the term of this Agreement and until the [***] anniversary of the date of termination of this Agreement pursuant to Section 9.1, each party (the "Receiving Party") (i) shall keep confidential, and shall not publish or otherwise disclose to any Person any Confidential Information (as defined below) and (ii) shall not use for any purpose other than as provided in this Agreement (which includes the exercise of any rights or the performance of any obligations hereunder), the terms of this Agreement and the other Transaction Documents or any information (whether written or oral, or in electronic or other form) furnished (including prior to the Closing Date) to it by or on behalf of the other party (the "Disclosing Party") pursuant to the Confidentiality Agreement (as defined below) or the Transaction Documents (such information, "Confidential Information" of the Disclosing Party, *provided* that the terms of the Transaction Documents shall be Confidential Information of both Parties and Takeda Confidential Information shall at all times be Confidential Information of Seller), except for that portion of such information that:

(a) was already in the Receiving Party's possession on a non-confidential basis prior to its disclosure to it by the Disclosing Party, as evidenced by written records (*provided*, if such information was disclosed to the Receiving Party on a non-confidential basis by a party that is not the Disclosing Party, such party had the right to disclose such information to the Receiving Party without any legal, contractual or fiduciary obligation to, any person with respect to such information);

(b) is or becomes generally available to the public other than as a result of an act or omission by the Receiving Party or its Affiliates or their respective Representatives in breach of this Agreement; or

(c) was independently developed by the Receiving Party, as evidenced by written records of the Receiving Party, without use of or reference to the Confidential Information or in violation of the terms of this Agreement.

Each Party hereby acknowledges that the United States federal and state securities laws prohibit any Person that has material, non-public information about a company from purchasing or selling securities of such a company or from communicating such information to any other Person under circumstances in which it is reasonably foreseeable that such Person is likely to purchase or sell such securities.

The Receiving Party agrees that it shall be and remain responsible hereunder for any failure by any Person who receives Confidential Information from or on behalf of the Receiving Party pursuant to this Article VIII (including the Receiving Party's Representatives (including, in the case of Purchaser, the Purchaser Recipients), Affiliates, Affiliates' Representatives, and other permitted recipients pursuant to Section 8.4) to treat such Confidential Information as required under this Article VIII (any such failure, a "Recipient Confidentiality Breach").

Section 8.2 Disclosures to Certain Affiliates. Notwithstanding anything to the contrary provided elsewhere herein, no Affiliate of Purchaser or their Representatives shall have any obligations with respect to Confidential Information provided to Purchaser pursuant to this Agreement to the extent that such Confidential Information is not actually made available to such Affiliate or their Representatives. For the avoidance of doubt, Confidential Information provided to Purchaser pursuant to this Agreement may be disclosed by Purchaser to Purchaser's Affiliates and their Representatives only as permitted pursuant to Section 8.4(b).

Section 8.3 Termination of Confidentiality Agreement. Effective upon the date hereof, the Confidentiality Agreement, dated January 8, 2019 (the "Confidentiality Agreement"), between Seller and Purchaser shall terminate and be of no further force or effect, and shall be superseded by the provisions of this Article VIII.

Section 8.4 Permitted Disclosure.

(a) Without limiting Section 5.1 and except as provided in Section 5.10, in the event that a Receiving Party or its Affiliates or any of its or its Affiliates' Representatives (including, in the case of Purchaser, any Purchaser Recipients) are requested by a Governmental Authority or required by applicable Law, regulation or legal process (including the regulations of a stock exchange or Governmental Authority or the order or ruling of a court, administrative agency or other government or regulatory body of competent jurisdiction) to disclose any Confidential Information, the Receiving Party shall promptly, to the extent permitted by Law, notify the Disclosing Party in writing of such request or requirement so that the Disclosing Party may seek (at the Disclosing Party's sole expense) an appropriate protective order or other appropriate remedy (and if the Disclosing Party seeks such an order or other remedy, the Receiving Party will provide such cooperation, at the Disclosing Party's sole expense, as the Disclosing Party

shall reasonably request). If no such protective order or other remedy is obtained and the Receiving Party or its Affiliates or its or its Affiliates' Representatives (including, in the case of Purchaser, any Purchaser Recipients) are, in the view of their respective counsel (which may include their respective internal counsel), legally required to disclose Confidential Information, the Receiving Party or its Affiliates or its or its Affiliates' Representatives (including, in the case of Purchaser, any Purchaser Recipients), as the case may be, shall only disclose that portion of the Confidential Information that their respective counsel advises that Receiving Party or its Affiliates or its or its Affiliates' Representatives (including, in the case of Purchaser, any Purchaser Recipients), as the case may be, are required to disclose and will exercise commercially reasonable efforts, at the Disclosing Party's sole expense, to obtain reliable assurance that confidential treatment will be accorded to that portion of the Confidential Information that is being disclosed. In any event, the Receiving Party will not oppose action by the Disclosing Party to obtain an appropriate protective order or other reliable assurance that confidential treatment will be accorded the Confidential Information.

(b) Notwithstanding the other provisions of this Article VIII, either Party may disclose Confidential Information (other than disclosure by Purchaser of any Key Terms, which is addressed solely in Section 8.4(c) (and as to which this Section 8.4(b) is not applicable) and disclosure by Purchaser of any Takeda Confidential Information, which is addressed solely in Section 8.4(d) (and as to which this Section 8.4(b) is not applicable)) with the prior written consent of the Disclosing Party (such consent not to be unreasonably withheld, conditioned or delayed) or to the extent such disclosure is reasonably necessary in the following situations:

(i) prosecuting or defending litigation, including enforcing rights or remedies hereunder or responding to a subpoena in a third party litigation;

(ii) for regulatory, tax or customs purposes;

(iii) for audit purposes, *provided* that each recipient of Confidential Information must be bound by contractual or professional obligations of confidentiality and non-use no less rigorous than those in this Article VIII prior to any such disclosure;

(iv) disclosure to (A) its Affiliates on a need-to-know basis in order for such Party to exercise its rights or fulfill its obligations under this Agreement and (B) its Representatives, in each case, engaged or working on behalf of such Party, *provided* that in the case of each of clause (A) and clause (B), each recipient of Confidential Information must be bound by contractual or professional obligations of confidentiality and non-use no less rigorous than those in this Article VIII prior to any such disclosure;

(v) as set forth in Section 5.1 and Section 5.10 (which terms shall control in the event of any conflict with this Section 8.4(b));

(vi) disclosure to its actual or potential investors and co-investors, and other sources of funding, including debt financing, or potential partners, collaborators or acquirers, and their respective accountants, financial advisors and other professional representatives, *provided*, that such disclosure shall be made only to the extent customarily required to consummate such investment, financing transaction, partnership or

collaboration and that each recipient of Confidential Information must be bound by contractual or professional obligations of confidentiality and non-use no less rigorous in any material respect than those in this Article VIII prior to any such disclosure; or

(vii) in connection with a merger, acquisition or change of control (including to fulfill due diligence inquiries related to a prospective merger, acquisition or change of control), *provided* that each recipient of Confidential Information must be bound by contractual or professional obligations of confidentiality and non-use no less rigorous than those in this Article VIII prior to any such disclosure; or

(viii) to a permitted assignee in connection with an assignment permitted pursuant to Section 10.3, *provided* that such permitted assignee is bound by contractual obligations of confidentiality and non-use no less rigorous than those in this Article VIII prior to any such disclosure.

Notwithstanding the foregoing, in the event the Receiving Party is required to make a disclosure of the Disclosing Party's Confidential Information pursuant to Section 8.4(b)(i) (other than in connection with enforcing its rights or remedies hereunder directly against the other Party) or Section 8.4(b)(ii) it will comply with the obligations of Section 8.4(a), to the extent applicable.

(c) Notwithstanding the other provisions of this Article VIII, Purchaser shall not disclose any Key Terms to any Person without the prior written consent of Seller, or as provided in Section 5.10.

(d) Notwithstanding the other provisions of this Article VIII, Purchaser shall not disclose any Takeda Confidential Information to any Person without the prior written consent of Seller (i) except as provided in Section 8.4(a) and (ii) except that Purchaser may disclose Takeda Confidential Information to Purchaser Recipients provided that such Purchaser Recipients are bound by confidentiality and restrictions on use with respect to such Takeda Confidential Information that are no less restrictive that those set forth in this Article VIII. Purchaser agrees that it shall cause any such Purchaser Recipients to comply with the obligations of confidentiality and restrictions on use under this Article VIII with respect to any and all Takeda Confidential Information during the term of this Agreement and until the [***] anniversary of the date of termination of this Agreement pursuant to Section 9.1.

Section 8.5 Financial Statements. Notwithstanding anything herein to the contrary, without limiting Section 5.10, nothing in this Article VIII shall be construed to restrict Purchaser from including disclosure of the Purchase Price and the amount and nature of the Purchased Assets in the footnotes to Purchaser's audited annual financial statements, in each case to the extent so required by GAAP or Purchaser's independent accountants, or including comparable disclosure in Purchaser's unaudited quarterly financial statements. For the avoidance of doubt, Purchaser's audited annual financial statements and unaudited quarterly financial statements are SEC Documents for purposes of this Agreement and are subject to Section 5.10.

Section 8.6 Use of Name. Except as required by Law and except to the extent included in SEC Documents in accordance with Section 5.10, neither Party shall use the name, trademark, service mark, trade name, or symbol or any adaptation thereof of the other Party, or of any of its

Representatives or Affiliates for advertising, marketing, endorsement, promotional or sales literature, publicity, public announcement or disclosure in any document employed to obtain funds or financing without the specific prior written consent of an authorized representative of the other Party or individual whose name is to be used as to each such use (which consent may be granted or withheld in such Party's sole discretion). Notwithstanding the foregoing, each Party may use the name, logos, and other insignia of the other Party in any "tombstone" or other advertisements, in its publications, marketing, or promotional materials to existing and prospective investors and otherwise on the website or in other marketing materials of such Party, as applicable, without the other Party's prior approval.

Section 8.7 Seller Certificates. If any notice, document, correspondence or other information is specified to be provided to Purchaser pursuant to this Agreement and disclosure of the same to Purchaser would breach the confidentiality obligations owed by Seller to Takeda under the Takeda Agreement, as modified by the Takeda Consent (a "Confidentiality Restriction"), then in lieu of providing Purchaser a copy of such notice, document, correspondence or other information, Seller shall, to the extent permissible under the Confidentiality Restriction, deliver to Purchaser a written summary, certified by the Chief Business and Financial Officer of Seller or the General Counsel of Seller, of all information contained in such communication that Seller reasonably believes is material; *provided*, that, if Seller is reasonably advised in writing by its counsel that providing Purchaser such written summary would reasonably be expected to constitute a breach of the Confidentiality Restriction, then Seller shall paraphrase or otherwise describe the substance for Purchaser of such notice, document, correspondence or other information to the maximum extent possible while complying with the Confidentiality Restriction.

ARTICLE IX
TERMINATION

Section 9.1 Termination of Agreement. This Agreement shall continue in full force and effect until the date on which Purchaser has received the last payment with respect to the Purchased Assets, at which time this Agreement shall automatically terminate.

Section 9.2 Effect of Termination. Upon the termination of this Agreement pursuant to Section 9.1, this Agreement shall become void and of no further force and effect, except for any rights, obligations or claims of either Party that have accrued prior to termination; *provided*, *however*, that (a) the provisions of Section 5.1, Section 5.5(a) (with respect to the portion of the Purchased Assets payable to Purchaser pursuant to clause (b) below), Section 5.5(b), Section 5.7(b), Section 5.9 (only until the date that is [***] after the termination date), Section 5.11, Article I, Article VII (but only if a claim under Article VII is pending on or is, in accordance with Article VII, brought within [***] of the termination date, until the final resolution of such claim and the full satisfaction of all liabilities and obligations hereunder related to such claim), Article VIII, this Article IX and Article X shall survive such termination and shall remain in full force and effect, (b) if, upon the termination of this Agreement, any payments of the Purchased Assets are payable to Purchaser hereunder, this Agreement shall remain in full force and effect until any and all such payments have been made in full, and (except as provided in this Section 9.2) solely for that purpose, and (c) termination shall not relieve either Party from liability for any breach of this Agreement that occurs prior to termination.

ARTICLE X
MISCELLANEOUS

Section 10.1 Specific Performance. The Parties acknowledge that the other Party will have no adequate remedy at law if it fails to perform any of its obligations under any of the Transaction Documents and may be damaged irreparably in the event any of the provisions of this Agreement (including, for clarity, any of the provisions of Article VIII) are not performed in accordance with its specific terms or otherwise are breached or violated (including, for clarity, any actual or threatened breach of Article VIII by Purchaser or Seller, any of their respective Affiliates or any of their or their Affiliates' respective Representatives). In such event, the Parties agree that the other Party shall have the right, without posting bond or other undertaking, to seek an injunction or injunctions to prevent breaches or violations of the provisions of this Agreement (including, in the case of Article VIII, threatened breach) and to enforce specifically this Agreement and the terms and provisions hereof in any Action instituted in any court of the United States or any state thereof having jurisdiction over the Parties and the matter in addition to any other remedy to which it may be entitled, at law or in equity. Each Party further agrees that, in the event of any action for specific performance in respect of such breach or violation (including, in the case of Article VIII, threatened breach), it will not assert, and irrevocably waives the defense that a bond or other security will be required. For the avoidance of doubt, such remedy shall not be deemed to be an exclusive remedy with respect to any of the breaches to which it relates but shall be in addition to all other rights and remedies available at law or equity to Seller or Purchaser (as applicable).

Section 10.2 Notices. All notices, consents, waivers and other communications hereunder shall be in writing and shall be effective (a) upon receipt when sent through the mails, registered or certified mail, return receipt requested, postage prepaid, with such receipt to be effective the date of delivery indicated on the return receipt, (b) upon receipt when sent by an overnight courier, (c) on the date personally delivered to an authorized officer of the party to which sent or (d) on the date transmitted by electronic transmission with a confirmation of receipt, in all cases, with a copy emailed to the recipient at the applicable address, addressed to the recipient as follows:

if to Seller, to:

Ovid Therapeutics Inc.
441 9th Avenue, 14th Floor
New York, NY 10001
Attention: Thomas Perone, General Counsel and Corporate Secretary
Email: [***]

with a copy, which shall not constitute notice, to:

Cooley LLP
3175 Hanover Street
Palo Alto, CA 94304-1130
Attention: Laura Berezin
Email: [***]
Telephone: [***]

if to Purchaser, to:

Ligand Pharmaceuticals Incorporated
3911 Sorrento Valley Boulevard, Suite 110
San Diego, CA 92121
Attention: Paul Hadden; Legal; Finance
Email: [***]

With a copy, which shall not constitute notice, to:

Ropes & Gray LLP
800 Boylston Street
Prudential Tower
Boston, MA 02199
Attention: Marc Rubenstein
Telephone: [***]
Email: [***]

The Parties may, by notice given in accordance herewith to the other Party, designate any further or different address to which subsequent notices, consents, waivers and other communications shall be sent.

Section 10.3 Successors and Assigns.

(a) The provisions of this Agreement shall be binding upon and inure to the benefit of the Parties and their respective successors and permitted assigns.

(b) This Agreement, or any rights or obligations of Seller hereunder, may not be assigned or transferred by Seller without the prior written consent of Purchaser; *provided* that Seller may assign this Agreement in its entirety (i) to an Affiliate or (ii) to any Person that acquires all or substantially all of Seller's business, whether by merger, sale of assets, or otherwise, so long as (A) Seller promptly notifies Purchaser of such assignment, (B) such assignee expressly assumes all obligations of Seller under the Transaction Documents (and, if such assignee is an Affiliate and the assignment is not in connection with a sale of all or substantially all of Seller's business, by merger, sale of assets or otherwise, Seller shall remain liable to Purchaser for its obligations to Purchaser hereunder (and Purchaser shall be entitled to seek recovery for any breach or default of an obligation hereunder from Seller or from such Affiliate assignee)), and (C) if such assignee, transferee or acquiror is Takeda, then Takeda expressly agrees to continue performing its obligations set forth in the Takeda Agreement in respect of and relating to the Purchased Assets and any Royalty/Milestone Interests held by the Non-Seller Royalty Parties as if such assignment had not occurred.

(c) This Agreement as a whole may not be assigned by Purchaser without the prior written consent of Seller; *provided* that Purchaser may assign its rights (other than its rights to receive Takeda Confidential Information) and obligations under this Agreement in its entirety (i) to an Affiliate of Purchaser or (ii) to any Person (other than a Competitor) that acquires all or

substantially all of Purchaser's assets, whether by merger, sale of assets or otherwise, *provided* that (A) Purchaser promptly notifies Seller of such assignment, (B) such assignee expressly assumes all obligations of Purchaser under the Transaction Documents (and, if such assignee is an Affiliate and the assignment is not in connection with a sale of all or substantially all of Purchaser's business, by merger, sale of assets or otherwise, Purchaser shall remain liable to Seller for its obligations to Seller hereunder (and Seller shall be entitled to seek recovery for any breach or default of an obligation hereunder from Purchaser or from such Affiliate assignee)), and (C) such assignee complies with Section 5.12(d) (replacing "Purchaser" wherever it appears with such assignee and replacing "Closing Date" with the date of such assignment in such Section 5.12(d)).

(d) Notwithstanding the foregoing, Purchaser may assign any of its rights (other than its rights to receive Takeda Confidential Information) but not its obligations under this Agreement to up to five (5) third parties (other than Competitors) without the prior written consent of Seller; *provided* that (i) Purchaser promptly notifies Seller of such assignment, (ii) each such assignee complies with Section 5.12(d) (replacing "Purchaser" wherever it appears with such assignee and replacing "Closing Date" with the date that such assignee acquires an interest in Purchaser's rights hereunder in such Section 5.12(d)), and (iii) no such assignment shall result in the need or obligation for Seller to interact or communicate at any time with more than one Person in connection with Seller's administration of this Agreement, exercise of its rights hereunder, and performance of its obligations hereunder (including delivery of Quarterly Reports and other reports, information or notices under this Agreement), and all payments of the Purchased Assets shall continue to be paid to the Escrow Account. Purchaser acknowledges and agrees that, unless otherwise agreed in writing by Seller and Purchaser, in connection with and notwithstanding any permitted assignment under this Section 10.3(d), (x) Purchaser shall retain the sole ability to consult with, request or consent, instruct or direct Seller as and to the extent Purchaser has such rights under this Agreement and (y) Seller shall be entitled to continue to interact solely with Purchaser as its counterparty for purposes of the exercise and performance of the rights described in the foregoing clause (x).

(e) Any permitted assignee of the rights of Purchaser to receive Confidential Information of Seller under this Agreement shall, as a condition to such assignment, agree in writing to be subject to confidentiality and non-use obligations no less rigorous than those set forth in Section 5.1 and Article VIII with respect to such Confidential Information.

(f) Any purported assignment or transfer in violation of this Section 10.3 shall be void *ab initio* and of no effect.

Section 10.4 Independent Nature of Relationship. The relationship between Seller and Purchaser is solely that of seller and purchaser, and neither Seller nor Purchaser has any fiduciary or other special relationship with the other Party or any of its Affiliates. Nothing contained herein or in any other Transaction Document shall be deemed (including for tax purposes) to constitute Seller and Purchaser as a partnership, an association, a joint venture or any other kind of entity or legal form. If there is an inquiry by any Governmental Authority of the Purchaser or the Seller related to the treatment described in this Section 10.4, the Purchaser and the Seller shall cooperate with each other in responding to such inquiry in a reasonable manner which is consistent with this Section 10.4.

Section 10.5 No Personal Liability. It is expressly understood and agreed by Seller and Purchaser that:

(a) each of the representations, warranties, covenants and agreements in the Transaction Documents made on the part of Seller is made by Seller and is not intended to be nor is a personal representation, warranty, covenant or agreement of any other Person, including those Persons named in the definition of "Knowledge of Seller" and any other Representative of Seller or Seller's Affiliates (the "Non-Warranting Parties");

(b) other than Seller, no Person, including the Non-Warranting Parties, shall have any liability whatsoever for breach of any representation, warranty, covenant or agreement made in the Transaction Documents on the part of Seller or in respect of any claim or matter arising out of, relating to or in connection with the Transaction Documents or the transactions contemplated thereby;

(c) the provisions of this Section 10.5 are intended to benefit each and every one of the Non-Warranting Parties and shall be enforceable by each and every one of them to the fullest extent permitted by Law; and

(d) the provisions of clauses (a) – (c) of this Section 10.5 shall apply to Purchaser, *mutatis mutandis*.

Section 10.6 Entire Agreement. This Agreement, together with the Exhibits and Schedules hereto and the other Transaction Documents constitute a complete and exclusive statement of the terms of agreement between the Parties, and supersede all prior agreements, understandings and negotiations, both written and oral, between the Parties, with respect to the subject matter of this Agreement, including the Confidentiality Agreement. No representation, inducement, promise, understanding, condition or warranty not set forth herein (or in the Exhibits or Schedules hereto or the other Transaction Documents) has been made or relied upon by either Party.

Section 10.7 No Third Party Beneficiaries. This Agreement is for the sole benefit of Seller and Purchaser and their successors and permitted assigns and nothing herein expressed or implied shall give or be construed to give to any Person, other than the parties hereto and such successors and permitted assigns, any legal or equitable rights hereunder; except that the Purchaser Indemnified Parties and Seller Indemnified Parties shall be third party beneficiaries of the benefits provided for in Article VII.

Section 10.8 Governing Law; Jurisdiction; Venue; Consent to Service.

(a) THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE INTERNAL SUBSTANTIVE LAWS OF THE STATE OF NEW YORK WITHOUT REFERENCE TO THE RULES THEREOF RELATING TO CONFLICTS OF LAW OTHER THAN SECTION 5-1401 OF THE GENERAL OBLIGATIONS LAW OF THE STATE OF NEW YORK, AND THE OBLIGATIONS, RIGHTS AND REMEDIES OF THE PARTIES HEREUNDER SHALL BE DETERMINED IN ACCORDANCE WITH SUCH LAWS.

(b) The Parties hereby irrevocably and unconditionally submit, for itself and its property, to the non-exclusive jurisdiction of the Supreme Court of the State of New York sitting in New York County and of the United States District Court of the Southern District of New York, and any appellate court from any thereof, in any Action arising out of, relating to or in connection with this Agreement, or for recognition or enforcement of any Judgment, and the Parties hereby irrevocably and unconditionally agree that all claims in respect of any such Action may be heard and determined in such New York State court or, to the extent permitted by applicable Law, in such federal court. The Parties agree that a final Judgment in any such Action shall be conclusive and may be enforced in other jurisdictions by suit on the Judgment or in any other manner provided by applicable Law.

(c) The Parties hereby irrevocably and unconditionally waive, to the fullest extent it may legally and effectively do so, any objection that it may now or hereafter have to the laying of venue of any Action arising out of or relating to this Agreement in any court referred to in Section 10.8(b). The Parties hereby irrevocably waive, to the fullest extent permitted by applicable Law, the defense of an inconvenient forum to the maintenance of such Action in any such court.

(d) Each of the Parties irrevocably consents to service of process in the manner provided for notices in Section 10.2. Nothing in this Agreement will affect the right of any party hereto to serve process in any other manner permitted by applicable Law. Each of the Parties waives personal service of any summons, complaint or other process, which may be made by any other means permitted by New York law.

Section 10.9 Waiver of Jury Trial. EACH PARTY HEREBY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN ANY ACTION DIRECTLY OR INDIRECTLY ARISING OUT OF OR RELATING TO THIS AGREEMENT, OR THE TRANSACTIONS CONTEMPLATED HEREBY (WHETHER BASED ON CONTRACT, TORT, OR ANY OTHER THEORY). EACH PARTY (A) CERTIFIES THAT NO REPRESENTATIVE, AGENT OR ATTORNEY OF THE OTHER PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT THE OTHER PARTY WOULD NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE THE FOREGOING WAIVER AND (B) ACKNOWLEDGES THAT IT AND THE OTHER PARTY HAVE BEEN INDUCED TO ENTER INTO THIS AGREEMENT BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION 10.9.

Section 10.10 Severability. If one or more provisions of this Agreement are held to be invalid, illegal, or unenforceable by a court of competent jurisdiction, such invalidity, illegality or unenforceability shall not affect any other provision of this Agreement, which shall remain in full force and effect, and the Parties shall replace such invalid, illegal, or unenforceable provision with a new provision permitted by applicable Law and having an economic effect as close as possible to the invalid, illegal, or unenforceable provision. Any provision of this Agreement held invalid, illegal, or unenforceable only in part or degree by a court of competent jurisdiction shall remain in full force and effect to the extent not held invalid, illegal, or unenforceable.

Section 10.11 Counterparts. This Agreement may be signed in any number of counterparts, each of which shall be an original, with the same effect as if the signatures thereto

and hereto were upon the same instrument. This Agreement shall become effective when the Parties shall have received a counterpart hereof signed by the other Party. Any counterpart may be executed by facsimile or Adobe™ Portable Document Format (PDF) sent by electronic mail or any electronic signature complying with the U.S. Federal ESIGN Act of 2000 will be deemed to be original signatures, will be valid and binding upon the parties, and, upon delivery, will constitute due execution of this Agreement.

Section 10.12 Amendments; No Waivers. Neither this Agreement nor any term or provision hereof may be amended, supplemented, restated, waived, changed, or modified except with the written consent of the Parties. No failure or delay by either Party in exercising any right, power or privilege hereunder shall operate as a waiver thereof nor shall any single or partial exercise thereof preclude any other or further exercise thereof or the exercise of any other right, power, or privilege. No notice to or demand on either Party in any case shall entitle it to any notice or demand in similar or other circumstances. No waiver or approval hereunder shall, except as may otherwise be stated in such waiver or approval, be applicable to subsequent transactions. No waiver or approval hereunder shall require any similar or dissimilar waiver or approval thereafter to be granted hereunder. The rights and remedies herein provided shall be cumulative and not exclusive of any rights or remedies provided by applicable Law.

Section 10.13 Cumulative Remedies. The remedies herein provided are cumulative and not exclusive of any remedies provided by applicable Law.

Section 10.14 Table of Contents and Headings. The Table of Contents and headings of the Articles and Sections of this Agreement have been inserted for convenience of reference only, are not to be considered a part hereof and shall in no way modify or restrict any of the terms or provisions hereof.

{SIGNATURE PAGE FOLLOWS}

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the day and year first written above.

OVID THERAPEUTICS INC.

By: /s/ Jeffrey Rona
Name: Jeffrey Rona
Title: Chief Business and Financial Officer

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the day and year first written above.

LIGAND PHARMACEUTICALS INCORPORATED

By: /s/ Todd C. Davis
Name: Todd C. Davis
Title: Chief Executive Officer

EXHIBIT 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the registration statements (Nos. 333-218167, 333-224033, 333-233101, 333-237098, 333-254420, 333-263562, and 333-271704) on Form S-8 and (No. 333-275307) on Form S-3 of our report dated March 8, 2024, with respect to the consolidated financial statements of Ovid Therapeutics Inc.

/s/ KPMG LLP

New York, New York
March 8, 2024

Exhibit 31.1

CERTIFICATION PURSUANT TO RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934, AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Jeremy M. Levin, certify that:

1. I have reviewed this Annual Report on Form 10-K of Ovid Therapeutics Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(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, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(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 8, 2024

By: /s/ Jeremy M. Levin

Jeremy M.
Levin Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION PURSUANT TO RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934, AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Jeffrey Rona, certify that:

1 I have reviewed this Annual Report on Form 10-K of Ovid Therapeutics Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(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, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(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 8, 2024

By: /s/ Jeffrey Rona

Jeffrey Rona
Chief Business and Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, (the "Exchange Act") and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350), Jeremy M. Levin, Chief Executive Officer of Ovid Therapeutics Inc._ (the "Company"), and Jeffrey Rona, Chief Business and Financial Officer of the Company, each hereby certifies that, to the best of his or her knowledge:

(1) The Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2023, to which this Certification is attached as Exhibit 32.1 (the "Annual Report"), fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Annual Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

In Witness Whereof, the undersigned have set their hands hereto as of the 8th day of March, 2024.

By /s/ Jeremy M. Levin

Jeremy M. Levin
Chief Executive Officer
(Principal Executive Officer)

Date: March 8, 2024

By /s/ Jeffrey Rona

Jeffrey Rona
Chief Business and Financial Officer
(Principal Financial and Accounting Officer)

OVID THERAPEUTICS INC.

INCENTIVE COMPENSATION RECOUPMENT POLICY

1. INTRODUCTION

The Compensation Committee (the "***Compensation Committee***") of the Board of Directors (the "***Board***") of Ovid Therapeutics Inc., a Delaware corporation (the "***Company***"), has determined that it is in the best interests of the Company and its stockholders to adopt this Incentive Compensation Recoupment Policy (this "***Policy***") providing for the Company's recoupment of Recoverable Incentive Compensation that is received by Covered Officers of the Company under certain circumstances. Certain capitalized terms used in this Policy have the meanings given to such terms in Section 3 below.

This Policy is designed to comply with, and shall be interpreted to be consistent with, Section 10D of the Exchange Act, Rule 10D-1 promulgated thereunder ("***Rule 10D-1***") and Nasdaq Listing Rule 5608 (the "***Listing Standards***").

2. EFFECTIVE DATE

This Policy shall apply to all Incentive Compensation that is received by a Covered Officer on or after October 2, 2023 (the "***Effective Date***"). Incentive Compensation is deemed "***received***" in the Company's fiscal period in which the Financial Reporting Measure specified in the Incentive Compensation award is attained, even if the payment or grant of such Incentive Compensation occurs after the end of that period.

3. DEFINITIONS

"***Accounting Restatement***" means an accounting restatement that the Company is required to prepare due to the material noncompliance of the Company with any financial reporting requirement under the securities laws, including any required accounting restatement to correct an error in previously issued financial statements that is material to the previously issued financial statements, or that would result in a material misstatement if the error were corrected in the current period or left uncorrected in the current period.

"***Accounting Restatement Date***" means the earlier to occur of (a) the date that the Board, a committee of the Board authorized to take such action, or the officer or officers of the Company authorized to take such action if Board action is not required, concludes, or reasonably should have concluded, that the Company is required to prepare an Accounting Restatement, or (b) the date that a court, regulator or other legally authorized body directs the Company to prepare an Accounting Restatement.

"***Administrator***" means the Compensation Committee or, in the absence of such committee, the Board.

"***Code***" means the U.S. Internal Revenue Code of 1986, as amended, and the regulations promulgated thereunder.

"***Covered Officer***" means each current and former Executive Officer.

"***Exchange***" means the Nasdaq Stock Market.

"***Exchange Act***" means the U.S. Securities Exchange Act of 1934, as amended.

"***Executive Officer***" means the Company's president, principal financial officer, principal accounting officer (or if there is no such accounting officer, the controller), any vice-president of the Company in charge of a principal business unit, division, or function (such as sales, administration, or finance), any other officer who performs a policy-making function, or any other person who performs similar policy-making functions for the Company. Executive officers of the Company's parent(s) or subsidiaries are deemed executive officers of the Company if they perform such policy-making functions for the Company. Policy-making function is not intended to include policy-making functions that are not significant. Identification of an executive officer for purposes of this Policy would include at a minimum executive officers identified pursuant to Item 401(b) of Regulation S-K promulgated under the Exchange Act.

"***Financial Reporting Measures***" means measures that are determined and presented in accordance with the accounting principles used in preparing the Company's financial statements, and any measures derived wholly or in part from such measures, including Company stock price and total stockholder return ("***TSR***"). A measure need not be presented in the Company's financial statements or included in a filing with the SEC in order to be a Financial Reporting Measure.

"***Incentive Compensation***" means any compensation that is granted, earned or vested based wholly or in part upon the attainment of a Financial Reporting Measure.

"***Lookback Period***" means the three completed fiscal years immediately preceding the Accounting Restatement Date, as well as any transition period (resulting from a change in the Company's fiscal year) within or immediately following those three completed fiscal years (except that a transition period of at least nine months shall count as a completed fiscal year). Notwithstanding the foregoing, the Lookback Period shall not include fiscal years completed prior to the Effective Date.

"***Recoverable Incentive Compensation***" means Incentive Compensation received by a Covered Officer during the Lookback Period that exceeds the amount of Incentive Compensation that would have been received had such amount been determined based on the Accounting Restatement, computed without regard to any taxes paid (*i.e.*, on a gross basis without regard to tax withholdings and other deductions). For any compensation plans or programs that take into account Incentive Compensation, the amount of Recoverable Incentive Compensation for purposes of this Policy shall include, without limitation, the amount contributed to any notional account based on Recoverable Incentive Compensation and any earnings to date on that notional amount. For any Incentive Compensation that is based on stock price or TSR, where the Recoverable Incentive Compensation is not subject to mathematical recalculation directly from the information in an Accounting Restatement, the Administrator will determine the amount of Recoverable Incentive Compensation based on a reasonable estimate of the effect of the Accounting Restatement on the stock price or TSR upon which the Incentive Compensation was received. The Company shall maintain documentation of the determination of that reasonable estimate and provide such documentation to the Exchange in accordance with the Listing Standards.

"***SEC***" means the U.S. Securities and Exchange Commission.

4. RECOUPMENT

(a) Applicability of Policy. This Policy applies to Incentive Compensation received by a Covered Officer (i) after beginning services as an Executive Officer, (ii) who served as an Executive Officer at any time during the performance period for such Incentive Compensation, (iii) while the Company had a class of securities listed on a national securities exchange or a national securities association, and (iv) during the Lookback Period.

(b) Recoupment Generally. Pursuant to the provisions of this Policy, if there is an Accounting Restatement, the Company must reasonably promptly recoup the full amount of the Recoverable Incentive Compensation, unless the conditions of one or more subsections of Section 4(c) of this Policy are met and the Compensation Committee, or, if such committee does not consist solely of independent directors, a majority of the independent directors serving on the Board, has made a determination that recoupment would be impracticable. Recoupment is required regardless of whether the Covered Officer engaged in any misconduct and regardless of fault, and the Company's obligation to recoup Recoverable Incentive Compensation is not dependent on whether or when any restated financial statements are filed.

(c) Impracticability of Recovery. Recoupment may be determined to be impracticable if, and only if:

(i) the direct expense paid to a third party to assist in enforcing this Policy would exceed the amount of the applicable Recoverable Incentive Compensation; provided that, before concluding that it would be impracticable to recover any amount of Recoverable Incentive Compensation based on expense of enforcement, the Company shall make a reasonable attempt to recover such Recoverable Incentive Compensation, document such reasonable attempt(s) to recover, and provide that documentation to the Exchange in accordance with the Listing Standards; or

(ii) recoupment of the applicable Recoverable Incentive Compensation would likely cause an otherwise tax-qualified retirement plan, under which benefits are broadly available to employees of the Company, to fail to meet the requirements of Code Section 401(a)(13) or Code Section 411(a) and regulations thereunder.

(d) Sources of Recoupment. To the extent permitted by applicable law, the Administrator shall, in its sole discretion, determine the timing and method for recouping Recoverable Incentive Compensation hereunder, provided that such recoupment is undertaken reasonably promptly. The Administrator may, in its discretion, seek recoupment from a Covered Officer from any of the following sources or a combination thereof, whether the applicable compensation was approved, awarded, granted, payable or paid to the Covered Officer prior to, on or after the Effective Date: (i) direct repayment of Recoverable Incentive Compensation previously paid to the Covered Officer; (ii) cancelling prior cash or equity-based awards (whether vested or unvested and whether paid or unpaid); (iii) cancelling or offsetting against any planned future cash or equity-based awards; (iv) forfeiture of deferred compensation, subject to compliance with Code Section 409A; and (v) any other method authorized by applicable law or contract. Subject to compliance with any applicable law, the Administrator may effectuate recoupment under this Policy from any amount otherwise payable to the Covered Officer, including amounts payable to such individual under any otherwise applicable Company plan or program, *e.g.*, base salary, bonuses or commissions and compensation previously deferred by the Covered Officer. The Administrator need not utilize the same method of recovery for all Covered Officers or with respect to all types of Recoverable Incentive Compensation.

(e) No Indemnification of Covered Officers. Notwithstanding any indemnification agreement, applicable insurance policy or any other agreement or provision of the Company's certificate of incorporation or bylaws to the contrary, no Covered Officer shall be entitled to indemnification or advancement of expenses in connection with any enforcement of this Policy by the Company, including paying or reimbursing such Covered Officer for insurance premiums to cover potential obligations to the Company under this Policy.

(f) Indemnification of Administrator. Any members of the Administrator, and any other members of the Board who assist in the administration of this Policy, shall not be personally liable for any

action, determination or interpretation made with respect to this Policy and shall be indemnified by the Company to the fullest extent under applicable law and Company policy with respect to any such action, determination or interpretation. The foregoing sentence shall not limit any other rights to indemnification of the members of the Board under applicable law or Company policy.

(g) No "Good Reason" for Covered Officers. Any action by the Company to recoup or any recoupment of Recoverable Incentive Compensation under this Policy from a Covered Officer shall not be deemed (i) "good reason" for resignation or to serve as a basis for a claim of constructive termination under any benefits or compensation arrangement applicable to such Covered Officer, or (ii) to constitute a breach of a contract or other arrangement to which such Covered Officer is party.

5. ADMINISTRATION

Except as specifically set forth herein, this Policy shall be administered by the Administrator. The Administrator shall have full and final authority to make any and all determinations required under this Policy. Any determination by the Administrator with respect to this Policy shall be final, conclusive and binding on all interested parties and need not be uniform with respect to each individual covered by this Policy. In carrying out the administration of this Policy, the Administrator is authorized and directed to consult with the full Board or such other committees of the Board as may be necessary or appropriate as to matters within the scope of such other committee's responsibility and authority. Subject to applicable law, the Administrator may authorize and empower any officer or employee of the Company to take any and all actions that the Administrator, in its sole discretion, deems necessary or appropriate to carry out the purpose and intent of this Policy (other than with respect to any recovery under this Policy involving such officer or employee).

6. SEVERABILITY

If any provision of this Policy or the application of any such provision to a Covered Officer shall be adjudicated to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Policy, and the invalid, illegal or unenforceable provisions shall be deemed amended to the minimum extent necessary to render any such provision or application enforceable.

7. NO IMPAIRMENT OF OTHER REMEDIES

Nothing contained in this Policy, and no recoupment or recovery as contemplated herein, shall limit any claims, damages or other legal remedies the Company or any of its affiliates may have against a Covered Officer arising out of or resulting from any actions or omissions by the Covered Officer. This Policy does not preclude the Company from taking any other action to enforce a Covered Officer's obligations to the Company, including, without limitation, termination of employment and/or institution of civil proceedings. This Policy is in addition to the requirements of Section 304 of the Sarbanes-Oxley Act of 2002 ("**SOX 304**") that are applicable to the Company's Chief Executive Officer and Chief Financial Officer and to any other compensation recoupment policy and/or similar provisions in any employment, equity plan, equity award, or other individual agreement, to which the Company is a party or which the Company has adopted or may adopt and maintain from time to time; provided, however, that compensation recouped pursuant to this Policy shall not be duplicative of compensation recouped pursuant to SOX 304 or any such compensation recoupment policy and/or similar provisions in any such employment, equity plan, equity award, or other individual agreement except as may be required by law.

8. AMENDMENT; TERMINATION

The Administrator may amend, terminate or replace this Policy or any portion of this Policy at any time and from time to time in its sole discretion. The Administrator shall amend this Policy as it deems necessary to comply with applicable law or any Listing Standard.

9. SUCCESSORS

This Policy shall be binding and enforceable against all Covered Officers and, to the extent required by Rule 10D-1 and/or the applicable Listing Standards, their beneficiaries, heirs, executors, administrators or other legal representatives.

10. REQUIRED FILINGS

The Company shall make any disclosures and filings with respect to this Policy that are required by law, including as required by the SEC.

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OVID THERAPEUTICS INC.

INCENTIVE COMPENSATION RECOUPMENT POLICY

FORM OF EXECUTIVE ACKNOWLEDGMENT

I, the undersigned, agree and acknowledge that I am bound by, and subject to, the Ovid Therapeutics Inc. Incentive Compensation Recoupment Policy, as may be amended, restated, supplemented or otherwise modified from time to time (the "***Policy***"). In the event of any inconsistency between the Policy and the terms of any employment agreement, offer letter or other individual agreement with Ovid Therapeutics Inc. (the "***Company***") to which I am a party, or the terms of any compensation plan, program or agreement, whether or not written, under which any compensation has been granted, awarded, earned or paid to me, the terms of the Policy shall govern.

In the event that the Administrator (as defined in the Policy) determines that any compensation granted, awarded, earned or paid to me must be forfeited or reimbursed to the Company pursuant to the Policy, I will promptly take any action necessary to effectuate such forfeiture and/or reimbursement. I further agree and acknowledge that I am not entitled to indemnification, and hereby waive any right to advancement of expenses, in connection with any enforcement of the Policy by the Company.

Agreed and Acknowledged:

_____

Name: _____

Title: _____

Date: _____