Risk Factors Comparison 2025-03-20 to 2024-03-26 Form: 10-K

Legend: **New Text** ~~Removed Text~~ Unchanged Text Moved Text Section

Risks Related to Our Financial Position and Capital Needs; Discovery, Development and Regulatory Approval of Our Product Candidates; and Business and Industry ● We will need substantial additional capital to meet our financial obligations in the future and to pursue our business objectives. If we are unable to raise capital when needed, we could be forced to curtail our planned operations and the pursuit of our growth strategy **. ● There is substantial doubt about our ability to continue as a going concern. ● If we fail to comply or regain compliance with the continued listing standards of the Nasdaq Capital Market, or Nasdaq, we may be delisted and the price of our common stock, or ability to access the capital markets and our financial condition could be negatively impacted** . ● We are a clinical- stage biopharmaceutical company with no products approved for commercial sale and have incurred significant losses since our inception in 2007. We expect to incur significant losses for the foreseeable future and may never achieve or maintain profitability. ● We ~~are conducting~~ **have completed** Phase 2 clinical trials ~~and~~ **but** have no history of commercializing products, which may make it difficult for an investor to evaluate the success of our business to date and to assess our future viability. ● To date, we have partially relied on non- dilutive grants to cover certain of our capital requirements for our clinical trials, and we may fail to continue to receive non-dilutive funding. ● Our business is heavily dependent on the successful development, regulatory approval and commercialization of CT1812 and any future product candidates that we may develop or acquire. ● We may not successfully expand our pipeline of product candidates, including by pursuing additional indications for CT1812 or by in- licensing or acquiring additional product candidates for other diseases. ● Preclinical and clinical development involves a lengthy and expensive process with an uncertain outcome, and the results of preclinical studies and early clinical trials are not necessarily predictive of future results. ● We have not tested any of our product candidates in pivotal clinical trials and our product candidates may not have favorable results in future clinical trials. Risks Related to Our Intellectual Property ● If we are unable to obtain and maintain patent protection for our technology and product candidates including our lead product candidate, CT1812, 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 not be able to protect our intellectual property rights throughout the world. ● Patent terms may be inadequate to protect our competitive position on our product candidates including our lead product candidate, ~~CT1812~~ **zervimesine** , for an adequate amount of time. ● Third- party claims or litigation alleging infringement of patents or other proprietary rights, or seeking to invalidate patents or other proprietary rights, may delay or prevent the development and commercialization of any of our product candidates including our lead product candidate, ~~CT1812~~ **zervimesine** . Risks Related to Commercialization, Manufacturing and Reliance on Third Parties ● Even if our current or future product candidates obtain regulatory approval, they may fail to achieve the broad degree of adoption and use by physicians, patients, hospitals, healthcare payors and others in the medical community necessary for commercial success. ● The market opportunities for CT1812, if approved, may be smaller than we anticipate. ● We rely on third- party suppliers to manufacture our product candidates, and we intend to rely on third parties to produce commercial supplies of any approved product. The loss of these suppliers, or their failure to comply with applicable regulatory requirements or to provide us with sufficient quantities at acceptable quality levels or prices, or at all, would materially and adversely affect our business, financial condition, results of operations and prospects. ● Our product candidates have never been manufactured on a commercial scale, and there are risks associated with scaling up manufacturing to commercial scale. In particular, we will need to develop a larger scale manufacturing process that is more efficient and cost- effective to commercialize our potential products, which may not be successful. ● We rely on third parties in the conduct of all our clinical trials. If these third parties do not successfully carry out their contractual duties, fail to comply with applicable regulatory requirements or meet expected deadlines, we may be unable to obtain regulatory approval for our product candidates. ● We face significant competition in an environment of rapid technological and scientific change, and there is a possibility that our competitors may achieve regulatory approval before us or develop therapies that are safer, more advanced or more effective than ours, which may negatively impact our ability to successfully market or commercialize any product candidates we may develop and for which we receive approval and ultimately harm our financial condition. Risks Relating to Government Regulation ● Even if we obtain regulatory approval for a product candidate, our products will remain subject to regulatory scrutiny. ● Healthcare legislation, including potentially unfavorable pricing regulations or other healthcare reform initiatives, may increase the difficulty and cost for us to obtain marketing approval of and commercialize our product candidates, if approved. ● If we develop a small molecule product candidate that obtains regulatory approval, additional competitors could enter the market with generic versions of such drugs, which may result in a material decline in sales or affected products. Risks Relating to Our Common Stock ● The market price and trading volume of our common stock have been and may continue to be volatile, which could result in rapid and substantial losses for our stockholders. ● Concentration of our capital stock ownership with our directors and their affiliated entities and our executive officers will limit stockholders' abilities to influence certain corporate matters. ● 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 be beneficial to our stockholders, and may prevent attempts by our stockholders to replace or remove our current management. 6PART IItem 1. BusinessOverviewWe are a clinical- stage biopharmaceutical company engaged in the discovery and development of innovative, small molecule therapeutics targeting age- related degenerative diseases and disorders of the central nervous system, or CNS, and retina. Currently available therapies for these diseases are limited, with many diseases having no approved therapies or treatments. Our goal is to develop disease **-** modifying treatments for patients with these degenerative disorders ~~by initially leveraging our~~

expertise in the σ- 2 (sigma- 2) receptor, or S2R, which is expressed by multiple cell types, including neuronal synapses, and acts as a key regulator of cellular damage commonly associated with certain age- related degenerative diseases of the CNS and retina. We believe that targeting the S2R complex represents a mechanism that is functionally distinct from other current approaches in clinical development for the treatment of degenerative diseases . Our lead product candidate, **zervimesine, also known as** CT1812, is an orally delivered, small molecule modulator designed to penetrate **protect neuronal synapses by preventing** the blood **binding of oligomers of pathogenic proteins including β** - brain barrier **amyloid, or Aβ** and **α-synuclein** bind selectively to the S2R complex . We **These and similar protein oligomers** have initially focused on **been linked to** the development **progression** of **degenerative diseases such as** CT1812 for the treatment of Alzheimer' s disease, or AD, by targeting β- amyloid **and dementia with Lewy bodies** , **or DLB. The United States Adopted Name (USAN) Council adopted zervimesine as the USAN** or for Aβ oligomers, which have **CT1812 in December 2024. The company' s initial focus has** been **on** linked to the **development of zervimesine for the treatment of Alzheimer' s** disease. We believe our evidence demonstrates that **zervimesine** by binding to the S2R complex, CT1812 displaces Aβ oligomers from their neuronal receptors. Based on this mechanism, we believe CT1812 **zervimesine** has the potential to slow the loss of synapses and cognitive decline observed in AD. CT1812 is the first S2R selective ligand modulator to reach clinical trials and is currently in Phase 2 development for the treatment of AD. The direct healthcare costs to care for patients with AD and other dementias in the United States is estimated to exceed $ 300 **350** billion. Approximately **7** 6. 5 million people in the United States have been diagnosed with AD, and the World Health Organization estimates that AD affects as many as 35 million people globally. Among people with AD, approximately 50 % have mild disease, 30 % have moderate disease and 20 % have severe disease. We are continuing to enroll patients in the Phase 2 COG1201 (SHIMMER) study of CT1812 in mild- to- moderate dementia with Lewy bodies, or DLB. Enrollment **has** concluded in the **company' s** Phase 2 COG0201 (SHINE) study of CT1812 **zervimesine** in mild- to- moderate AD. Preliminary **Top- line** results from an interim analysis of **were reported in 2024. Enrollment is ongoing in** the first 24 **COG0203 (START) Phase 2 study of zervimesine in** patients **with Mild** demonstrated a statistically significant decline in the presence of Aβ monomers and a positive trend on cognitive **Cognitive** function as measured by **Impairment (MCI) and early- stage AD. We are conducting the START clinical trial in collaboration with** the Alzheimer' s Disease Assessment Scale **Clinical Trial Consortium, or ACTC, an NIA** - Cognitive Subscale, **funded clinical trials network designed to accelerate studies** or **for** ADAS **therapeutics for AD and related dementias. Both studies are supported by grant awards totaling $ 110 million from the National Institute of Aging, or NIA, a division of the National Institutes of Health, or NIH. In addition, company research produced evidence that zervimesine prevents the binding of α** - **synuclein** Cog, in patients receiving CT1812 compared to placebo. We anticipate top - **to neurons, rescuing cellular function that is compromised in DLB. Based on this information, we conducted the Phase 2 COG1201 (SHIMMER) clinical trial in 130 adults with mild- to- moderate DLB, which concluded in 2024. Top** - line results **were presented** in **December** mid- 2024 **and** after - **later at** the **International Lewy Body Dementia Conference (ILBDC) in January** last participants have completed six months of treatment. As of November 21, 2023 **2025** , **. The trial was funded by a grant of** approximately **$ 30 million from** 278 subjects with dementia have received CT1812 in our clinical trials, including subjects with AD and DLB. CT1812 has continued to be well tolerated and has been granted Fast Track designation by the **NIA** U. S. Food and Drug Administration, or FDA, for AD . Our clinical trials have been funded by approximately $ 171 million in cumulative grants awarded primarily by the National Institute of Aging, or NIA , a division of the National Institutes of Health, or NIH . **As** Our awards include a grant award of **October 15, 2024,** approximately **477 subjects have** $ 81 million from the NIA to fund our Phase 2 START (COG0203) study of CT1812 in patients with early- stage AD. We received **zervimesine in** clearance from the FDA to proceed with the START clinical trial and recruitment has commenced. We intend to enroll 540 adults with mild cognitive impairment, or **our** MCI, due to AD or mild AD who have elevated levels of Aβ as determined by a clinical diagnosis of AD confirmed with amyloid biomarkers positron emission tomography, or PET, imaging and / or cerebrospinal fluid, or CSF, biomarkers. Participants are being randomized to receive CT1812 or a placebo for 18 months. In addition to cognitive and functional measures, such as the Clinical Dementia Rating Scale, or CDR, Sum of Boxes, or SB, and ADAS- Cog, we intend to use a variety of biomarkers to measure target and / or pathway engagement and assess changes in neurodegeneration and disease progression. We are conducting this clinical trial in collaboration with the Alzheimer' s Clinical Trial Consortium, or ACTC, an NIA- funded clinical trials network designed **, including people with AD, DLB and dry AMD. Zervimesine has continued** to accelerate studies **be generally well tolerated and has been granted Fast Track designation by the U. S. Food and Drug Administration,** for - **or** therapeutics **FDA,** for AD and related dementias . We expanded our CT1812 pipeline **Recent DevelopmentsIn 2024, we reported** to **top** include geographic atrophy, or GA, secondary to dry age- **line** related macular degeneration, or dry AMD as an additional indication. GA is an advanced form of dry AMD, an eye disease that results **from both** in the deterioration of the macula, causing distortion, loss of central vision and eventual blindness. The S2R complex is expressed in the retina in several cell types including the retinal pigment epithelial cells, or RPE, photoreceptors and 7retinal ganglion cells. We believe that an S2R modulator, such as CT1812, may help to regulate the damage- response processes related to these -- **the** cells that are impaired in GA secondary to dry AMD. We submitted an Investigational New Drug, or IND, application to the FDA at the end of 2022 and we announced dosing of the first patient in our Phase 2 COG2201 (MAGNIFY) study in July 2023. We intend to enroll up to 246 adults in this study. In addition, we are developing other product candidates in the area of synucleinopathies. Synucleinopathies are a group of degenerative diseases characterized by the abnormal accumulation of the α- synuclein protein in neural cell bodies, including Parkinson' s disease, or PD, and DLB. Our PipelineWe are developing a pipeline of innovative, small molecule product candidates that are designed to target the S2R complex, a key regulator of the cellular damage response for diseases such as AD, dry AMD, geographic atrophy (an advanced form of dry AMD), or GA, and other conditions for which there is significant unmet medical need. Our current pipeline is summarized below: Mild- to- Moderate ADPhase 2 COG0201 (SHINE) clinical trial, **which** is designed to evaluate **evaluated**

zervimesine in 153 ~~safety, dosing and potential efficacy for CT1812 as a treatment for mild- to moderate AD and enrolled 158~~ adults with mild- to- moderate (MMSE 18- 26) AD ~~. In SHINE~~ , **and** the ~~largest of our~~ **Phase 2 COG1201 (SHIMMER) clinical** ~~trials~~ **trial in 130 adults with mild-** ~~, we are assessing CT1812' s ability~~ to **- moderate DLB** ~~alter disease progression and cognition~~ . Top- line **SHINE** results ~~are expected~~ **were presented** in ~~mid~~ **July 2024 at the Alzheimer' s Association International Conference (AAIC) and additional data from a biomarker** - **defined population of AD patients from the SHINE study were presented in October** 2024 ~~after the last participants have completed six months of treatment. In addition, we completed the Phase 2 COG0202 (SEQUEL) study and presented complete results in October 2023~~ at the Clinical Trials on Alzheimer' s Disease (CTAD) conference. **Top** ~~The SEQUEL trial included evaluations of CT1812' s ability to engage with the S2R complex enabling the restoration of synaptic function as measured by quantitative EEG, or qEEG. Early~~ - ~~stage ADWe received clearance from~~ **line results were presented during an investor webinar in December 2024. 7Top- line SHIMMER results were presented at** the **International Lewy Body Dementia Conference** ~~FDA to proceed with our Phase 2 START~~ (~~COG0203~~ **ILBDC**) ~~clinical trial to evaluate CT1812~~ in **January 2025** ~~up to 540 adult patients, which is designed to investigate the potential for CT1812' s use at an earlier stage of AD. In addition to cognitive and functional measures, such as CDR- SB (Clinical Dementia Rating Sum of Boxes), ADAS- Cog and volumetric magnetic resonance imaging, or vMRI, we intend to use a variety of biomarkers to measure target and / or pathway engagement and assess changes in neurodegeneration and disease progression. This trial has been funded by a grant of approximately $ 81 million from the NIA. 8DLBWe are evaluating CT1812 in a 120- patient Phase 2 COG1201 SHIMMER clinical trial to investigate the potential for CT1812' s use as a disease- modifying agent in adults with mild- to- moderate DLB~~ . We **initiated** ~~are assessing cognitive and functional measures such as Montreal Cognitive Assessment (MoCA), Cognitive Drug Research Battery (CDR), Clinician Assessment of Fluctuation (CAF), Epworth Sleepiness Scale (ESS), Unified Parkinson' s Disease Rating Scale — Part III (MDS- UPDRS3), Clinical Global Impression of Change (ADCS- CGIC), ADCS- Activities of Daily Living (ADCS- ADL) and Neuropsychiatric Inventory (NPI). We are currently recruiting patients in~~ the ~~United States. The trial has been funded by a grant of approximately $ 30 million from the NIA. Geographic Atrophy Secondary to Dry AMDWe are also evaluating the use of CT1812 to treat GA secondary to dry AMD in~~ Phase 2 COG2201 (MAGNIFY) **clinical** study **of zervimesine in 2023 based on evidence that zervimesine may be effective in the treatment of GA secondary to dry AMD. Based on the favorable results from our dementia programs and the need to preserve capital, we made the strategic decision in January 2025 to focus our resources on the development of zervimesine in AD and DLB. As a result, in February 2025 we voluntarily concluded the MAGNIFY clinical study and began investigator site wind- down procedures. The conclusion of the study was not the result of any safety concerns. At the time of the study conclusion, 100 participants had been enrolled in the trial. Results are being compiled by the contract research organization (CRO) following participant completion of final clinic visits** . We ~~are assessing~~ **intend to conduct an analysis of** the ~~change~~ **changes** in GA lesion size ~~over the treatment duration, as measured by fundus autofluorescence (FAF) imaging,~~ as well as ~~CT1812' s~~ safety and tolerability **, which will be reported in the second quarter of 2025** . We **continue to** believe that **zervimesine has** ~~human genetic and proteomic pathway analyses obtained through our AD trials provides evidence of a relationship between~~ the **potential to** ~~S2R complex and dry AMD. Preclinical data suggest that modulating the S2R complex can~~ alter the biological processes that contribute to dry AMD. ~~We believe that an S2R modulator, such as CT1812, may help to regulate the damage- response processes related to these cells that are impaired in GA secondary to dry AMD. We submitted an Investigational New Drug, or IND, application to the FDA at the end of 2022; the IND was cleared at the end of January 2023; and we announced the initiation of dosing in July 2023. Discovery InitiativesWe are pursuing a number of early- stage discovery programs which are built upon our identification of five structurally distinct chemical series. We believe we have identified several structurally distinct compounds that possess advantages for specific disease indications and patient populations. A few of these next- generation S2R modulators have been identified for synucleinopathies and dry AMD and are being assessed as potential IND candidates. For example, one of our next- generation S2R modulators has shown activity in cell- based dry AMD assays, suggesting the potential to maintain homeostatic functions of RPEs, ameliorate lysosomal dysfunction, and prevent RPE cell death. It has further demonstrated retinal exposures above 80 % receptor occupancy with oral administration and favorable PK properties, including high degree of bioavailability and high retina- to- plasma ratio, which we believe may provide us with a suitable next- generation molecule to advance for this indication. Therefore, we believe S2R modulators may present a novel therapeutic approach for these indications and intend to pursue development as described below.~~ Our StrategyOur objectives are to develop and advance our portfolio, beginning with our lead product candidate, **zervimesine. We want** ~~CT1812, through clinical development for the treatment of age- related degenerative diseases and disorders of the CNS and retina and~~ to leverage our understanding of ~~the S2R complex~~ **zeryimesine' s mechanism** and its **ability to** ~~regulation~~ **regulate** ~~of~~ pathways **and biological processes** ~~to pursue indications in other degenerative disorders~~ . The key elements of our strategy include: ● Advance clinical development of our lead product candidate, ~~CT1812~~ **zervimesine** , in mild- to- moderate AD and earlier stages of the disease. Our lead product candidate, ~~CT1812~~ **zervimesine** , has progressed through Phase ~~1 and into Phase~~ 2 clinical trials. Funding of ~~the Phase 1 and Phase 2~~ trials **to this point** has come primarily from the NIA. We are evaluating ~~CT1812~~ **zervimesine** in earlier symptomatic stages of AD and MCI, which is a slight and noticeable measurable decline in cognitive abilities due to AD. Our **COG0203 (** START ~~(COG0203~~) clinical trial in patients with mild dementia associated with early- stage AD has been funded by a grant of approximately $ 81 million awarded ~~from~~ **by** the NIA. ● ~~Advance clinical development of CT1812 for GA secondary to dry AMD. We are evaluating CT1812 as a potential therapy for GA secondary to dry AMD. GA is an advanced form of dry AMD. Dry AMD is an eye disease that results in the deterioration of the macula, causing visual distortion, loss of central vision and eventual blindness. We are currently evaluating CT1812 in a 246- patient Phase 2 study of CT1812 in patients with GA. 9 ● Leverage our understanding of the S2R complex to develop~~ **Develop** product candidates for other CNS and degenerative diseases, including synucleinopathies. We intend to develop and advance other product candidates to treat other conditions,

potentially including the synucleinopathies, which include **Parkinson' s disease (** PD **)** and DLB. **Preclinical data published** ~~We are evaluating CT1812~~ in **February 2021 showed that our candidate' s mechanism may play an integral role in the pathology of DLB and PD, which we believed merited further study. To that end, we conducted** a ~~120~~ **130** - patient Phase 2 COG1201 **(SHIMMER)** study of ~~CT1812~~ **zervimesine** in patients with DLB, which ~~is~~ **was** funded primarily through the NIA ~~and are currently recruiting patients. Preclinical data published in February 2021 showed that the S2R complex may play an integral role in the pathology of PD and we believe these results merit further study~~ . ● Expand our pipeline through internal development, in- licensing and acquisitions. We intend to leverage our expertise in drug development and business development to evaluate additional product candidates as well as bring forward novel chemical matter using libraries generated with our ~~Novel Improved Conditioned Extraction, or NICE, screening platform as well as other~~ molecule generation and screening strategies. To achieve this objective, we may supplement our internal development initiatives through selective in- licensing arrangements, as well as investments in strategic collaborations, and partnerships which complement our initiatives. ● Optimize the value of ~~CT1812~~ **zervimesine** and other product candidates in major markets. We currently retain all worldwide rights to ~~CT1812~~ **zervimesine** for all indications. We plan to develop and pursue approval of ~~CT1812~~ **zervimesine** and other future product candidates in major markets. Where appropriate, we may use strategic collaborations or partnerships to accelerate development and maximize the commercial potential of our programs. We and our key opinion leaders believe ~~CT1812~~ **zervimesine** also can be used in combination with other therapeutics and thus may have many partnering opportunities. ● Continue to pursue non- dilutive funding opportunities. The majority of our research and clinical efforts have been funded by approximately $ 171 million in cumulative grants awarded primarily by the NIA. ~~This includes awards totaling $ 11 million in support of preclinical studies and $ 160 million for clinical development, the largest of which was the 2020 award of $ 81 million supporting our upcoming Phase 2 START (COG0203) study of CT1812 in early- stage AD. These grants are non- dilutive and allow us to collaborate with research institutions in pursuing the development of our product candidates for age- related degenerative diseases.~~ We intend to continue our work with these research institutions and ~~plan~~ **potentially expand to include pharmaceutical partners, advocacy organizations and others** to seek additional non- dilutive funding for our clinical development when possible. ~~Our Team~~ **8Zervimesine for the Treatment of Dementias: AD** and ~~Collaborators~~We ~~have assembled a management team with extensive experience with CNS and degenerative~~ **DLBNeurodegenerative** diseases **including AD** ~~, significant expertise in the S2R biology domain, as well as drug discovery, clinical development, general management and business development. Collectively, our management team has a track record of managing drug development programs that have received regulatory approval and been successfully commercialized. In addition, our management team has built companies that have initiated innovative technologies and investigational new drug programs. We augment the strengths of our management team with an~~ **and DLB** ~~experienced board of directors and scientific and medical advisory boards. We believe our team, with its deep scientific and drug development background, positions us to become a leader in the development of therapies for age- related degenerative diseases and disorders. Since our inception, we have collaborated and worked closely with key healthcare organizations and thought leading institutions in the field of degenerative diseases to develop and advance our therapeutic candidates. To date, we have received approximately $ 171 million in cumulative grants awarded primarily from the NIA to support our clinical trials. Our Approach to Treating Age- Related Degenerative Diseases of the CNS and RetinaAge- related degenerative diseases~~ are ~~defined by an age- related decline of cellular function often resulting in cell death. Neurodegenerative diseases, perhaps the most prominent of these degenerative disorders, are a variety of conditions~~ defined by progressive degeneration of nerve cells, or neurons, which often leads to neuronal death, causing **dementia, a progressive** decline in ~~cognition or~~ **memory, language, problem- solving and** other **cognitive** functions, ~~resulting~~ **results** in decreased quality of life and shorter life span. ~~The two~~ **Two of the** most common ~~neurodegenerative diseases~~ **causes of dementia** are AD and ~~PD~~ **DLB** . ~~10To our knowledge, no~~ **Zervimesine is designed to stop** ~~other~~ -- **the** ~~biopharmaceutical company has focused solely on stopping the synaptic~~ binding of ~~soluble~~ Aβ **and α- synuclein** oligomers ~~through~~ **to neuronal synapses, thereby protecting neurons from the toxic effects of** ~~the~~ **these pathogenic protein species** ~~use of small molecule receptor modulators, such as CT1812~~ . We believe ~~our deep expertise in oligomer and synaptic biology provides us with a competitive advantage and led to the creation of (1) proprietary assays~~ that **zervimesine** ~~target the critical molecular step causing memory loss and (2) proprietary chemical libraries yielding highly brain penetrant small molecule drugs. Based on this expertise, we are able to discover and optimize small molecule receptor modulators like CT1812 that we believe represent~~ **represents** a functionally distinct and promising approach to **synaptoprotective** ~~synaptorestorative AD~~ therapeutics where neurons remain viable and functional. **IndicationStudy IdentifierClinical PhaseStatusKey FindingsAlzheimer** ~~These molecules were designed to displace Aβ oligomers bound to neuronal receptors at synapses and clearing Aβ oligomers from the brain into the CSF. In addition to neurodegenerative diseases, other degenerative diseases include AMD. AMD is a common eye disease that results in the deterioration of the macula, causing visual distortion, loss of central vision and eventual blindness. An estimated 18 million adults in the United States have some form of AMD, which is the leading cause of vision loss in people over 60 years of age. We believe that human genetic and proteomic pathway analyses obtained through our AD trials provides evidence of a relationship between the S2R complex and dry AMD. Preclinical data suggest that modulation of the S2R complex can alter the biological processes that contribute to dry AMD. We believe that an S2R modulator, such as CT1812, may help to regulate the damage- response processes related to these cells that are impaired in dry AMD. We submitted an IND application to the FDA at the end of 2022; it was cleared by the FDA at the end of January 2023; and we reported that the first participant was dosed in the Phase 2 COG2201 (MAGNIFY) study in July 2023. We intend to enroll approximately 246 adult patients who will be randomized to receive once- daily oral CT1812 or placebo for 24 months. The Sigma- 2 Receptor ComplexThe S2R complex is comprised of transmembrane protein 97, or TMEM97, a four- domain transmembrane protein that forms a complex with progesterone receptor membrane component 1, or PGRMC1. The S2R complex is expressed in the CNS, the retina, as well as peripheral organs, including the pancreas, liver and kidney. Within the brain, the S2R complex is found in several areas,~~

including the cerebellum, cortex, hippocampus and substantia nigra, and is enriched in neurons as compared to glial cells in the adult brain. In the retina, the S2R complex is expressed in several cell types including the RPE cells, photoreceptors and retinal ganglion cells. 11The sigma- 2 receptor (S2R) complexInternal and third- party studies suggest that the role of PGRMC1 and TMEM97, the protein components of the S2R complex, regulate cell damage response processes, including cholesterol biosynthesis, vesicle trafficking, progesterone signaling, lipid membrane- bound protein trafficking and receptor stabilization at the cell surface. In addition, the S2R complex regulates autophagy, the cellular process by which altered cellular proteins are degraded and removed. The aberrant activity of these processes, believed to be triggered by cellular stresses, is a hallmark of the dysfunction related to degenerative diseases. The S2R complex is a key regulator of processes that have been implicated in several age- related degenerative diseases and disorders including AD, retinal diseases, such as dry AMD, and synucleinopathies, such as PD and DLB. S2R affects diverse regulatory functions through specific interactions with the oligomer receptors and other membrane proteins. We believe the array of degenerative disorders which involve protein components of the S2R complex allows for the potential therapeutic use of proprietary S2R modulators in numerous indications. While a fuller understanding of the molecular mechanisms involving the S2R complex remains to be elucidated, evidence suggests that targeting the S2R complex may provide therapeutic benefit to a wide range of age- related degenerative diseases and disorders. We believe modulating the S2R complex to normalize cellular function may provide a restoration of normal cellular processes. Biomarker and Imaging- Driven EvidenceBiomarkers have become increasingly important in the development of treatments for neurodegenerative diseases for a number of reasons, including monitoring drug activity in patients, assessing changes in disease pathology during treatment and identifying responder populations for clinical trials. Given that biomarker- enabled therapeutics have a higher rate of success at gaining product approval, we elected to employ biomarkers in our programs to mitigate clinical development risk. To that end, in addition to a number of cognitive tests, our clinical trials use a variety of biomarkers to measure target and / or pathway engagement and assess changes in disease progression. For example, in AD, changes in cerebrospinal fluid, or CSF, concentrations of neurogranin and synaptotagmin- 1 can be indicative of damage to synapses. In PD and other synucleinopathies, changes in markers such as α- synuclein species, lysosomal enzymes, markers of amyloid and tau pathology, and neurofilament light chain can indicate dysfunction in membrane trafficking and autophagy processes. Quantitative EEG and PET imaging agents as well as vMRI may have utility in several neurodegenerative disorders to measure synaptic function, synaptic density and brain atrophy, respectively. 12Our Novel, Improved Conditioned Extracts (NICE) Screening PlatformChemical structures that we are currently evaluating as potential therapeutics for degenerative diseases originate from our NICE screening platform. The NICE screening platform allowed us to generate proprietary small molecule libraries derived from natural chemical scaffolds through a proprietary process which we refer to as conditioned extraction. Conditioned extraction, a process pioneered by a cofounder, allows us to eliminate undesirable properties of well characterized, biologically active compounds sourced from natural products, while retaining their biological activity. The resulting molecular configurations are then subjected to proprietary functional in vitro screening assays designed to replicate the mature brain and its intricate connections and patterns of electrical signaling. Unlike most other screening assays, such as cells lines derived from immortalized neuronal tumor cells, our use of mature primary neuronal cultures provides us with information- rich measurements more indicative of normal brain function and predicative of functional benefit. We have utilized our NICE screening platform in conjunction with these mature primary neuronal cultures to develop product candidates for our proprietary Early Alzheimer' s Screening System, or EASSY. The candidate library produced by the NICE screening platform is predisposed to compounds with attractive drug- like properties such as low molecular weight, low number of reactive hydrogen bonds, lipophilicity and relatively neutral chemistry properties. These characteristics reduce the reactivity of the molecules and related toxicities, while also enhancing their ability to cross the blood- brain and blood- retina barriers. As a result, the NICE screening platform was designed to accelerate drug development time while reducing development risk. We believe this platform provides us with differentiated libraries which may lead to development candidates beyond CT1812. Our Product CandidatesWe are leveraging our expertise in the biology of the S2R complex, synaptic function and plasticity, and our understanding of the role of toxic age- related soluble proteins, to construct a pipeline of innovative, differentiated small molecule product candidates that are intended to restore normal cellular damage responses. We intend to develop therapeutics with the potential to overcome diseases associated with age- related toxic protein buildups that disrupt key cellular processes. Our initial product candidates target diseases characterized by dysfunction or dysregulation of the S2R complex that leads to cellular degeneration, as observed in age- related degenerative diseases and disorders, such as AD, GA secondary to dry AMD, PD and DLB as depicted in the illustration below. 13Our Lead Product Candidate: CT1812Our lead product candidate, CT1812, is an investigational orally delivered, small molecule modulator that penetrates the blood- brain and blood- retina barriers and binds selectively to the S2R complex; and through its modulation of S2R restores normal function of synapses, as well as critical cellular processes such as autophagy, cholesterol biosynthesis, vesicle trafficking, progesterone signaling, lipid membrane- bound protein trafficking and receptor stabilization at the cell surface. CT1812 originated from our initial efforts with our NICE screening platform which enables the generation of innovative leads. Leads identified through NICE were then evaluated using proprietary in vitro assays designed to better emulate in vitro synaptic activity. We believe the use of these assays allows us to identify functionally active structures which may impact neuronal behavior significantly faster than alternate screening approaches. We currently retain worldwide rights to CT1812 for all indications and are developing CT1812 as a potential treatment for a range of diseases including AD, GA secondary to dry AMD and synucleinopathies, such as DLB. CT1812 for the Treatment of Alzheimer' s Disease (AD) CT1812 **MCI- earlyCOG0203 (START) Phase 2ongoingThe study is enrolling up to 540 participants with MCI or early ADmild- moderateCOG0201 (SHINE) Phase 2 (n = 153) completeParticipants treated with zervimesine experienced a cognitive benefit compared to placebomild- moderateCOG0202 (SEQUEL) Phase 2 (n = 16) completeParticipants treated with zervimesine exhibited improvement across prespecified EEG parametersmild- moderateCOG0105 (SPARC) Phase 1 (n = 23) completeTreatment with**

zervimesine was assessed using various imaging modalities, including PET imaging and volumetric MRI (vMRI) mild-moderateCOG0104 (SNAP) Phase 1 (n = 3) completeConfirmed preclinical findings showing an increase in Aβ oligomers in CSF, suggesting increased off- rate from receptorsDementia with Lewy Bodies (DLB) mild- moderateCOG1201 (SHIMMER) Phase 2 (n = 130) completeParticipants treated with zervimesine experienced benefits across behavioral, functional, cognitive and motor scalesAlzheimer' s Disease (AD) Zervimesine was designed to selectively target and displace Aβ oligomers bound to neuronal receptors at synapses ~~by ,~~ a new and differentiated mechanism of action. ~~CT1812 binds to S2R which interacts directly with components of the oligomer receptor, resulting in displacement of bound oligomers, which are then cleared from synapses.~~ In our preclinical studies, ~~CT1812~~ **zervimesine** has demonstrated the potential to protect synapses, facilitate their restoration and improve cognitive performance ~~. These preclinical results are currently being evaluated through our ongoing Phase 2 clinical trials~~ . Overview of the DiseaseAD is a progressive neurodegenerative disorder characterized by cognitive dysfunction, memory loss, dementia and the impairment of daily living activities, along with numerous behavioral and neuropsychiatric symptoms. In the advanced stages of the disease, an AD patient is unable to recognize faces, use or understand language and displays a lack of awareness for their surroundings. Continued functional decline ultimately results in the patient' s death. Due to the size of the affected population, we believe that AD is one of the most significant unmet medical needs of our time. Nearly ~~six~~ **seven** million Americans **are living** ~~have been diagnosed~~ with AD and disease prevalence is expected to more than double by 2050. The direct healthcare costs to care for patients with AD and other dementias in the United States is currently estimated to exceed $ ~~300~~ **350** billion and projected to increase to $ 1 trillion by 2050. Absent the development of meaningful intervention in the course of the disease, the number of people diagnosed with, and dying from, AD is anticipated to escalate appreciably as lifespans lengthen, since prevalence increases significantly with age. The Centers for Disease Control listed AD as the sixth leading cause of death among all adults and the fifth leading cause for those aged 65 or older. The disease is equally devastating worldwide, with the World Health Organization estimating that AD affects as many as 35 million people globally. ~~Currently~~ **9Currently** Approved AD TherapeuticsOnly two **FDA- approved** disease- modifying therapeutic options ~~have been~~ **for AD are currently available in the United States: Eisai' s Leqembi (lecanemab), which received complete approval in July 2023; and Eli Lilly' s Kisunla (donanemab), which was** approved ~~by~~ **in July 2024. Both are approved for** the ~~FDA:~~ **treatment of people with MCI or mild Alzheimer' s disease (MMSE between 22 and 30).** Biogen' s Aduhelm ~~, which received accelerated~~ **(aducanumab) was** ~~approval~~ **approved in July** ~~on June 7,~~ 2021 ~~and Eisai' s~~ **but was discontinued in January 2024.** Leqembi ~~, which received complete approval in July 2023. Aduhelm~~ and ~~Leqembi~~ **Kisunla** are monoclonal antibodies administered via infusion ~~reported~~ **designed** to ~~reduce~~ **slow the progression of cognitive decline by reducing** Aβ plaques and protofibrils ~~, and~~ **. They** ~~representing~~ --- **represent** approaches that are distinct from our small molecule approach **of** ~~to modulate the S2R, thereby~~ blocking **the binding of** Aβ oligomers ~~from binding~~ to synapses. Other therapies approved for AD are indicated to treat the symptoms of AD: acetylcholinesterase inhibitors, or AChEIs, antipsychotics, glutamatergic modulators and an orexin receptor antagonist. AChEIs are designed to slow the degradation of the neurotransmitter acetylcholine, helping to preserve neuronal communication and function temporarily. Glutamatergic modulators are designed to block sustained, low- level activation of the N- methyl- D- aspartate, or NMDA, receptor without inhibiting the normal function of the receptor in memory and cognition. Namenda (memantine), an NMDA receptor antagonist was approved in the United States in 2003. These therapeutic products do not modify or alter the progression of the underlying disease and provide only modest efficacy in treating the symptoms. **Current Status of AD** ~~14Therapeutic --~~ **Therapeutic ApproachesNumerous** ~~Approaches in Development to Treat the Underlying Disease Have Shown Little SuccessNumerous~~ therapeutic approaches have been evaluated to remedy the causes of AD. Those focused on reducing the aberrant production ~~,~~ or removal ~~,~~ of intraneuronal neurofibrillary tangles of tau protein have yielded limited clinical benefit. Development initiatives intended to inhibit hyperphosphorylation of the tau protein and related kinase activity, enhance microtubule stability or block tau aggregation have largely been discontinued due to toxicity or a lack of efficacy. Microglial activation and its role in AD- induced neuroinflammation has emerged as another potential target for therapeutic development as has the proper functioning of processes dictating synaptic plasticity, believed to be of central importance to neuronal activity and continued viability. These efforts have also not yielded meaningful clinical advances. Among the more prevalent and targeted mechanisms implicated in AD is the accumulation of Aβ aggregates in the neuronal synapse where disease progression leads to synaptic dysfunction and dysregulation. The accompanying deterioration in neuronal activity ultimately results in neuronal death. As a result, the reduction in the levels of Aβ aggregates at the synapse has been a prominent objective of a significant number of therapeutic candidates, including active and passive immunotherapies, designed specifically to target Aβ aggregates. **As** ~~Several therapeutics in this class have recently been approved by the FDA, including Aduhelm and Leqembi, which are monoclonal antibodies designed to reduce Aβ plaques and protofibrils, approaches that are distinct from but potentially complementary to our small molecule approach of targeting the S2R to prevent Aβ oligomer toxicity at the synapse. We believe a common issue with therapeutic interventions intended to limit Aβ aggregate concentrations in the brain is that they fail to discriminate between different forms of Aβ aggregates: fibrils, plaques and oligomers. Such efforts may demonstrate success clearing fibrils and the largely inert plaques but fail to address the specific neurotoxic effects of Aβ oligomers. Conversely, as~~ exemplified by Leqembi' s clinical results, we believe that preferentially targeting Aβ protofibrils / oligomers has the potential to prevent synaptotoxicity. ~~Our strategy of targeting~~ **Several therapeutics in this class have recently been approved by** the ~~S2R~~ **FDA, including Aduhelm, Leqembi and Kisunla, which are monoclonal antibodies designed** to ~~prevent~~ **reduce Aβ plaques and protofibrils, approaches that are distinct from but potentially complementary to our small molecule approach of blocking** Aβ oligomer ~~toxicity~~ **binding. Emerging Role of Biomarkers in ADBiomarkers have become increasingly important in the development of treatments for neurodegenerative diseases for a number of reasons, including monitoring drug activity in patients, assessing changes in disease pathology during treatment and identifying responder populations for clinical trials. Given that biomarker- enabled therapeutics have a higher rate of success** at

gaining product approval ~~the synapse is distinct from these immunotherapeutic approaches~~ , ~~but~~ we ~~believe may~~ **elected to employ biomarkers in our programs to mitigate clinical development risk. To that end, in addition to a number of cognitive tests, our clinical trials use a variety of biomarkers to measure target and / or pathway engagement and assess changes in disease progression. For example, in AD, tangles of Aβ and phosphorylated tau (p- tau) build up in the brain and can** be ~~complementary~~ **visualized through a positron emission tomography, or PET scan. Recently, tests have been developed that can detect levels of p - tau in blood plasma. Increasing levels of p- tau, whether visualized with PET or measured in blood plasma, indicates increasing disease burden. Data generated by pharmaceutical companies indicates that individuals with lower AD pathology at baseline, as reflected by lower levels of p - tau, have greater response to amyloid- based therapies. 10Other potentially useful biomarkers include neurofilament light chain, which can indicate dysfunction in membrane trafficking and autophagy processes. Quantitative EEG and PET imaging agents as well as vMRI may also have utility in several neurodegenerative disorders to measure synaptic function, synaptic density and brain atrophy, respectively** . The Role of Aβ Oligomers on Synapses and the Downstream Impact to Brain Function and ADSynapses are specialized points of contact between neurons, where electrical signaling and communication takes place. It is well established that synapses are routinely sprouted and resorbed as part of the normal process of learning and memory. Each neuron is covered with an estimated 10, 000 synapses and these synapses participate in a complex electrical circuit with other neurons. Neurons do not divide or reproduce as part of normal physiological function. ~~Emerging scientific~~ **Scientific** evidence ~~suggests~~ **has demonstrated** that Aβ oligomers, formed over time through the buildup of Aβ and its aggregates, bind to specific parts of the synaptic structure and interfere with the normal process of memory formation. This ligand- like activity confers to Aβ oligomers potent synaptotoxic activity. In response, the neuron dismantles and resorbs the synaptic structure to prevent its abnormal function from interfering with what remains of the normal circuit behavior. If a large enough number of synapses are lost, the neuron dies. Synaptic loss, however, is not necessarily permanent and synapses can be regained or sprout again once the oligomers are removed. We have observed this process in our research involving preclinical AD models. This observation leads us to believe that displacement of synaptotoxic Aβ oligomers may enable synapses to recover and potentially slow cognitive decline. We are further encouraged by the numerous precedents which exist that demonstrate the therapeutic utility of blocking ligand- receptor interactions in the brain with small molecule drugs capable of crossing the blood- brain barrier. **Zervimesine' s** ~~CT1812 Uses a Differentiated~~ Mechanism of Action ~~to Selectively Target~~ **Prevents Binding of** Aβ OligomersOur proprietary ~~CT1812~~ **zervimesine** product candidate employs a novel and fundamentally different mechanism **compared to other approved or experimental treatments,** which ~~through alteration of S2R activity selectively~~ facilitates removal of neurotoxic Aβ oligomers **through alteration of S2R activity** . Experimental evidence suggests that Aβ oligomers likely occupy binding sites contiguous to the S2R complex. ~~Binding at these locations is believed to produce structural distortions which inhibit the proper functioning of the S2R complex including its role in regulating critical signaling pathways.~~ The preferential binding of ~~CT1812~~ **zervimesine** to the S2R complex produces changes that ~~alters~~ **alter** the binding affinity of Aβ oligomers to their targets. ~~CT1812~~ **Zervimesine** binding to the S2R complex ~~likely~~ **is hypothesized to** ~~modulates~~ **modulate** the conformation of the ~~15S2R~~ **S2R** complex, which in turn allosterically alters the ~~conformation of the oligomer binding pocket on the~~ oligomer receptors **causing** ~~. Binding pocket destabilization leads to~~ displacement of Aβ oligomers from the neurons and neuronal synapse. ~~Once displaced~~ **Displaced** ~~,~~ Aβ oligomers are **less** ~~unable~~ **able** to rebind as long as threshold concentrations of ~~CT1812~~ **zervimesine** are present ~~,~~ and are ~~then~~ rapidly removed from the synapse. Based on our preclinical studies, we believe that ~~CT1812~~ **zervimesine** not only prevents binding of Aβ oligomers, displacing them from ~~the S2R complex sites at~~ neuronal synapses, but also slows Aβ oligomer- induced loss of synapses and restores synaptic activity, which may reverse downstream **synaptotoxic** ~~alterations related to membrane trafficking. The Use of an S2R Targeted Approach is Supported by the A673T MutationWe believe the benefit of the mechanism by which CT1812 stops the toxic impact of Aβ oligomers on cellular function is further supported by an analysis of the Aβ sequence variant, A673T, which is commonly referred to as the " Icelandic " mutation. The A673T mutation is the first variant associated with a mutation in the protein structure of Aβ, first identified through a genomic analysis of the Icelandic population. Importantly, carriers of the mutation are four- fold less likely to develop AD. The A673T mutation, which involves the substitution of the amino acid alanine for threonine at position 673 of the precursor molecule, not only produces fewer Aβ monomers, but our research indicated that the toxic Aβ oligomers generated have four- fold lower affinity for brain cell synapses. This reduced binding is evidenced in the results of in vitro experiments, which are presented below. Whereas wildtype Aβ oligomer binding is pronounced, the binding of the A673T variant is much lower. Binding affinities of wildtype versus mutant Aβ oligomers to synapses (intensity in arbitrary fluorescent units) Kd (nM) B maxwt Aβ (1 – 42) oligomers Site 1: 442 ± 70 7. 98 × 105 ± 0. 29 × 105A673T mutant Aβ (1 – 42) oligomers Site 1: 1, 955 ± 502 5. 98 × 105 ± 0. 50 × 105Kd is a constant used to evaluate and rank the strengths of interactions for ligands and their receptors. The smaller the Kd value, the greater the binding affinity. Bmax refers to the maximum amount of a ligand that can bind specifically to a receptor. Intensity is measured in arbitrary fluorescent units. 16We believe that CT1812 is the only drug candidate currently in clinical trials that mimics the effects of the A673T mutation . Zervimesine As the images presented below suggest, both CT1812 and the A673T mutation similarly reduced the binding of toxic Aβ oligomers to synapses. We believe that drug candidates like CT1812 that mimic the protective effects of the A673T mutation are more likely to succeed in the clinical setting in patients with mild- to- moderate AD. CT1812~~ Clinical Results in ADWe have completed multiple clinical trial evaluations of ~~CT1812~~ **zervimesine** , in both healthy volunteers and patients with mild- to- moderate AD, ~~with two~~ **and have one** clinical ~~trials~~ **trial** ongoing (~~SHINE, which has concluded enrollment, and~~ START ~~, which is currently recruiting~~) **in patients with MCI or early AD** . The clinical trials we have conducted to date have enabled us to evaluate the safety profile of **zervimesine;** ~~CT1812, as well as~~ validate its mechanism through proof- of- concept trials **; assess clinical efficacy signals;** and **identify predictive biomarkers** ~~to conduct initial assessments~~ of **treatment response** ~~its therapeutic potential~~ . The following is the status of our completed and ongoing clinical trials. Overview of our ~~completed~~ **Completed** , **and** ~~ongoing~~

Ongoing ~~and planned clinical~~ **Clinical** ~~studies~~ **Studies** of ~~CT1812~~ **Zervimesine** for **ADCOG0201** ~~AD and dementia17COG0201~~ — Phase 2 (SHINE) Clinical TrialOur ~~ongoing~~ COG0201 SHINE study ~~is~~ **was** a randomized, double-blind, placebo- controlled Phase 2 clinical trial **designed** to evaluate the safety and ~~potential~~ efficacy of ~~CT1812~~ **zervimesine** . A total of 153 ~~adult~~ **adults** ~~participants~~ **with mild- to- moderate AD** were enrolled and divided ~~in~~ **into** two ~~CT1812~~ **zervimesine** dose groups (100 mg or 300 mg) and one placebo group, dosed daily for six months. Endpoints ~~include~~ **included** safety and biomarker evidence of disease modification as well as cognitive function, as measured by ~~the ADAS- Cog 11- item version, or~~ ADAS- Cog 11. ADAS- Cog 11 is a globally recognized cognitive scale that is used to assess cognition in patients with AD. Top- line results ~~are expected~~ **were reported** in ~~mid~~ **July 2024 with additional data reported in October 2024. 11A prespecified analysis conducted on SHINE results identified plasma p** - **tau217 as a biomarker that may predict** ~~2024 after the last participants have completed six months of treatment. Preliminary data from~~ an **optimal therapeutic response in** ~~interim analysis of the first 24~~ patients **with mild** ~~from the COG0201 study demonstrated that CT1812 continued to be generally well tolerated. There were four serious adverse events, or SAEs, which were not drug~~ - **to- moderate AD. Participants** ~~related~~ - **treated** ~~and occurred in a single placebo patient. The patient was discontinued due to one of the SAEs. Treatment emergent adverse events, or TEAEs, were well balanced across all treatment groups. We observed mild and transient elevations of liver enzymes in three patients without any other indications of liver injury. These data were consistent~~ with **zervimesine (pooled 100 mg** ~~findings from earlier clinical trials. The preliminary data also demonstrated a significant decline in the presence of Aβ monomers~~ and ~~a three~~ **300 mg) who had baseline levels of plasma p** - ~~point~~ **tau217 below the** ~~mean~~ **median** ~~improvement in the rate~~ **of 1. 0 pg / mL experienced a 95 % reduction** of cognitive decline **at week 26** as measured by ADAS- Cog 11 **relative** , ~~in patients receiving CT1812 when compared~~ to placebo **- treated participants** . ~~These results were observed in patients receiving CT1812 or placebo in addition to background therapies they may have already been receiving for AD~~ . We believe **P- tau217 is an important biomarker that has shown** ~~these~~ -- **the ability to distinguish Alzheimer** ~~preliminary data provide promising evidence of CT1812~~ ' s ~~potential cognitive and biological impact~~ **disease from other neurodegenerative disorders with a high degree of accuracy compared to other available biomarkers** . ~~These data also indicate that patients~~ **In the overall modified intent- to- treat, or mITT, population in SHINE, participants** treated with **once- daily oral zervimesine experienced less** ~~CT1812 showed relative stability on a measure of~~ cognitive **decline than** ~~performance compared to the~~ **those treated with** placebo ~~group~~ . **As measured with** ~~A mean difference in the rate of decline of approximately three points was observed between the CT1812 dose groups receiving either 100 mg or 300 mg versus the placebo group based on the~~ ADAS- Cog 11 **, zervimesine** ~~measurements. Preliminary data showed a three- point improvement in cognitive decline in CT1812~~ - treated ~~patients~~ **participants (pooled 100 mg and 300 mg) experienced a mean 38 % slowing of decline at six months versus baseline compared to placebo- treated, but did not achieve statistical significance. There were consistent trends favoring zervimesine in other cognitive measures: ADAS- Cog 13, cognitive composite, MMSE; as well as in functional measures of activities of daily living (ADCS- ADL) and of clinical global impression of change (ADCS- CGIC). No discontinuations due to AEs occurred in the 100 mg zervimesine group. At the 300 mg dose, ten participants (nine at scheduled visits and one at an unscheduled visit) experienced treatment- emergent liver enzyme test (" LFT ") increases (greater than 3xULN) that subsided after cessation of drug without evidence of serious liver injury. There were no LFT elevations observed in the 100 mg dose** . Proteomic measurements were also performed ~~of~~ **on cerebrospinal fluid (** CSF **)** and plasma from these patients, from which we have comprehensive datasets of whole proteome changes observed in AD patients given ~~CT1812~~ **zervimesine** versus placebo for six months. From this, we identified product candidate pharmacodynamic biomarkers that could reflect processes of target engagement, pathway engagement and / or early disease modification. ~~The interim analysis of the SHINE trial (SHINE A) was not powered to detect statistically significant treatment differences. Nevertheless, p- values were calculated at the time of the interim analysis with respect to the clinical and biomarker outcomes to help inform on the potential importance of observed numerical treatment differences. For these interim analyses, p- values < 0. 05 were considered " significant " while p values > 0. 05 were considered " non- significant. " The approximately three- point treatment difference relative to placebo observed for the pooled dose groups that was observed on the ADAS- Cog 11 was non-significant (p > 0. 05; p = 0. 1295), while the treatment difference relative to placebo that observed for the reduction in CSF Aβ 42 protein at the 300 mg dose was significant (p < 0. 05; p = 0. 0178). 18COG0203~~ **12COG0203** — Phase 2 START Clinical TrialOur COG0203 study, referred to as START, is a randomized, double- blind, placebo- controlled Phase 2 clinical trial ~~designed to~~ **that is currently** ~~enroll~~ **enrolling** 540 patients with early- stage AD and ~~powered~~ **using the Clinical Dementia Rating Scale Sum of Boxes; or CDR- SB** to show a change in the rate of cognitive and functional decline. We are ~~currently~~ recruiting patients with MCI due to AD or mild AD who have elevated levels of Aβ as determined by PET imaging or as measured in CSF. The trial is being conducted in collaboration with ~~the~~ ACTC and will utilize approximately 50- 60 sites including research sites associated with the consortium, as well as other qualified sites that are not part of the consortium. Patients will be randomized to receive ~~CT1812~~ **zervimesine** or placebo for 18 months. In addition to a battery of cognitive **and functional** measures, we intend to use a variety of biomarkers to measure target engagement and assess changes in neurodegeneration and disease progression. We have ~~received~~ **been awarded** a grant of approximately $ 81 million from the NIA to fund this trial. Completed Proof- of- Concept Clinical Trials for the Mechanism of **ZervimesineCOG0202** ~~CT1812We have conducted a series of clinical proof- of- concept trials intended to assess target engagement and the impact of CT1812 on synaptic activity. These proof- of- concept trials are presented in more detail below. COG0202~~ — Phase 2 SEQUEL Clinical TrialOur COG0202 SEQUEL study is a randomized, double- blind, placebo- controlled Phase 2 clinical trial of 16 patients with mild- to- moderate AD to evaluate the potential efficacy of ~~CT1812~~ **zervimesine** in restoring synaptic function in patients through **quantitative EEG (** qEEG **)** measurement, as reflected by relative theta power. The trial is a two- arm crossover trial, in which half of the participants received 300 mg of ~~CT1812~~ **zervimesine** daily for 29 days. After a 14- day wash out period, these participants received placebo for an additional 29 days. The other half of the participants received placebo daily for 29 days.

After a 14- day wash out period, these participants received ~~CT1812~~ **zervimesine** treatment for an additional 29 days. CSF and qEEG evaluations were taken periodically throughout the duration of the trial. We completed enrollment in the first quarter of 2023 and presented results in October 2023. Results showed that ~~CT1812~~ **zervimesine** - treated participants exhibited a ~~statistically~~ significant change in relative theta in the central region of the brain and consistent trends of improvement across all prespecified EEG parameters, reflecting improved synaptic function after just a matter of weeks. COG0105 — Phase 1 SPARC Clinical TrialThe COG0105 SPARC study is a randomized, double- blind, placebo- controlled Phase 1 clinical trial of 23 patients with mild- to- moderate AD. The primary objectives of the study were to evaluate ~~CT1812~~ **zervimesine** for safety and tolerability. The secondary objectives were to evaluate potential effects of ~~CT1812~~ **zervimesine** on biologically relevant endpoints using various imaging modalities, including PET imaging and **volumetric MRI (** vMRI **)** as well as CSF biomarkers, and cognitive and clinical endpoints. Participants were randomized to receive treatment with 100 mg or 300 mg of ~~CT1812~~ **zervimesine** or placebo once daily for 24 weeks. A preliminary analysis has been made of safety, clinical laboratory measurements, PET imaging, functional MRI and vMRI, CSF biomarkers and clinical outcomes in patients treated with ~~CT1812~~ **zervimesine** compared to those in patients receiving placebo. Seventeen patients completed the study protocol, eleven in the ~~CT1812~~ **zervimesine** arm (six in the 100 mg cohort; five in the 300 mg cohort) and six in the placebo arm. ~~CT1812~~ **Zervimesine** was well tolerated with similar adverse event rates across treatment arms. Most adverse events were mild **or** ~~- to-~~ moderate in severity with no deaths and no treatment- related SAEs reported. We observed mild and transient elevations of liver enzymes without any other indications of liver injury in two patients in the 300 mg group. The patients were discontinued from the study and the liver enzyme levels returned to normal. Top- line results from the analyses of secondary endpoints demonstrated that after 24- weeks of treatment, there were no significant treatment differences on the ADAS- Cog 11 change from baseline. In addition, there were no significant treatment differences on SV2A signal change compared to baseline. However, vMRI showed a trend ($p = 0.0641$) towards a significant reduction in the loss of composite brain volume in ~~CT1812~~ **zervimesine** - treated patients (pooled) compared to placebo. A ~~statistically~~ significant ($p < 0.05$) reduction in loss of brain volume was also observed in three brain regions ~~19~~ (hippocampus, prefrontal cortex and pericentral cortex) in treated patients (pooled) compared to placebo, as shown in the table below. ~~LS~~ **13LS** Mean Change from Baseline in vMRI (composite) over Time by TreatmentCOG0104 — Phase 1 SNAP Clinical TrialOur COG0104 SNAP study was a randomized, double- blind, placebo- controlled Phase 1 clinical trial that enrolled three patients with mild- to- moderate AD to measure the effects of ~~CT1812~~ **zervimesine** on displacement of Aβ oligomers. Patients were randomized 2: 1 to receive a single dose of ~~CT1812~~ **zervimesine (n = 2)** or placebo **(n = 1)** . Patients enrolled in the trial had an indwelling catheter placed in the lumbar CSF space. CSF samples were collected hourly over a 28- hour period. Five CSF samples were collected before and 24 samples collected after administration of a single 560 mg oral dose of ~~CT1812~~ **zervimesine** or placebo. CSF samples from each trial participant were analyzed to measure the concentration of Aβ oligomers over the trial period. Results of this clinical trial revealed an increase in Aβ oligomer levels in the CSF over the 24- hour period following treatment with ~~CT1812~~ **zervimesine** , but not in the patient administered placebo. These findings were measured using two independent methods, microimmunoelectrodes and western blots. This effect of ~~CT1812~~ **zervimesine** was specific to Aβ oligomers, as no ~~CT1812~~ **zervimesine** - related increase in Aβ 1- 40 or 1- 42 monomer was observed. We believe **that** these results ~~provide the early proof of principle of CT1812 target engagement in AD patients. Further, we believe that they~~ corroborate our mechanism of action previously demonstrated in preclinical studies, providing the first evidence that our preclinical studies translate to patients with AD. ~~20First~~ -- **First** evidence of target engagement in humans, which mirrors that found preclinically; and we believe this reinforces that our mechanism of action extends to patients with ~~ADCOG0102~~ **AD14COG0102** — Phase 1 Clinical TrialOur COG0102 study was a randomized, double- blind, placebo- controlled, Phase 1 clinical trial of 19 patients with mild- to- moderate AD. Participants were administered one of three oral doses of ~~CT1812~~ **zervimesine** , either 90 mg, 280 mg or 560 mg, once daily for 28 days. The primary endpoint of the trial was safety with a secondary objective of establishing the pharmacokinetic, or PK, profile of ~~CT1812~~ **zervimesine** . Also included as exploratory endpoints were measurement of ~~CT1812~~ **zervimesine** in CSF, and protein expression changes in CSF and plasma. **Zervimesine** ~~In order to gauge the impact of CT1812 on synaptic damage due to AD, we measured concentrations of synaptic proteins, neurogranin and synaptotagmin- 1, in CSF samples from these patients using clinically validated standardized assays. Our evaluation of AD protein biomarkers in the CSF revealed that neurogranin levels, shown in the left graph below, in patients treated with CT1812 for 28 days was significantly decreased compared to levels measured in patients administered placebo ($p = 0.05$, analysis of covariance). Neurogranin is a synaptic damage marker that increases in the CSF of AD patients reflecting its decrease in the brain. The lowering of synaptic damage markers in the CSF is consistent with CT1812' s mechanism of action as observed in our preclinical studies and demonstrates the potential of the CT1812 to slow Aβ oligomer- induced synapse loss. Another synaptic damage biomarker that is elevated in the CSF of AD patients is synaptotagmin- 1. CSF levels of synaptotagmin- 1 were similar at baseline and end of study in patients treated with CT1812, whereas its levels in the placebo group displayed a marked increase over the same time period. This analysis of CT1812' s impact on synaptotagmin- 1 levels 21is presented in the right graph below. Consistent with our belief that targeting the S2R has the potential to prevent Aβ oligomer toxicity, we observed a reduction in neurogranin and synaptotagmin in CSF, which are measures of synaptic damage, suggesting that CT1812 may have the ability to protect synapses in AD patients. Treatment with CT1812 was associated with lower levels of neurogranin andsynaptotagmin- 1 compared to placeboCT1812~~ was well tolerated in the COG0102 study. All AEs were mild ~~to~~ **or** moderate. Some of the participants in the highest dose group experienced lymphocytopenia or elevated liver enzymes. These laboratory abnormalities resolved in most patients with continued dosing of ~~CT1812~~ **zervimesine** . One trial participant was discontinued from ~~CT1812~~ **zervimesine** prior to study completion because of elevated liver enzymes with subsequent resolution of this abnormality. Lymphocytopenia or elevated liver enzymes were not observed in either the 90 mg or 280 mg dosing cohorts. There were no SAEs. Our Phase 1 Safety ~~TrialsIn~~ -- **Trials with ZervimesineIn** addition to Phase 1 clinical trials conducted in our targeted patient population, we also

conducted a series of Phase 1 clinical trials in healthy volunteers ~~designed~~ to evaluate the safety profile of ~~CT1812,~~ **zervimesine; as well as numerous preclinical in vitro and in vivo studies to assess its neuroprotective function** as well as determine potential drug- food or drug- drug interactions. These trials and their results, which are summarized below, indicated that ~~CT1812~~ **zervimesine** was generally well tolerated. COG0101 — First in ~~human~~ **Human** ~~phase~~ **Phase** 1 ~~clinical~~ **Clinical** ~~trialOur~~ **TrialOur** COG0101 study was a randomized, double- blind, placebo- controlled ascending dose Phase 1 multi- cohort clinical trial of 93 healthy volunteers to assess the safety and potential drug- food interactions of ~~CT1812~~ **zervimesine** . The trial was conducted in two segments. The first segment was structured as an ascending single dose trial, in which participants received one dose of ~~CT1812~~ **zervimesine** with increasing doses given to each of six cohorts. In this segment of the trial, eight participants were enrolled per dosing cohort with six participants receiving ~~CT1812~~ **zervimesine** and two receiving placebo. The doses evaluated were 10 mg, 30 mg, 90 mg, 180 mg, 450 mg and 1, 120 mg. A seventh cohort of six patients received a single 90 mg dose after receiving a standardized meal. All doses were administered as scheduled. The second segment was configured as a multiple ascending dose trial, that enrolled 39 healthy volunteers, divided in three cohorts of ten participants, with one additional cohort consisting of nine healthy elderly volunteers. Each ~~22participant~~ -- **participant** in this segment of the trial received a single dose of ~~CT1812~~ **zervimesine** each day for 14 days. The doses evaluated in this second segment were 280 mg, 560 mg and 840 mg. ~~CT1812~~ **Zervimesine** CSF concentrations correlated to a > 80 % S2R predicted receptor occupancy in brainFollowing completion of each trial cohort, bioanalytical evaluation of plasma ~~CT1812~~ **zervimesine** PK was conducted. ~~This~~ **15This** trial demonstrated that administration of ~~CT1812~~ **zervimesine** in single doses of up to 1, 120 mg, administered once, as well as up to 840 mg of ~~CT1812~~ **zervimesine** dosed for 14 consecutive days was well tolerated. Significantly, ~~CT1812~~ **zervimesine** concentrations detected in the CSF correlated to an estimated receptor occupancy in the brain of greater than 80 %. There was one SAE in the multiple- dose portion of the study that was deemed unrelated to study drug. There were no SAEs related to the product candidate or TEAEs leading to withdrawal from the study. COG0103 — Phase 1 Clinical TrialOur COG0103 study was a Phase 1 clinical trial of 15 healthy volunteers designed to evaluate the potential effects of ~~CT1812~~ **zervimesine** on select CYP isoenzymes: CYP2C19, CYP2C9, CYP2D6 and CYP3A4 **/ 5** . This was accomplished by assessing its effects on substrates of these isoenzymes: 20 mg omeprazole, 500 mg tolbutamide, 50 mg dextromethorphan and 4 mg midazolam. The 15 healthy volunteers who participated in the trial received the substrates of these isoenzymes two days prior to the initial dose of ~~CT1812~~ **zervimesine** and PK assessments were performed. A dose of 560 mg of ~~CT1812~~ **zervimesine** was administered to each of the trial participants for the following six consecutive days. The ~~day~~ **Day** 6 dose of ~~CT1812~~ **zervimesine** was administered concomitantly with the four- substrate cocktail and PK assessments were repeated. A weak drug interaction was observed between ~~CT1812~~ **zervimesine** and midazolam and dextromethorphan. A lack of any clinically meaningful interaction was observed with coadministration of omeprazole or tolbutamide. Based on the small magnitude of change in PK parameters of the probe drugs observed in this study for the isoenzymes CYP2D6 and CYP3A4, clinically meaningful interactions are unlikely. In all blinded and unblinded clinical trials, several patients experienced asymptomatic, reversible elevations in serum liver chemistries prompting harmonization of monitoring, increasing frequency where appropriate, across our clinical trials. ~~23Preclinical~~ -- **Preclinical** ResultsPrior to entering clinical trials, the therapeutic potential of ~~CT1812~~ **zervimesine** was observed in numerous preclinical studies. As is demonstrated in the images below, the addition of Aβ oligomers to neuronal cell cultures resulted in synaptotoxicity as illustrated by the reduced expression of synaptic markers neurogranin, synaptotagmin and SV2A. The lack of immunoreactivity of these three synaptic proteins can be seen in the middle column of the image below. However, the presence of ~~CT1812~~ **zervimesine** blocked the Aβ oligomer- induced loss of synapses, as reflected by the presence of synaptic protein expression displayed in the right- hand column below. ~~CT1812~~ **16Zervimesine** prevented Aβ oligomer- mediated synaptic damageResults showed that ~~CT1812~~ **zervimesine** also slowed the loss of synapses that is triggered by Aβ oligomers. A higher resolution image of the cell culture exposed to Aβ oligomer is shown below, before the addition of ~~CT1812~~ **zervimesine** , which is presented on the left, and after the addition of ~~CT1812~~ **zervimesine** , which is presented on the right. Aβ oligomers shown in red bind to synaptic receptors and ~~reduce~~ **reduces the** ~~numbers~~ -- **number** of synapses shown in green. The addition of ~~CT1812~~ **zervimesine** displaces Aβ oligomer binding and appears to block the effects induced by the Aβ oligomers, with the synapse numbers remaining at levels similar to normal. ~~24CT1812~~ **Zervimesine** slowed loss of synapse numbers in the presence of Aβ oligomersThe protective benefits of ~~CT1812~~ **zervimesine** observed in these in vitro assays are supported by functional in vivo assessments of ~~CT1812~~ **zervimesine** . In one such preclinical study, the memory of mice was tested based on the subject' s ability to recall fear- inducing triggers and its performance in a maze. The mice exhibiting symptoms of AD, depicted by the red bars in the image below, performed significantly worse in both the fear and maze tests when compared to normal, non- transgenic mice, represented by the blue bars. However, after administration of ~~CT1812~~ **zervimesine** , the AD mice, represented by the solid green bars, were seen to perform at a level similar to that achieved by normal mice. We believe these results are illustrative of ~~CT1812~~ **zervimesine** ' s ability to restore synaptic proteins and numbers to normal levels and with it, the animal' s functional capabilities. ~~CT1812~~ **17Zervimesine** restored functional capabilities in a mouse model of ~~ADCT1812 .S2R Modulators for the Treatment of SynucleinopathiesSubstantial~~ **ADDementia with Lewy Bodies (DLB) Substantial** cellular and clinical biomarker evidence demonstrate that **zervimesine may** ~~our S2R modulators,including our clinical drug candidate CT1812,~~ have a beneficial impact on the pathways impaired in synucleinopathies,namely the localization of α- synuclein aggregates in Lewy bodies,which is a chief hallmark of **DLB,Parkinson' s disease (** PD **)** and other synucleinopathies.More recently,human genetic evidence has linked SNCA,the gene encoding α- synuclein,to the pathology of synucleinopathies.We have conducted preclinical studies of **compounds** ~~S2R ligands~~ in our library,including ~~CT1812~~ **zervimesine** ,to explore ~~the~~ **their** potential ~~of S2R antagonists~~ to rescue the biological processes that are impaired in synucleinopathies. **We are currently developing zervimesine** for the **treatment of DLB. An Overview of DLBDLB is the second most common cause of dementia. The abnormal accumulation of the protein α-synuclein into fibrils, the primary component of the Lewy bodies within brain neurons, is characteristic of DLB.**

Increasing evidence suggests that α- synuclein oligomers disrupt key cellular processes including autophagy and elicit neuronal dysfunction and loss of synapses. DLB is challenging to diagnose and identify as it shares many Alzheimer' s disease symptoms. DLB is referred to as a " whole- body " disease, as it disrupts biological processes affecting autonomic, digestive, cognitive, and motor systems. Varied initial symptoms may include day- to- day fluctuations in alertness level, hallucinations, delusions, movement disorders and REM sleep disorder (acting out dreams while sleeping). In the United States, an estimated 1. 4 million are diagnosed with DLB. According to the Lewy Body Dementia Association, the direct healthcare costs for patients with DLB are estimated to be approximately $ 31 billion per year. Limitations of Current TreatmentsMost approved therapeutic products treat the symptoms of the diseases and modulate dopamine. While some existing products provide meaningful symptomatic relief, they have significant side effect risks, fail to address the progression of the disease, and over time gradually lose their effectiveness in treating the symptoms of the disease. There are no currently approved disease- modifying therapeutics for DLB. Rationale for Zervimesine in the Treatment of the S2R complex,their ability to reverse the effects of α- synuclein on LAMP2A expression provides compelling evidence of the S2R complex' s importance in the regulation of this autophagy pathway.In vitro analysis further illustrates α- synuclein oligomers' dose- dependent inhibition of membrane trafficking.Importantly,oligomer- related inhibition was noted to be four- fold higher than that observed with high concentrations of monomeric α- synuclein,illustrative of the significantly greater toxicity of α- synuclein oligomers.The addition of ~~zervimesine~~ **CT1812** was observed to reverse the membrane trafficking deficit related to the presence of α- synuclein oligomer,while having no effect on membrane activity when dosed in its absence. ~~19S2R~~ **32S2R** antagonists reversed the effects of α- synuclein oligomers on LAMP2A expression ~~Geographic~~ **20Geographic** Atrophy (GA) Secondary to Dry Age- Related Macular Degeneration (Dry AMD) We believe that several lines of evidence suggest that **zervimesine** ~~modulation of the S2R complex~~ may **be effective in** ~~provide significant therapeutic utility for~~ the treatment of GA secondary to dry AMD. Human genetics points to TMEM97 as a promising therapeutic target for GA secondary to dry AMD, as indicated via several large- scale, independent genome- wide association, or GWA, studies. In addition, unbiased pathway analysis of AD patient proteomic data obtained during our clinical trials provides independent evidence of a relationship between the S2R complex and GA secondary to dry AMD. Early proof- of- concept studies with ~~CT1812~~ **zervimesine** indicate a role of S2R modulators in rescuing key aspects of dry AMD including maintaining homeostatic functions of **retinal pigment epithelial cells (** RPEs **)** , ameliorating lysosomal dysfunction and preventing RPE cell death. PK assessment indicates that we can achieve therapeutic levels (> 80 % receptor occupancy) of ~~CT1812~~ **zervimesine** in retinal tissue through oral administration. **In** ~~We submitted an IND application to the FDA at the end of 2022 to initiate a Phase 2 clinical trial of CT1812 in this indication; it was cleared by the FDA at the end of January~~ 2023 ~~; and~~ we **initiated** ~~announced in July 2023 that participant dosing had commenced in~~ the Phase 2 COG2201 **MAGNIFY study of zervimesine in adults with geographic atrophy secondary to dry AMD. In December 2024 MAGNIFY passed a masked futility analysis conducted by the contract research organization, or CRO, which provided evidence that zervimesine treated patients were experiencing a slower lesion growth rate than those on placebo. However, in January 2025, we made the strategic decision to focus our resources on our promising dementia programs in AD and DLB. Therefore, we voluntarily discontinued the MAGNIFY clinical study. The discontinuation was not the result of any safety concerns. At the time of the discontinuation, 100 participants had been enrolled. Results are being compiled by the contract research organization** (~~MAGNIFY~~ **CRO**) ~~study~~ **following participant completion of final clinic visits** . ~~CT1812~~ **We** will **conduct** ~~be given orally, once daily for 24 months to 25determine if it can~~ - **an analysis of** ~~slow disease progression. Approximately 246 patients will be randomized to receive once- daily oral CT1812 or placebo for 24 months. We are assessing~~ the ~~change~~ **changes** in GA lesion size ~~over the treatment duration, as measured by fundus autofluorescence (FAF) imaging,~~ as well as ~~CT1812' s~~ safety and tolerability **, which will be reported at a later date** . We **continue to** believe that **zervimesine** ~~well- characterized clinical endpoints and a defined regulatory path make dry AMD an attractive indication. Overview of the DiseaseAMD is the leading cause of blindness in people over 50 years of age in the United States, afflicting approximately 11 million people in the United States, including an estimated 12 % of all U. S. adults over 80 years of age. Dry AMD is a progressive condition and accounts for up to 90 % of all AMD cases. Advanced dry AMD, or GA, affects approximately two million people in the United States. There are currently two approved therapeutics for dry AMD, both of which are intravitreal injections designed to regulate the complement system. Other treatments in development are primarily invasive, including intravitreal injections, stem cell replacement and gene therapy approaches. We believe the limited treatment options available for patients with dry AMD, coupled with newly implicated biochemical pathways, make GA secondary to dry AMD an attractive target for the development of therapeutics. There are two types of AMD, the first of which is neovascular, or wet AMD, and non- neovascular, or dry AMD. Dry AMD, which accounts for approximately 90 % of all AMD cases, is a progressive condition that involves a dysregulation of cellular processes, among which is the accumulation of lipid deposits, known as~~ **has** ~~drusen, that causes a thickening of the Bruch' s membrane. This thickening disrupts the cytoarchitecture of the RPE, and this disruption, coupled with oxidative stress and inflammation, leads to the diminished health and function of RPE and photoreceptor cells, with accumulated damage resulting in cell death and visual impairment. The anatomy of the eye and the regions impacted by AMDLimitations of Current TreatmentsThere are currently two FDA- approved therapeutics for dry AMD: Apellis Pharmaceuticals' SYFOVRE and Astellas Pharma' s Izervay, both of which are designed to inhibit complement factors. In addition, there~~ -- **the** ~~is considerable development activity ongoing involving numerous targets. Beyond complement inhibitors, other areas of ongoing interest include cell and gene therapy approaches to regenerate RPE cells and rescue the loss of photoreceptors. Small molecule visual cycle 26modulators are also under evaluation to maintain retinal integrity. Most of these approaches require invasive administration. Rationale for S2R Mechanism of ActionIndications of S2R Involvement in Geographic Atrophy Secondary to Dry AMDWe believe that several lines of evidence suggest that modulation of the S2R complex may provide significant therapeutic utility for the treatment of GA secondary to dry AMD. First, human genetics point to TMEM97 as a promising~~

~~therapeutic target, as indicated via several large- scale, independent GWA studies. These studies indicate a genetic mutation known as a single nucleotide polymorphism, or SNP, in the TMEM- VTN locus confers decreased risk for dry AMD. It remains unknown if this mutation confers a change in TMEM97 expression levels. However, knockdown of TMEM97 in in vitro models of the disease partially rescues RPE cells from oxidative stress- induced cell death. Further investigation of the role of the S2R complex in dry AMD is ongoing. Unbiased Analysis of Clinical Trial Sample Proteomics Data: Top Disease OntologiesUnbiased pathway analysis of AD patient proteomic data obtained during the COG0102 and SHINE Part- A clinical trials provides independent evidence of the relationship between the S2R complex and dry AMD. Analyses of CSF were performed to ascertain which predesignated functional disease ontologies may be affected by the administration of CT1812. These analyses identified GA and macular degeneration as two of the top indications affected, with GA presenting the most significant relationship. Subsequent analyses identified several subsets of proteins altered by CT1812 that are involved in dry AMD. In subsequent analyses examining the overlap of proteins altered in CSF and plasma biofluids of AD patients treated with CT1812 versus placebo, we identified a set of proteins, altered by CT1812 that have been previously shown by other groups to be disrupted in dry AMD or GA, compared to age- matched controls. Subsequent analysis identified several pathways in which these proteins are involved, many of which have known genetic or biological links to processes disrupted in dry AMD. We believe the collective insights provided by these analyses provide early proof of concept that an S2R modulator may be capable of altering AMD relevant proteins and pathways in an aged patient population. Preclinical Support for Clinical TrialsWe believe that proof- of- concept studies indicate a clear role of S2R modulators in rescuing key aspects of dry AMD. Pathway analysis of transcriptomic data suggests a key role of S2R modulators in regulating pathways involved in cell survival and inflammation. 27Mechanistic Studies Indicate CT1812 Plays a Role in Cell Survivaland Inflammatory Pathways in RPE CellsAdditional functional studies indicate S2R modulators may ameliorate disruptions in homeostatic functions of RPEs, including ameliorating lysosomal dysfunction and salvaging the ability of RPE cells to recycle photoreceptor outer segments. 28Working Hypothesis of Mechanism of Action in Dry AMDWe believe preclinical studies provide further evidence supporting a clinical trial for CT1812 as a~~ potential ~~treatment for GA secondary~~ to ~~dry AMD. PK assessment indicates that we can achieve therapeutic levels (> 80 % receptor occupancy) of CT1812 in retinal tissue through oral administration. Moreover, as is illustrated in the graph below, CT1812 levels recorded in the retina were similar to those in the brain, suggesting that the doses used to achieve potential therapeutic levels in the retina needed to achieve efficacy will be similar to the doses for AD. 29Similarities in CT1812 concentrations following oral administration in the brain and retinaAdditional studies have been conducted to elucidate the key mechanisms by which CT1812 and the S2R complex~~ alter the biological processes that contribute to dry AMD. **Proposed Synucleinopathies** ~~In vivo preclinical studies are evaluating the utility of CT1812 to impede the death of retinal ganglion cells. Not only is it anticipated that these proof- of- concept studies will allow us to further elucidate the mechanism by which the S2R complex modulators act upon the various disease pathologies, but the learnings from this may also inform appropriate patient selection, time of intervention and clinical outcome measurements to enable a successful clinical trial design. COG2201 — Phase 2 MAGNIFY~ Clinical **ProgramSubject** ~~TrialWe believe that an S2R antagonist, such as CT1812, may help~~ to **additional funding** ~~regulate the damage- response processes related to these cells that are impaired in GA secondary to dry AMD. We submitted an IND application to the FDA at the end of 2022 to initiate a Phase 2 clinical trial of CT1812 in this indication; it was cleared by the FDA~~ , ~~and~~ we **may plan to** ~~announced that the first participant was dosed in July 2023 in the Phase 2 COG2201 (MAGNIFY)~~ study **several** . CT1812 will be given orally,..... supporting the use of CT1812 and our next- generation S2R modulators **derived from chemically distinct series to measure their ability to rescue cell death in synucleinopathies such** as **PD and DLB** ~~potential therapeuties to treat synucleinopathies~~ . **We may also study** ~~As with oligomers of the Aβ protein in AD, oligomers of~~ α- synuclein ~~are highly toxic when bound~~ **pathology and motor deficits in** ~~to~~ **two mechanistically distinct** ~~brains cells and internalized. This binding causes cellular stress, including three major pathway disruptions: upregulation of the autophagy receptor LAMP2A, dysregulation of lipid metabolism and a reduction~~ in ~~membrane trafficking~~ **vivo models of synucleinopathies** . **In parallel** ~~The S2R complex components~~ , ~~PGRMC1 and TMEM97, directly regulate~~ these ~~processes and activities~~ **studies will elucidate the mechanism of action by** which are compromised by the binding and internalization..... oligomers in the neuronal synapsesThe potential for S2R modulators ~~to reverse the deleterious cellular effects of α- synuclein oligomers is also reflected in the in vitro analysis of LAMP2A expression presented below. LAMP2A is a critical component of chaperone- mediated autophagy, one of several processes that eliminate damaged cellular proteins. Its expression, noted in orange, is upregulated in the presence of the toxic α- synuclein oligomer, likely a compensatory mechanism in response to the cellular insult. S2R modulators, which block membrane trafficking deficits caused by α- synuclein oligomers,~~ are **efficacious** ~~observed to inhibit the upregulation of LAMP2A, as evidenced by the dark and light gray~~ in ~~the below chart. As these antagonists are selective~~ **PD and DLB and provide essential data to support potential biomarker nomination** for **PD** the S2R complex, their ability to..... α- synuclein oligomers on LAMP2A expression and ~~traffickingCOG1201 — Phase 2 SHIMMER Clinical TrialWe are actively enrolling participants in our Phase 2, SHIMMER (COG1201) clinical trial, which is studying the use of CT1812 to treat adults with mild- to- moderate~~ DLB ~~. The design of this trial is a double- blind, randomized, six- month trial involving three dose groups, two active treatment cohorts and a placebo group. We intend to enroll approximately 120 patients with equal participant numbers in each of the three dose groups, with daily (QD) dosing. Eligibility requirements include individuals between 50 and 80 years of age that have received a diagnosis of DLB and have a mini- mental state exam, or MMSE, score of between 18 and 27. Clinical endpoints of the trial include safety and physical activity measurements, cognitive assessments, and PK and pharmacodynamic biomarker analyses compared to baseline measurements recorded at the beginning of the trial. In addition, CSF will be collected and analyzed for α- synuclein content and established patterns of differential protein expression~~ . Additional Product CandidatesMany degenerative disorders are likely to involve a dysfunctional cellular damage response mechanism and significant evidence is emerging which highlights the importance of the S2R complex and its components in regulating this response. The complex likely contains a number of

relevant binding sites that may allow for multiple disease intervention approaches, making it an attractive therapeutic target. Accordingly, we **have** ~~are actively~~ engaged in a number of earlier- stage discovery programs which are built upon our identification of five structurally distinct chemical series. From these series we have multiple leads which will be optimized from each of our lead series. Each of these leads has demonstrated favorable potency with variable selectivity in early preclinical testing and each of the molecular series possesses distinct bioavailability and PK properties, including differences in half- life and blood- brain and blood- retina permeability. ~~Proposed Synucleinopathies~~ **Our Team and CollaboratorsWe have assembled a management team with extensive experience with CNS and degenerative diseases, significant expertise in the drug discovery,** ~~Clinical~~ **clinical** ~~ProgramSubject to~~ **development, general management and business development. Collectively, our management team has a track record of managing drug development programs that have received regulatory approval and been successfully commercialized. In** ~~additional~~ -- **addition** ~~funding~~ **, our management team has built companies that have initiated innovative technologies and investigational new drug programs. We augment the strengths of our management team with an experienced board of directors and scientific and medical advisory boards. We believe our team, with its deep scientific and drug development background, positions us to become a leader in the development of therapies for age- related degenerative diseases and disorders. 21Since our inception** , we ~~plan~~ **have collaborated and worked closely with key healthcare organizations and thought leading institutions in the field of degenerative diseases** to ~~study several next- generation S2R modulators derived~~ **develop and advance our therapeutic candidates. To date, we have been awarded approximately $ 171 million in cumulative grants awarded primarily** from ~~chemically distinct series to measure their~~ -- **the NIA** ~~ability to rescue cell death in synucleinopathies such as PD and DLB. We would also study α- synuclein pathology and motor deficits in two mechanistically distinct in vivo models of synucleinopathies. In parallel, 33these studies will elucidate the mechanism of action by which S2R modulators are efficacious in PD and DLB and provide essential data~~ to support **our clinical trials** ~~potential biomarker nomination for PD and DLB~~ . Grant FundingHistorically, we have sought grant funding to strategically advance our programs. To date, we have secured non-dilutive funds from the NIA, the Michael J. Fox Foundation and other groups to pursue our commonly aligned interests of developing therapeutics for neurodegenerative disorders. **The** ~~Taken together, the~~ company has been awarded ~~approximately~~ $ 171 million in cumulative grants for the advancement of our pipeline programs. ~~Of this, approximately $ 81 million in cumulative non- dilutive grants have been awarded by the NIA to fund development of CT1812 for the treatment of AD.~~ As of December 31, ~~2023~~ **2024** , we had approximately $ ~~67~~ **50** million available from NIA funds for applicable expenses to be incurred in the future. Funding Org Year Project AmountNational Institute on Aging (NIH) 2016 COG0101 Ph1b first- in-patient trial for CT1812 $ 2, 410, 669National Institute on Aging (NIH) 2016 COG0102 Ph1b / 2a Clinical Trial for CT1812 $ 2, 410, 669National Institute on Aging (NIH) 2017 COG0104 Ph1 SNAP Study: CSF Catheter $ 2, 527, 271National Institute on Aging (NIH) 2017 COG0105 Ph1 SPARC Study: SV2a PET $ 4, 795, 774National Institute on Aging (NIH) 2018 COG0201 Ph2 SHINE Study $ 16, 848, 329National Institute on Aging (NIH) 2019 COG0202 Ph2 SEQUEL Study: qEEG $ 5, 445, 051National Institute on Aging (NIH) 2020 COG0203 Ph2 **START** Study with ACTC $ 80, 974, 766National Institute on Aging (NIH) 2021 COG0108 Study: hAME $ 1, 642, 783National Institute on Aging (NIH) 2021 COG0201 Ph2 SHINE Amendment $ 13, 634, 548National Institute on Aging (NIH) 2021 COG1201 ~~:~~ **Ph2 SHIMMER** Study: DLB $ 29, 498, 048NIH and others 2010 - 2021 Ten Preclinical Programs $ 10, 859, 971 $ 171, 047, 879Each of the grants awarded to us relates to agreed- upon direct and indirect costs for specific studies or clinical trials, which may include personnel and consulting costs, costs paid to CROs, research institutions and / or consortiums involved in the grant, as well as facilities and administrative costs. These grants are cost plus fixed fee arrangements in which we are reimbursed for our eligible direct and indirect costs over time, up to the maximum amount of each specific grant award. Only costs that are allowable under the grant award, certain government regulations and the NIH' s supplemental policy and procedure manual may be claimed for reimbursement, and the reimbursements are subject to routine audits from governmental agencies from time to time. While these NIA grants do not contain claw back provisions, the NIA or other government agency may review our performance, cost structures and compliance with applicable laws, regulations, policies and standards and the terms and conditions of the applicable NIA grant. If any of our expenditures are found to be unallowable or allocated improperly or if we have otherwise violated terms of such NIA grant, the expenditures may not be reimbursed and / or we may be required to repay funds already disbursed. To date, we have not been found to have breached the terms of any NIA grant. Intellectual PropertyWe seek to protect and enhance our proprietary technology, inventions, and improvements that are commercially important to the development of our business by seeking, maintaining, and defending patent rights, in the United States and internationally, whether developed internally or licensed from third parties. We will also seek to rely on regulatory protection afforded through inclusion in expedited development and review, data exclusivity, market exclusivity and patent term extensions where available. ~~Company~~ **22Company** Owned Intellectual PropertyAs of March 1, ~~2024~~ **2025** , our intellectual property portfolio contained ten issued U. S. patents, forty five issued foreign patents as well as five pending U. S. provisional applications, three pending U. S. patent applications, one pending Patent ~~34Cooperation~~ -- **Cooperation** Treaty applications and forty five foreign pending patent applications directed to the composition of matter of, pharmaceutical compositions of, methods of use of, and methods for selecting subsets of patients for treatment with our chemical structures, including our lead ~~CT1812~~ **zervimesine** . Our current issued patents relating to ~~CT1812~~ **zervimesine** are projected to begin to expire no earlier than 2035, with the composition of matter patent covering ~~CT1812~~ **zervimesine** set to naturally expire in 2035, subject to adjustment or extension of patent term available in a particular jurisdiction. We will likely be awarded Patent Term Extension, or PTE, when ~~CT1812~~ **zervimesine** is approved as a New Chemical Entity, or NCE, that will extend the term of the ~~CT1812~~ **zervimesine** composition of matter patent by up to five years, and we anticipate pursuing additional patents to further protect ~~CT1812~~ **zervimesine** and to further extend the patent term associated with ~~CT1812~~ **zervimesine** . We expect to file additional patent applications in support of current and new product candidates as well as new platform and core technologies. We are the exclusive owner of eight patent families that include

several granted U. S. patents and pending U. S. patent applications, as well as granted patents and pending patent applications in numerous foreign jurisdictions, relating to compositions of matter and pharmaceutical compositions of ~~CT1812~~ **zervimesine** , analogs of ~~CT1812~~ **zervimesine** , and the use of ~~CT1812~~ **zervimesine** for the treatment in certain diseases, disorders and conditions including AD, GA secondary to dry AMD, **DLB,** PD, and **other** synucleinopathies. The first of these patent families is directed to compositions of matter of ~~CT1812~~ **zervimesine** , pharmaceutical compositions of ~~CT1812~~ **zervimesine** , methods of using ~~CT1812~~ **zervimesine** for inhibiting amyloid beta effects on a neuronal cell, and methods of using ~~CT1812~~ **zervimesine** to treat AD, and we are the exclusive owner of this patent family in the United States and certain foreign jurisdictions, including Australia, Brazil, Canada, China, the European Union, Hong Kong, India, Israel, Japan, South Korea, Mexico, New Zealand, Russia, and South Africa. As of March 1, ~~2024~~ **2025** , this patent family includes granted patents claiming composition of matter of ~~CT1812~~ **zervimesine** , pharmaceutical compositions of ~~CT1812~~ **zervimesine** , methods of using ~~CT1812~~ **zervimesine** for inhibiting amyloid beta effects on a neuronal cell, and methods of using ~~CT1812~~ **zervimesine** to treat AD in the United States (three patents), Australia, Brazil, China, the European Union, Hong Kong, India, Israel, Japan, New Zealand, Mexico, South Korea, Russia and South Africa. This patent family also includes a pending U. S. patent application and pending application in ~~certain foreign jurisdictions including India and~~ the European Union. This patent family has a natural expiration date in 2035 subject to any adjustment or extension of patent term that may be available in in a particular jurisdiction such as PTE following approval of the New Drug Application, or NDA, in the United States or extension of patent term via a Supplementary Protection Certificate, or SPC, following EMEA marketing authorization. Upon approval of the NDA for ~~CT1812~~ **zervimesine** in the United States, the patents in this family claiming compositions of matter of ~~CT1812~~ **zervimesine** , pharmaceutical compositions of ~~CT1812~~ **zervimesine** , and methods of using ~~CT1812~~ **zervimesine** for inhibiting amyloid beta effects on a neuronal cell, and methods of using ~~CT1812~~ **zervimesine** to treat AD will be eligible to be listed in the FDA' s publication " Approved Drug Products with Therapeutic Equivalence Evaluations, " or the Orange Book. These patents complement the regulatory exclusivity by providing the basis for an additional waiting period prior to the FDA' s approval of an abbreviated new drug application, or ANDA, or 505 (b) (2) applicant. If an ANDA or 505 (b) (2) applicant were to file its application referencing the NDA for ~~CT1812~~ **zervimesine** before expiration of our composition of matter, pharmaceutical composition, and method of use patents and the applicant asserted that our patents identified on the Orange Book to be invalid or not be infringed, it may be subject to additional waiting periods prior to the FDA' s approval (including a statutory 30- month stay if we sue for infringement, or a shorter period if the patent expires or there are certain settlements or judicial decisions in the patent litigation, starting at the end of the five- year NCE regulatory exclusivity period). In addition to patent exclusivity, under the provisions of the Hatch- Waxman Act, upon any approval in the United States, we believe that ~~CT1812~~ **zervimesine** will be eligible for five- year NCE regulatory exclusivity, during which time no 505 (b) (2) NDA or ANDA can be approved that contains the same active moiety as the chemical entity in the ~~CT1812~~ **zervimesine** NDA. When approved in Europe, ~~CT1812~~ **zervimesine** will also be eligible for 10 years of data and market exclusivity which is extendible for an additional year upon market authorization for one or more new indications during the first eight years of the data and market exclusivity period. ~~We~~ **23We** also own seven families of pending patent applications directed to methods for selecting subsets of patients with AD for treatment with ~~CT1812~~ **zervimesine** , methods of modulating amyloid beta monomer and oligomer levels using ~~CT812~~ **zervimesine** , methods of treating GA secondary to dry AMD with ~~CT1812~~ **zervimesine** and methods of treating various neurologic diseases including PD **, DLB** and **other** synucleinopathies with ~~CT1812~~ **zervimesine** , as well as a pending provisional application directed to treating certain subsets of AD patients with ~~CT1812~~ **zervimesine** and treating Niemann- Pick disease. Any of these applications, if issued, will have a natural ~~35expiration~~ -- **expiration** between 2038 and 2044, subject to any adjustment or extension of patent term that may be available such as PTE following NDA approval in the United States as well as any term limitations based upon earlier expiring patents. Additional Product CandidatesWe are the exclusive owner of four patent families that include several pending U. S. patent applications, as well as pending patent applications in numerous foreign jurisdictions directed to additional product candidates. These patent families have expirations no earlier than 2038 subject to any adjustment or extension of patent term that may be available such as PTE following NDA approval in the United States as well as any term limitations based upon earlier expiring patents. Manufacturing StrategyWe oversee and manage third party contract manufacturing organizations to support development and manufacture of product candidates for our clinical trials, and, if we receive marketing approval, we will rely on such manufacturers to meet commercial demand. We expect this strategy will enable us to maintain a more efficient infrastructure, avoiding dependence on our own manufacturing facility and equipment, while simultaneously enabling us to focus our expertise on the clinical development and future commercialization of our products. Currently, we rely on and have agreements with a single third- party contract manufacturer to supply the **zervimesine** drug substance ~~for CT1812~~ and with a single third- party contract manufacturer to manufacture clinical trial supplies of **zervimesine. We** ~~CT1812, and we~~ expect to enter into commercial supply agreements with such manufacturers prior to any potential approval of ~~CT1812~~ **zervimesine** . We continue to develop ~~a~~ **the** commercial route for ~~CT1812 API~~ **zervimesine drug substance** and to meet all requirements for our planned clinical trials. The current ~~API~~ **drug substance** manufacturer is able to ~~supply~~ **support** all of our needs for the planned clinical studies **and commercial supplies** . ~~CT1812~~ **Zervimesine** drug product is manufactured via conventional pharmaceutical processing procedures, employing commercially **-** available excipients and packaging materials. The procedure and equipment employed for manufacture and analysis are consistent with standard pharmaceutical production, and are transferable to a range of manufacturing facilities, if needed. We ~~have selected~~ **will transition from our current drug product manufacturer to** a larger third- party ~~drug product~~ manufacturer **for** ~~and will be executing technology transfer of drug product manufacture to a larger manufacturer. We will also maintain the current drug substance and product manufacturer as part of~~ our **late- stage clinical and commercial** supply ~~chain strategy~~ . Commercialization StrategyWe currently have no marketing, sales or distribution capabilities. In order to commercialize any products that are approved for commercial sale, we must either develop a sales and marketing infrastructure or collaborate with third parties that have sales and marketing experience. We may

seek third- party support from established pharmaceutical and biotechnology companies for those products that would benefit from the promotional support of a large sales and marketing force. In these cases, we might seek to promote our products in collaboration with marketing partners or rely on relationships with one or more companies with large established sales forces and distribution systems. We may elect to establish our own sales force to market and sell a product for which we obtain regulatory approval if we expect that the geographic market for a product we develop on our own is limited or that the prescriptions for the product will be written principally by a relatively small number of physicians. If we decide to market and sell any products ourselves, we do not expect to establish direct sales capability until shortly before the products are approved for commercial sale. ~~CompetitionWe~~ **24CompetitionWe** face substantial competition from multiple sources, including large and specialty biotechnology and pharmaceutical companies, academic research institutions and governmental agencies and public and private research institutions. Our competitors compete with us on the level of the technologies employed, or on the level of development of product candidates. In addition, many small biotechnology companies have formed collaborations with large, ~~36established~~ -- **established** companies to (i) obtain support for their research, development and commercialization of products or (ii) combine several treatment approaches to develop longer lasting or more efficacious treatments that may potentially directly compete with our current or future product candidates. We anticipate that we will continue to face increasing competition as new therapies and combinations thereof, technologies, and data emerge. In addition to the current standard of care treatments for patients with neurodegenerative diseases, numerous commercial and academic preclinical studies and clinical trials are being undertaken by a large number of parties to assess technologies and product candidates in the CNS field. Many of our competitors, either alone or in combination with their respective strategic partners, have significantly greater financial resources and expertise in research and development, manufacturing, the regulatory approval process, and marketing than we do. Mergers and acquisition activity in the biopharmaceutical sector is likely to result in greater resource concentration among a smaller number of our competitors. Smaller or early- stage companies may also prove to be significant competitors, particularly through sizeable collaborative arrangements with established companies. These competitors also compete with us in recruiting and retain qualified scientific and management personnel and establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs. Our commercial opportunity could be reduced or eliminated if one or more of our competitors develop and commercialize products that are safer, more effective, better tolerated, or of greater convenience or economic benefit than our proposed product offering. Currently available therapies for these diseases are limited, with two approved disease- modifying treatments each for Alzheimer' s disease ~~and geographic atrophy (GA) secondary to dry AMD~~ but no approved treatments for dementia with Lewy bodies. However, our competitors also may be in a position to obtain FDA or other regulatory approval for their products more rapidly, resulting in a stronger or dominant market position before we are able to enter the market. The key competitive factors affecting the success of all of our programs are likely to be product safety, efficacy, convenience and treatment cost. Employees and Human Capital ResourcesAs of March 1, ~~2024~~ **2025** , we had 28 employees, 25 of whom were full- time and ~~17~~ **20** of whom were engaged in research and development activities. Seven of our employees hold Ph. D. or M. D. degrees. None of our employees are represented by a labor union. We consider our relationship with our employees to be good. We are dedicated to conducting business with the highest standards of corporate responsibility. Our goal is to build a culture of ~~diverse~~ **talented** and passionate people striving to positively impact patients, our communities, and broader society. Our human capital resource priorities include attracting, recruiting, retaining, incentivizing and integrating our existing and new employees. We ~~believe that a diverse~~ **promote values such as purpose** , ~~equitable~~ **drive** , **transparency,** and ~~inclusive~~ **fairness in our** workplace ~~allows our company to best fulfill our mission. We are committed to continuing our efforts to increase diversity throughout our company and foster an inclusive work environment that supports our employees and the communities we serve~~ . The principal purposes of our equity and cash incentive plans are to attract, retain and reward personnel through the granting of stock- based 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. During ~~2023~~ **2024** , the Company **took** ~~has taken~~ proactive steps to enhance and improve our policies related to employee welfare and engagement. ~~Government~~ **25Government** RegulationGovernment authorities in the United States, at the federal, state, and local level, and other countries extensively regulate, among other things, the research, development, nonclinical and clinical testing, manufacture, quality control, approval, labeling, packaging, storage, record- keeping, promotion, advertising, distribution, post- approval monitoring and reporting, marketing, and export and import of products such as those we are developing. Generally, before a new drug can be marketed, considerable data must be generated, which demonstrate the drug' s quality, safety, and efficacy. Such ~~37data~~ -- **data** must then be organized into a format specific for each regulatory authority, submitted for review and approved by the regulatory authority. U. S. Drug Development ProcessIn the United States, the FDA regulates drugs under the federal Food, Drug, and Cosmetic Act, or FDCA, and its implementing regulations. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations require 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, the approval process or after approval may subject an applicant to administrative or judicial sanctions. These sanctions could include the FDA' s refusal to approve pending applications, withdrawal of an approval, a clinical hold, 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. Any agency or judicial enforcement action could have a material adverse effect on us. The process required by the FDA before a drug may be marketed in the United States generally involves the following: ● completion of nonclinical laboratory tests, animal studies, and formulation studies in accordance with FDA' s good laboratory requirements and other applicable 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, or IRB, or ethics committee, either centralized or with respect to each clinical site, before each clinical trial may be initiated; ● performance of

adequate and well- controlled human clinical trials in accordance with good clinical practices, or GCP, requirements to establish the safety and efficacy of the proposed drug for its intended use; ● submission to the FDA of an NDA after completion of all pivotal trials; ● determination by the FDA within 60 days of its receipt of an NDA to accept the filing for substantive review; ● satisfactory completion of an FDA advisory committee review, if applicable; ● satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the drug is produced to assess compliance with current good manufacturing practices, or cGMP, requirements to ensure that the facilities, methods and controls are adequate to preserve the drug' s identity, strength, quality, and purity, and of selected clinical investigation sites to assess compliance with GCPs; ● FDA review and approval of the NDA to permit commercial marketing of the product for particular indications for use in the United States; ● compliance with any post- approval requirements, including potential requirements to conduct any post- approval studies required by the FDA or the potential requirement to implement a risk evaluation and mitigation strategy, or REMS; and ● compliance with the Pediatric Research Equity Act, or PREA, which requires either exemption from the requirements or may require conducting clinical research in a pediatric population. ~~Prior~~ **26Prior** to beginning the first clinical trial with a product candidate in the United States, we must submit an IND to the FDA. An IND is a request for authorization from the FDA to administer an investigational new drug product to humans. The central focus of an IND submission is on the general investigational plan and the protocol (s) for clinical studies. The IND also includes results of animal and in vitro studies assessing the toxicology, PK, pharmacology, and ~~38pharmacodynamic~~ -- **pharmacodynamic** characteristics of the product; chemistry, manufacturing, and controls information; and any available human data or literature to support the use of the investigational product. An IND must become effective before human clinical trials may begin. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA, within the 30- day time period, raises safety concerns or questions about the proposed clinical trial or drug candidate. In such a case, the IND may be placed on clinical hold and the IND sponsor and the FDA must resolve any outstanding concerns or questions before the clinical trial can begin. Submission of an IND therefore may or may not result in FDA authorization to begin a clinical trial. Clinical trials involve the administration of the investigational product to human subjects under the supervision of qualified investigators in accordance with GCPs, which include the requirement that all research subjects provide their informed consent for their participation in any clinical study. Clinical trials are conducted under protocols detailing, among other things, the objectives of the study, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated. A separate submission to the existing IND must be made for each successive clinical trial conducted during product development and for any subsequent protocol amendments. Furthermore, an independent IRB for each site proposing to conduct the clinical trial must review and approve the plan for any clinical trial and its informed consent form before the clinical trial begins at that site and must monitor the study until completed. Regulatory authorities, the IRB or the sponsor may suspend a clinical trial at any time on various grounds, including a finding that the subjects are being exposed to an unacceptable health risk or that the clinical trial is unlikely to meet its stated objectives. Some studies also include oversight by an independent group of qualified experts organized by the clinical study sponsor, known as a data safety monitoring board, or DSMB, which may review data and endpoints at designated check points, make recommendations and / or halt the clinical trial if it determines that there is an unacceptable safety risk for subjects or other grounds, such as no demonstration of efficacy. There are also requirements governing the registration of ongoing clinical studies and posting of clinical study results to public registries. Human clinical trials are typically conducted in three sequential phases that may overlap or be combined: Phase One: The product candidate is initially introduced into a limited number of healthy human subjects or patients with the target disease or condition. These studies are designed to test the safety, dosage tolerance, absorption, metabolism, and distribution of the investigational product in humans, the side effects associated with increasing doses, and, if possible, to gain early evidence on effectiveness. In the case of some product candidates for severe or life-threatening diseases, especially when the product candidate may be too inherently toxic to ethically administer to healthy volunteers, the initial human testing; Phase Two: The product candidate is administered to a limited patient population with the target disease or condition to evaluate the preliminary efficacy, optimal dosages, and dosing schedule and to identify possible adverse side effects and safety risks. Multiple Phase 2 clinical trials may be conducted to obtain information prior to beginning Phase 3 trials; Phase Three: The product candidate is administered to an expanded patient population to further evaluate dosage, to provide statistically significant evidence of clinical efficacy and to further test for safety, generally at multiple geographically dispersed clinical trial sites. These clinical trials are intended to establish the overall risk relative to potential benefit and generate the data used by FDA and other regulatory agencies to evaluate suitability for marketing authorization. Post- approval clinical trials, sometimes referred to as Phase 4 studies, may be conducted after initial marketing approval. These clinical trials are used to gain additional experience from the treatment of patients in the intended therapeutic indication. In certain instances, the FDA may mandate the performance of Phase 4 clinical trials as a condition of approval of an NDA. ~~Sponsor~~ **27Sponsor** may voluntarily pause or stop a clinical trial, or the FDA may place a trial on full or partial clinical hold at any time on various grounds, including a finding that the research subjects or patients are being exposed to an unacceptable health risk or concerns related to chemistry, manufacturing and controls. A clinical hold is an order issued by the FDA to delay or suspend an investigation **.** Following the issuance of a clinical hold or a partial clinical hold, a clinical trial may only proceed after FDA has notified the sponsor that any deficiencies have been corrected and FDA is authorizing the trial to proceed. In addition, an IRB representing each institution participating in the clinical trial must review and approve the ~~39plan~~ -- **plan** for any clinical trial before it commences at that institution, and the IRB must conduct continuing review and reapprove the study at least annually. The IRB must review and approve, among other things, the study protocol and informed consent information to be provided to study subjects. An IRB must operate in compliance with FDA regulations. An IRB can suspend or terminate approval of a clinical trial at its institution, or an institution it represents, if the clinical trial is not being conducted in accordance with the IRB' s requirements or if the product candidate has been associated with unexpected serious harm to patients. Finally, some clinical trials are overseen by an independent group of qualified experts organized by the sponsor, known as a data safety

monitoring board or committee. Depending on its charter, this group may determine whether a clinical trial may move forward at designated check points based on access to certain data from the clinical trial. During the development of a new drug, sponsors are given opportunities to meet with the FDA at certain points. These points may be prior to submission of an IND, at the end of Phase 2, and before an NDA is submitted. Meetings at other times may be requested by the sponsor. These meetings can provide an opportunity for the sponsor to share information about the data gathered to date, for the FDA to provide advice, and for the sponsor and the FDA to reach alignment on plans for the next phase of development. Sponsors typically use the meetings at the end of the Phase 2 clinical trials to discuss Phase 2 clinical results and present plans for the pivotal Phase 3 clinical trials that they believe will support approval of the new drug. Concurrent with clinical trials, companies usually complete additional animal studies and must also develop additional information about the chemistry and physical characteristics of the drug candidate and finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the product candidate and, among other things, the manufacturer must develop methods for testing the identity, strength, quality, and purity of the final drug. In addition, appropriate packaging must be selected and tested, and stability studies must be conducted to demonstrate that the product candidate does not undergo unacceptable deterioration over its shelf life. While the IND is active and before approval, progress reports summarizing the results of the clinical trials and nonclinical studies performed since the last progress report must be submitted at least annually to the FDA, and written IND safety reports must be submitted to the FDA and investigators for serious and unexpected suspected adverse events, findings from other studies suggesting a significant risk to humans exposed to the same or similar drugs, findings from animal or in vitro testing suggesting a significant risk to humans, and any clinically important increased incidence of a serious suspected adverse reaction compared to that listed in the protocol or investigator brochure. NDA Review and Approval ProcessAssuming successful completion of all required testing in accordance with all applicable regulatory requirements, the results of product development nonclinical and clinical trials, along with descriptions of the manufacturing process, analytical tests conducted on the chemistry of the drug, proposed labeling and other relevant information are submitted to the FDA as part of an NDA requesting approval to market the product candidate. The submission of an NDA is subject to the payment of substantial user fees; a waiver of such fees may be obtained under certain limited circumstances. Additionally, no user fees are assessed on NDAs for product candidates designated as orphan drugs, unless the product also includes a non- orphan indication. The FDA reviews an NDA to determine, among other things, whether a product is safe and effective for its intended use and whether its manufacturing is cGMP- compliant to assure and preserve the product' s identity, strength, quality, and purity. Under the Prescription Drug User Fee Act, or PDUFA, guidelines that are currently in effect, the FDA has a goal of ten months from the date of " filing " of a standard NDA for a new molecular entity to review and act on the submission. This review typically takes 12 months from the date the NDA is submitted to FDA because the FDA has approximately ~~two~~ **28two** months to make a " filing " decision after the application is submitted. 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 NDA must be resubmitted with the additional information. The resubmitted application is also subject to review before the FDA accepts it for filing. ~~40The~~ -- **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, the FDA will typically 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 **comply** ~~are in compliance~~ with cGMP and **is** adequate to assure consistent production of the product within required specifications. Additionally, before approving an NDA, the FDA will typically inspect one or more clinical sites to assure compliance with GCPs. If the FDA determines that the application, manufacturing process, or manufacturing facilities are not acceptable, it will outline the deficiencies in the submission and often will request additional testing or information. Notwithstanding the submission of any requested additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval. After the FDA evaluates an NDA, it will issue an approval letter or a Complete Response Letter. An approval letter authorizes commercial marketing of the drug with prescribing information for specific indications. A Complete Response Letter indicates that the review cycle of the application is complete, and the application will not be approved in its present form. A Complete Response Letter usually describes the specific deficiencies in the NDA identified by the FDA and may require additional clinical data, such as an additional pivotal Phase 3 clinical trial or other significant and time- consuming requirements related to clinical trials, nonclinical studies, or manufacturing. If a Complete Response Letter is issued, the sponsor must resubmit the NDA, addressing all of the deficiencies identified in the letter, or withdraw the application. Even if such data and information are submitted, the FDA may decide that the NDA does not satisfy the criteria for approval. If regulatory approval of a product is granted, such approval will be granted for particular indications and may entail limitations on the indicated uses for which such product may be marketed. For example, the FDA may approve the NDA with a REMS to ensure the benefits of the product outweigh its risks. A REMS is a safety strategy to manage a known or potential serious risk associated with and approved drug and to enable patients to have continued access to such drug by managing their safe use. It could include medication guides, physician communication plans, or elements to assure safe use, such as restricted distribution methods, patient registries, and other risk minimization tools. The FDA also may offer conditional approval subject to, among other things, changes to proposed labeling or the development of adequate controls and specifications. Once approved, the FDA may withdraw the product approval if compliance with pre- and post- marketing requirements is not maintained or if problems occur after the product reaches the marketplace. The FDA may also require one or more Phase 4 post- market studies and surveillance to further assess and monitor the product' s safety and

effectiveness after commercialization, and may limit further marketing of the product based on the results of these post-marketing studies. In addition, new government requirements, including those resulting from new legislation, may be established, or the FDA' s policies may change, which could impact the timeline for regulatory approval or otherwise impact ongoing development programs. Changes to some of the conditions established in an approved application, including changes in indications, labeling, or manufacturing processes or facilities, require submission to and FDA approval of a new NDA or NDA supplement before the change can be implemented. An NDA supplement for a new indication typically requires clinical data similar to that in the original application, and the FDA uses the same procedures and actions in reviewing NDA supplements as it does in reviewing NDAs. As with new NDAs, the review process is often significantly extended by the FDA requests for additional information or clarification. ~~Expedited~~ **29Expedited** Development and Review ProgramsThe FDA has a Fast Track designation program that is intended to expedite or facilitate the process for reviewing new drug candidates that meet certain criteria. Specifically, new drug candidates are eligible for Fast Track designation if they are intended to treat a serious or life-threatening disease or condition and demonstrate the potential to address unmet medical needs for the disease or condition. Fast Track designation applies to the combination of the drug candidate and the specific indication for which it is being studied. The sponsor of a fast track designated product has opportunities for more frequent interactions with the applicable FDA review team during product development. With regard to a fast track ~~41designated~~ -- **designated** product, the FDA may also consider for review sections of the NDA on a rolling basis before the complete application is submitted, if the sponsor provides a schedule for the submission of the sections of the NDA, the FDA agrees to accept sections of the NDA and determines that the schedule is acceptable, and the sponsor pays any required user fees upon submission of the first section of the NDA. Any drug candidate submitted to the FDA for approval, including a drug candidate with a Fast Track designation, may also be eligible for other types of FDA programs intended to expedite development and review, such as priority review and accelerated approval. A drug candidate is eligible for priority review if it has the potential to provide safe and effective therapy where no satisfactory alternative therapy exists or a significant improvement in the treatment, diagnosis, or prevention of a disease compared to marketed products. The FDA will attempt to direct additional resources to the evaluation of an application for a new drug candidate designated for priority review in an effort to facilitate the review. The FDA endeavors to review applications with priority review designations within six months of the filing date as compared to ten months for review of new molecular entity NDAs under its current PDUFA review goals. In addition, a drug candidate may be eligible for accelerated approval. Drug candidates intended to treat serious or life- threatening diseases or conditions may be eligible for accelerated approval upon a determination that the drug candidate has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. As a condition of accelerated approval, the FDA generally requires that the sponsor perform adequate and well- controlled post- marketing confirmatory clinical trials which must be conducted with due diligence to verify and describe the predicted clinical benefit. Under the Food and Drug Omnibus Reform Act of 2022, or FDORA, the FDA may require, as appropriate, that such confirmatory trials be underway prior to approval or within a specific time period after the date accelerated approval is granted. Under FDORA, the FDA has increased authority for expedited procedures to withdraw approval of a drug or indication approved under accelerated approval if, for example, the sponsor fails to conduct the required confirmatory trials or if such studies fail to verify the predicted clinical benefit. In addition, the FDA currently requires, unless otherwise informed by the agency, pre- approval of promotional materials as a condition for accelerated approval, which could adversely impact the timing of the commercial launch of the product. The Food and Drug Administration Safety and Innovation Act established a category of drugs referred to as " breakthrough therapies " that may be eligible to receive Breakthrough Therapy designation. A sponsor may seek FDA designation of a product candidate as a " Breakthrough Therapy " if the drug candidate is intended, alone or in combination with one or more other products, to treat a serious or life- threatening disease or condition and preliminary clinical evidence indicates that the drug candidate may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. The designation includes all of the fast track program features, as well as more intensive FDA interaction and guidance. The Breakthrough Therapy designation is a distinct status from both accelerated approval and priority review, which can also be granted to the same drug if relevant criteria are met. If a drug candidate is designated as Breakthrough Therapy, the FDA will work to expedite the development and review of such drug candidate. Fast Track designation, priority review, accelerated approval, and Breakthrough Therapy designation do not change the standards for approval, but may expedite the development, review or approval process. Even if a drug candidate qualifies for one or more of these programs, the FDA may later decide that the drug candidate no longer meets the conditions for qualification or decide that the time period for FDA review or approval will not be shortened. We may explore some of these opportunities for our drug candidates as appropriate. ~~Post~~ **30Post** - Approval RequirementsAny products manufactured or distributed by us pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to record- keeping, reporting of adverse experiences, periodic reporting, product sampling and distribution, and advertising and promotion of the product. After approval, most changes to the approved product, such as adding new indications or other labeling claims, are subject to prior FDA review and approval. There are continuing, annual program fees for any marketed products. Drug manufacturers ~~42and~~ -- **and** their subcontractors are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMP, which impose certain procedural and documentation requirements upon us and our third- party manufacturers. Changes to the manufacturing process are strictly regulated, and, depending on the significance of the change, may require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting requirements upon us and any third- party manufacturers that we

may decide to use. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain compliance with cGMP and other aspects of regulatory compliance. The FDA may withdraw approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post- market studies or clinical studies to assess new safety risks; or imposition of distribution restrictions 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, untitled letters, Form 483s; ● clinical holds on post- approval or Phase 4 clinical studies, if applicable; ● refusal of the FDA to approve pending applications or supplements to approved applications, or suspension or revocation of product license approvals; ● product seizure or detention, or refusal to permit the import or export of products; ● consent decrees, corporate integrity agreements, debarment, or exclusion from federal healthcare programs; and ● mandated modification of promotional materials and labeling and the issuance of corrective information. Under PREA, an NDA must contain data to assess the safety and efficacy of the applicant product for indications in applicable pediatric populations. It must also contain information to support dose administration for pediatric populations where the drug may be utilized. FDA has the ability to grant complete waivers, partial waivers, or deferrals for compliance with PREA. PREA requirements may be waived for applications for approval of drug candidates intended to treat, mitigate, prevent, diagnose or cure diseases and other conditions that do not occur in pediatric populations. Generally **,** PREA does not apply for drug candidates which have obtained an orphan designation, unless otherwise regulated by the FDA. Despite this, separate PREA compliance or waivers may still be required for each product indication. Although noncompliance with PREA will generally not be considered for withdrawal of an approval it may be considered by the FDA as the sole basis for enforcement action such as injunction or seizure as non- compliance and may render the drug misbranded. The FDA closely regulates the marketing, labeling, advertising, and promotion of drug products. A company can make only those claims relating to safety and efficacy that are approved by the FDA 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. Failure to comply with these requirements can result in, among other things, adverse publicity, warning letters, corrective advertising, and potential civil and criminal penalties. Physicians may prescribe, in their independent professional medical judgment, legally available products for uses that are not described in the product' s labeling and that differ from those tested by us and approved by the FDA. Physicians may believe that such off- label uses are the best treatment for many patients in varied circumstances. The FDA does not regulate the behavior of physicians in their choice ~~of~~ **31of** treatments. The FDA does, however, restrict manufacturer' s communications on the subject of off- label use of their products. The federal government has levied large civil and criminal fines against companies for alleged improper promotion of off- label use and has enjoined companies from engaging in off- label promotion. The FDA and other ~~43regulatory --~~ **regulatory** agencies have also required that companies enter into consent decrees or permanent injunctions under which specified promotional conduct is changed or curtailed. However, companies may share truthful and not misleading information that is otherwise consistent with a product' s FDA-approved labelling. **From time to time, legislation is drafted, introduced, passed in Congress and signed into law that could significantly change the statutory provisions governing the approval, manufacturing, and marketing of products regulated by the FDA. In addition to new legislation, FDA regulations, guidance, and policies are often revised or reinterpreted by the agency in ways that may significantly affect the manner in which pharmaceutical products are regulated and marketed.** Patent Term Restoration and Marketing ExclusivityMarket exclusivity provisions authorized under the FDCA can delay the submission and approval of certain marketing applications for products containing the same active ingredient. The FDCA provides a five- year period of non- patent marketing exclusivity within the United States to the first applicant to obtain approval of an NDA for ~~a~~ **an** NCE. A drug is an NCE if the FDA has not previously approved any other new drug containing the same active moiety, which is the molecule or ion responsible for the action of the drug substance. The FDCA also permits patent term restoration of up to five years as compensation for a patent term lost during product development and FDA regulatory review process to the first applicant to obtain approval of an NDA for an NCE in the United States. Patent- term restoration, however, cannot extend the remaining term of a patent beyond a total of 14 years from the product' s approval date. During the NCE exclusivity period, the FDA may not approve or even accept for review an ANDA or an NDA submitted under Section 505 (b) (2), or a (505 (b) (2) NDA), submitted by another company for another drug based on the same active moiety, regardless of whether the drug is intended for the same indication as the original innovative drug or for another indication, where the applicant does not own or have a legal right of reference to all the data required for approval. However, an application may be submitted after four years if it contains a certification of patent invalidity or non- infringement to one of the patents listed in the Orange Book, with the FDA by the innovator NDA holder. Upon approval of an NDA, each of the patents listed in the application for the drug is then published in the Orange Book. These products may be cited by potential competitors in support of approval of an ANDA or 505 (b) (2) NDA. Any competitor who files an ANDA seeking approval of a generic equivalent version of a drug listed in the Orange Book or a 505 (b) (2) NDA referencing a drug listed in the Orange Book must make patent certifications to the FDA that (1) no patent information on the drug or method of use that is the subject of the application has been submitted to the FDA; (2) the patent has expired; (3) the date on which the patent has expired and approval will not be sought until after the patent expiration; or (4) the patent is invalid or will not be infringed upon by the manufacture, use, or sale of the drug product for which the application is submitted. Generally, the ANDA or 505 (b) (2) NDA cannot be approved until all listed patents have expired, except where the ANDA or 505 (b) (2) NDA applicant challenges a listed patent through the last type of certification, also known as a paragraph IV certification. If the applicant does not challenge the listed patents or indicates that it is not seeking approval of a patented method of use, the ANDA or 505 (b) (2) NDA

application will not be approved until all of the listed patents claiming the referenced product have expired. If the ANDA or 505 (b) (2) NDA applicant has provided a paragraph IV certification the applicant must send notice of the paragraph IV certification to the NDA and patent holders once the application has been accepted for filing by the FDA. The NDA and patent holders may then initiate a patent infringement lawsuit in response to the notice of the paragraph IV certification. If the paragraph IV certification is challenged by an NDA holder or the patent owner (s) asserts a patent challenge to the paragraph IV certification, the FDA may not approve that application until the earlier of 30 months from the receipt of the notice of the paragraph IV certification, the expiration of the patent, when the infringement case concerning each such patent was favorably decided in the applicant' s favor or settled, or such shorter or longer period as may be ordered by a court. This prohibition is generally referred to as the 30- month stay. In instances where an ANDA or 505 (b) (2) NDA applicant files a paragraph IV certification, the NDA holder or patent owner (s) regularly take action to trigger the 30- month stay, recognizing that the related patent litigation may take many months or years to resolve. Thus, approval of an ANDA or 505 (b) (2) NDA could be delayed for a significant period of time depending on the patent certification the applicant makes and the reference drug sponsor' s decision to initiate patent litigation. If the drug has NCE exclusivity and the ANDA is submitted four years after approval, the 30- month stay is extended so that it expires 7 1/2 years after approval of the innovator drug, unless the patent expires or there is a decision in the infringement case that is favorable to the ANDA applicant before then. ~~The~~ **32The** FDCA alternatively provides three years of marketing exclusivity for an NDA, or supplement to an existing NDA if new clinical investigations, other than bioavailability studies, that were conducted or sponsored by the applicant are deemed by the FDA to be essential to the approval of the application, for example new indications, dosages, or strengths of an existing drug. This three- year exclusivity covers only the modification for which the drug received approval on the basis of the new clinical investigations and does not prohibit the FDA from approving ANDAs or 505 (b) (2) NDAs for drugs containing the active agent for the original indication or condition of use. Five- year and three- year exclusivity will not delay the submission or approval of a full NDA. However, an applicant submitting a full NDA would be required to ~~44conduct~~ -- **conduct** or obtain a right of reference to any nonclinical studies and adequate and well- controlled clinical trials necessary to demonstrate safety and effectiveness. Pediatric exclusivity is another type of marketing exclusivity available in the United States. Pediatric exclusivity provides for an additional six months of marketing exclusivity attached to another period of exclusivity if a sponsor conducts clinical trials in children in response to a written request from the FDA. The issuance of a written request does not require the sponsor to undertake the described clinical trials. The indications the Company is currently pursuing for its product candidates will not be eligible for pediatric exclusivity because they are age- related degenerative diseases and disorders that do not occur in the pediatric population. In addition, orphan drug exclusivity, as described above, may offer a seven- year period of marketing exclusivity, except in certain circumstances. Other Healthcare LawsOur activities are subject to various federal and state fraud and abuse laws, including, without limitation, the federal Anti- Kickback Statute, the federal civil False Claims Act, and laws and regulations pertaining to limitations on and reporting of healthcare provider payments (physician sunshine laws). These laws and regulations are interpreted and enforced by various federal, state and local authorities including CMS, the Office of Inspector General for the U. S. Department of Health and Human Services, the U. S. Department of Justice, individual U. S. Attorney offices within the Department of Justice, and state and local governments. These laws include: ● the U. S. federal Anti- Kickback Statute, which prohibits, among other things, persons or entities from knowingly and willfully soliciting, offering, receiving or paying any remuneration, directly or indirectly, overtly or covertly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, lease, order, or arranging for or recommending the purchase, lease or order of, any good or service, for which payment may be made, in whole or in part, under federal healthcare programs such as Medicare and Medicaid. A person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation; ● the U. S. civil False Claims Act (which can be enforced through " qui tam, " or whistleblower actions, by private citizens on behalf of the federal government), prohibits any person from, among other things, knowingly presenting, or causing to be presented false or fraudulent claims for payment of government funds or knowingly making, using or causing to be made or used, a false record or statement material to an obligation to pay money to the government or knowingly and improperly avoiding, decreasing or concealing an obligation to pay money to the U. S. federal government; ● U. S. federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which imposes criminal liability and amends provisions on the reporting, investigation, enforcement, and penalizing of civil liability for, among other things, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, or knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement, in connection with the delivery of, or payment for healthcare benefits, items or services by a healthcare benefit program, which includes both government and privately funded benefits programs; similar to the U. S. federal Anti- Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation; **33** ● state laws and regulations, including state anti- kickback and false claims laws, that may apply to our business practices, including but not limited to, research, distribution, sales and marketing arrangements and claims involving healthcare items or services reimbursed by any third- party payer, including private insurers; state laws that require pharmaceutical companies to comply with the pharmaceutical industry' s voluntary compliance guidelines and the relevant compliance guidance promulgated by the U. S. federal government, or otherwise restrict payments that may be made to healthcare providers and other potential referral sources; and state laws and regulations that require drug manufacturers to file reports relating to pricing and marketing information, which requires tracking gifts and other remuneration and items of value provided to healthcare professionals and entities; ~~and45~~ -- **and** ● the Physician Payments Sunshine Act, implemented as the Open Payments program, and its implementing regulations, requires certain manufacturers of drugs, devices, biologics and medical supplies that are reimbursable under Medicare, Medicaid, or the Children' s Health Insurance Program to report annually to CMS information related to certain payments made in the preceding calendar year and other transfers of value provided to physicians and teaching hospitals, as well as ownership and investment

interests held by physicians and their immediate family members; applicable manufacturers also are required to report such information regarding payments and transfers of value provided, during the previous year to physician assistants, nurse practitioners, clinical nurse specialists, certified nurse anesthetists, and certified nurse- midwives. Violations of any of these laws or any other governmental regulations that may apply to us, may subject us to significant civil, criminal and administrative sanctions including penalties, damages, fines, imprisonment, and exclusion from government funded healthcare programs, such as Medicare and Medicaid, and / or adverse publicity. Moreover, government entities and private litigants have asserted claims under state consumer protection statutes against pharmaceutical companies for alleged false or misleading statements in connection with the marketing, promotion and / or sale of pharmaceutical products. Foreign Corrupt Practices ActThe Foreign Corrupt Practices Act, or the FCPA, generally prohibits offering, promising, giving, or authorizing others to give anything of value, either directly or indirectly, to a non- U. S. government official in order to influence official action, or otherwise obtain or retain business. The FCPA also requires public companies to make and keep books and records that accurately and fairly reflect the transactions of the corporation and to devise and maintain an adequate system of internal accounting controls. Our industry is heavily regulated and therefore involves significant interaction with public officials, including officials of non- U. S. governments. Additionally, in many other countries, the health care providers who prescribe pharmaceuticals are employed by their government, and the purchasers of pharmaceuticals are government entities; therefore, our dealings with these prescribers and purchasers are subject to regulation under the FCPA. Recently, the SEC and Department of Justice have increased their FCPA enforcement activities with respect to pharmaceutical companies. Violations could result in fines, criminal sanctions against us, our officers, or our employees, the closing down of our facilities, requirements to obtain export licenses, cessation of business activities in sanctioned countries, implementation of compliance programs, and prohibitions on the conduct of our business. Enforcement actions may be brought by the Department of Justice or the SEC, and recent enacted legislation has expanded the SEC' s power to seek disgorgement in all FCPA cases filed in federal court and extended the statute of limitations in SEC enforcement actions in intent- based claims such as those under the FCPA from five years to ten years. ~~Coverage~~ **34Coverage** and ReimbursementSales of any pharmaceutical product depend, in part, on the extent to which such product will be covered by third- party payors, such as federal, state, and foreign government healthcare programs, commercial insurance, and managed healthcare organizations, and the level of reimbursement for such product by third- party payors. Significant uncertainty exists as to the coverage and reimbursement status of any newly approved product. Decisions regarding the extent of coverage and amount of reimbursement to be provided are made on a plan- by- plan basis. One third- party payor' s decision to cover a particular product does not ensure that other payors will also provide coverage for the product. As a result, the coverage determination process can require manufacturers to provide scientific details, information on cost- effectiveness, and clinical support for the use of a product to each payor separately. This can be a time- consuming process, with no assurance that coverage and adequate reimbursement will be applied consistently or obtained in the first instance. In addition, third- party payors are increasingly reducing reimbursements for pharmaceutical products and related services. Third- party payors are increasingly challenging the prices charged, examining the medical necessity and reviewing the cost effectiveness of pharmaceutical products, in addition to questioning their safety and efficacy. Adoption of price controls and cost- containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit sales of any product. Decreases in third- party reimbursement for any product or a decision by a third- party payor not to cover a product could reduce physician usage and patient demand for the product. ~~46The~~ -- **The** U. S. government and state legislatures have continued implementing cost- containment programs, including price controls, restrictions on coverage and reimbursement and requirements for substitution of generic products. The Inflation Reduction Act of 2022, for example, contains substantial drug pricing reforms, including the establishment of a drug price negotiation program within the U. S. Department of Health and Human Services that would require manufacturers to charge a negotiated " maximum fair price " for certain selected drugs or pay an excise tax for noncompliance, the establishment of rebate payment requirements on manufacturers of certain drugs payable under Medicare Parts B and D to penalize price increases that outpace inflation, and requires manufacturers to provide discounts on Part D drugs. The Inflation Reduction Act of 2022 also caps Medicare beneficiaries' annual out- of- pocket drug expenses. Substantial penalties can be assessed for noncompliance with the drug pricing provisions in the Inflation Reduction Act of 2022. Additional drug pricing proposals could appear in future federal legislation. At the state level, there are also new laws and ongoing ballot initiatives that create additional pressure on drug pricing and may affect how pharmaceutical products are covered and reimbursed. A number of states have adopted or are considering various pricing actions, such as those requiring pharmaceutical manufacturers to publicly report proprietary pricing information, limit price increases or to place a maximum price ceiling or cap on certain products. Existing and proposed state pricing laws have added complexity to the pricing of pharmaceutical drug products. In international markets, reimbursement and healthcare payment systems vary significantly by country, and many countries have instituted price ceilings on specific products and therapies. For example, the European Union provides options for its member states to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. A member state may approve a specific price for the medicinal product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market. Pharmaceutical products may face competition from lower- priced products in foreign countries that have placed price controls on pharmaceutical products and may also compete with imported foreign products. Furthermore, there is no assurance that a product will be considered medically reasonable and necessary for a specific indication, that it will be considered cost- effective by third- party payors, that an adequate level of reimbursement will be established even if coverage is available, or that the third- party payors' reimbursement policies will not adversely affect the ability for manufacturers to sell products profitably. ~~Healthcare~~ **35Healthcare** ReformThe United States and many foreign jurisdictions have enacted or proposed legislative and regulatory changes affecting the healthcare system, including implementing cost- containment programs to limit the growth of government- paid healthcare costs, including price controls,

restrictions on reimbursement and requirements for substitution of generic products for branded prescription products. In recent years, Congress has considered reductions in Medicare reimbursement levels for products administered by physicians. CMS, the agency that administers the Medicare and Medicaid programs, also has authority to revise reimbursement rates and to implement coverage restrictions for some products. Cost reduction initiatives and changes in coverage implemented through legislation or regulation could decrease utilization of and reimbursement for any approved products. While Medicare regulations apply only to drug benefits for Medicare beneficiaries, private payers often follow Medicare coverage policy and payment limitations in setting their own reimbursement rates. Therefore, any reduction in reimbursement that results from federal legislation or regulation may result in a similar reduction in payments from private payers. The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Affordability Reconciliation Act, or collectively the Affordable Care Act substantially changed the way healthcare is financed by both governmental and private insurers, and significantly impacts the pharmaceutical industry. The Affordable Care Act is intended to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against healthcare fraud and abuse, add new transparency requirements for healthcare and health insurance industries, impose new taxes and fees on pharmaceutical and medical device manufacturers, and impose additional health policy reforms. Among other things, the Affordable Care Act expanded manufacturers' rebate liability under the Medicaid Drug Rebate Program by increasing the minimum Medicaid rebate for both branded and generic products, expanded the 340B program, and revised the definition of average manufacturer price, or AMP, which could increase the amount of Medicaid rebates manufacturers are required to pay to states. The legislation also extended Medicaid rebates, previously due only on fee- for- service Medicaid utilization, to include the utilization of Medicaid managed care organizations as well and ~~47created~~ -- **created** an alternative rebate formula for certain new formulations of certain existing products that is intended to increase the amount of rebates due on those products. There have been significant ongoing efforts to modify or eliminate the Affordable Care Act. The Tax Act, enacted on December 22, 2017, repealed the shared responsibility payment for individuals who fail to maintain minimum essential coverage under section 5000A of the Internal Revenue Code of 1986, as amended, or the Code, commonly referred to as the individual mandate. Other legislative changes have been proposed and adopted since the passage of the Affordable Care Act. The Budget Control Act of 2011, among other things, created measures for spending reductions by Congress that include aggregate reductions to Medicare payments to healthcare providers of up to 2. 0 % per fiscal year, which remain in effect through 2031. The American Taxpayer Relief Act of 2012 further reduced Medicare payments to several types of providers, including hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. The American Rescue Plan Act of 2021 ~~eliminates~~ **eliminated** the statutory Medicaid drug rebate cap, ~~currently~~ **previously** set at 100 % of a drug' s average manufacturer price, for single source and innovator multiple source drugs, ~~beginning~~ **effective** January 1, 2024. These laws and regulations may result in additional reductions in Medicare and other healthcare funding and otherwise affect the prices we may obtain for any of our product candidates for which we may obtain regulatory approval or the frequency with which any such product candidate is prescribed or used. The Affordable Care Act has also been subject to challenges in the courts. In the most recent challenge, in June 2021, the Supreme Court ruled that the plaintiffs lacked standing to challenge the law as they had not alleged personal injury traceable to the allegedly unlawful conduct. As a result, the Supreme Court did not rule on the constitutionality of the ACA or any of its provisions. Further changes to and under the Affordable Care Act remain possible but it is unknown what form any such changes or any law proposed to replace or revise the Affordable Care Act would take, and how or whether it may affect our business in the future. We expect that changes to the Affordable Care Act, the Medicare and Medicaid programs and changes stemming from other healthcare reform measures, especially with regard to healthcare access, financing or other legislation in individual states, could have a material adverse effect on the healthcare industry. ~~At~~ **36At** the state level, legislatures have increasingly passed legislation and implemented regulations designed to control pharmaceutical product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. We expect that additional federal, state and foreign healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in limited coverage and reimbursement and reduced demand for our products, once approved, or additional pricing pressures. Legal ProceedingsWe are not currently a party to any material legal proceedings. From time to time, we may become involved in other litigation or legal proceedings relating to claims arising from the ordinary course of business. Corporate InformationWe were incorporated under the laws of the State of Delaware on August 21, 2007. Our principal corporate office is located at 2500 Westchester Avenue Purchase, NY 10577, and our telephone number is (412) 481- 2210. Our website address is www. cogrx. com. Our website and the information contained on, or that can be accessed through, the website will not be deemed to be incorporated by reference in, and are not considered part of, this Annual Report on Form 10- K. ~~48Item~~ **37Item** 1A. Risk FactorsInvesting in our common stock involves a high degree of risk. You should carefully consider the risks described below, as well as the other information in this Annual Report, including our consolidated financial statements and the related notes and " Management' s Discussion and Analysis of Financial Condition and Results of Operations, " before deciding whether to invest in our common stock. We have listed below (not necessarily in order of importance or probability of occurrence) what we believe to be the most significant risk factors applicable to us. The occurrence of any of the events or developments described below could materially and adversely affect our business, financial condition, results of operations and prospects. In such an event, the market price of our common stock could decline and you may lose all or part of your investment. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also impair our business operations. Some of the statements in the following risk factors constitute forward- looking statements. Please see the section titled " Special Note Regarding Forward- Looking Statements. " Risks Related to Our Financial Position and Capital NeedsWe are a clinical- stage biopharmaceutical company with no products approved for

commercial sale and have incurred significant losses since our inception in 2007. We expect to incur significant losses over the foreseeable future and may never achieve or maintain profitability. Since our inception, we have incurred significant net losses, and we expect to continue to incur significant expenses and operating losses for the foreseeable future. Our net losses were $ **34. 0 million and $** 25. 8 ~~million and $ 21. 4~~ million for the years ended December 31, **2024 and** 2023 ~~and 2022~~ , respectively. As of December 31, ~~2023~~ **2024** , we had an accumulated deficit of $ ~~141~~ **175** . 2 million ~~. Our clinical trials have been funded by approximately $ 171. 0 million in cumulative nondilutive grants, awarded primarily by the National Institute of Aging, or NIA, a division of the National Institutes of Health. On October 13, 2021, we completed our initial public offering, or IPO, whereby we received net proceeds of $ 37. 9 million. On November 12, 2021, we received an additional $ 6. 3 million in net proceeds resulting from the exercise of the overallotment option held by the underwriters in our IPO. On November 15, 2022, we completed a follow- on public offering whereby we received net proceeds of $ 5. 2 million. On March 14, 2024, we completed a follow- on public offering whereby we received net proceeds of approximately $ 10. 4 million. We have no products approved for commercialization and have never generated any revenue from product sales~~ . We have devoted substantially all of our financial resources and efforts to the development of our product candidates, including conducting preclinical studies and clinical trials. We expect to continue to incur significant expenses and operating losses over the next several years. We expect that it could be several years, if ever, before we have a commercialized product. Our net losses may fluctuate significantly from quarter to quarter and year to year. We anticipate that our expenses will increase substantially for the foreseeable future as we: ● conduct our ongoing and planned clinical trials of ~~CT1812~~ **zervimesine** , as well as initiate and complete additional clinical trials; ● pursue regulatory approval of ~~CT1812~~ **zervimesine** for the treatment of mild- to- moderate Alzheimer' s disease, or AD ~~, dry age- related macular degeneration, or GA secondary to dry AMD~~ , and Parkinson' s disease, or PD, and dementia with Lewy bodies, or DLB, and other age- related degenerative diseases and disorders of the central nervous system, or CNS, and retina; ● seek to discover and develop additional clinical and preclinical product candidates from libraries generated using Novel Improved Conditioned Extraction, or NICE, screening platform, as well as other molecule generating and screening strategies; ● adapt our regulatory compliance efforts to incorporate requirements applicable to marketed products; ● maintain, expand and protect our intellectual property portfolio; ● hire and retain additional clinical, manufacturing and scientific personnel; ● add operational, financial and management information systems and personnel, including personnel to support our product development and planned future commercialization efforts; ● incur additional legal, accounting and other expenses in operating as a public company; ~~49~~ ● scale up our clinical and regulatory capabilities; and ● establish a commercialization infrastructure and scale up external manufacturing and distribution capabilities to commercialize any product candidates for which we may obtain regulatory approval, including ~~CT1812~~ **zervimesine** . ~~To~~ **38To** become and remain profitable, we must succeed in developing and eventually commercializing product candidates that generate significant revenue. This will require us to be successful in a range of challenging activities, including completing preclinical testing and clinical trials of our product candidates, obtaining regulatory approval, and manufacturing, marketing and selling any product candidates for which we may obtain regulatory approval, as well as discovering and developing additional product candidates. We are only in the preliminary stages of most of these activities. We may never succeed in these activities and, even if we do, may never generate any revenue or revenue that is significant enough to achieve profitability. Even if we achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Because of the numerous risks and uncertainties associated with therapeutic development, we are unable to accurately predict the timing or amount of increased expenses or when, or if, we will be able to achieve profitability. If we are required by the FDA to perform studies in addition to those we currently anticipate, or if there are any delays in completing our clinical trials or the development of our candidates or any future therapeutic candidates, our expenses could increase beyond our current expectations and revenue could be further delayed. Even if we or any future collaborators do generate sales, we may never achieve, sustain or increase profitability on a quarterly or annual basis. Our failure to sustain profitability would depress the market price of our stock and could impair our ability to raise capital, expand our business, diversify our therapeutic offerings or continue our operations. If we continue to suffer losses, investors may not receive any return on their investment and may lose their entire investment. Our failure to become and remain profitable would depress the value of our company and could impair our ability to raise capital, expand our business, maintain our development efforts, obtain product approvals, diversify our offerings or continue our operations. A decline in the value of our company could also cause you to lose all or part of your investment. **There is substantial doubt about our ability to continue as a going concern. Our management has concluded that, based on our current operating plan, there is substantial doubt as to whether we can continue as a going concern for the twelve months following the issuance of this Annual Report. To date, we have not generated any revenues from product sales and have incurred significant operating losses in each year since our inception and we anticipate that losses may continue for the next several years or until such time as we can generate substantial revenues and achieve profitability. As of December 31, 2024, we had $ 25. 0 million in cash and cash equivalents and have not generated positive cash flows from operations. Based on our current business plans, we believe that our existing cash and cash equivalents, income from non- dilutive grants, will be sufficient for us to fund our operating expenses and capital expenditures into the fourth quarter of 2025, which assumes no usage from the remaining ATM Facility (defined below) nor the equity line of credit with Lincoln Park Capital Fund, LLC, or Lincoln Park. Our ability to continue as a going concern is dependent upon raising capital to maintain current operations and continue research and development efforts.** We **plan to raise additional capital to fund our operations through public or private equity offerings, debt financings, and / or potential collaborations and license arrangement or other sources. There is no assurance, however, that any additional financing or any revenue- generating collaboration will be available when needed or that we will be able to obtain financing or enter into a collaboration on terms acceptable to us or at all. If such additional capital is not available on satisfactory terms, or is not available in sufficient amounts, or if we** are ~~conducting~~ **unable to enter into a collaboration, we may be required to delay, limit or eliminate the development of zervimesine and**

our ability to achieve our business objectives, our competitiveness, and our business, financial condition and results of operations will be materially adversely affected. 39If we fail to comply or regain compliance with the continued listing standards of the Nasdaq Capital Market, or Nasdaq, we may be delisted and the price of our common stock, or ability to access the capital markets and our financial condition could be negatively impacted. Our common stock is currently listed on the Nasdaq Stock Market LLC, which has minimum requirements that a company must meet in order to remain listed. These requirements include maintaining a minimum closing bid price of $ 1. 00 per share, which closing bid cannot fall below $ 1. 00 per share for a period of more than 30 consecutive trading days. On September 12, 2024, we received a deficiency letter from the Staff of the Nasdaq Stock Market LLC notifying us that, for the last 30 consecutive business days, the closing bid price for our common stock has been below the minimum $ 1. 00 per share required for continued listing on The Nasdaq Global Market pursuant to Rule 5450 (a) (1). In accordance with Nasdaq Listing Rule 5810 (c) (3) (A), we were given 180 calendar days, or until March 11, 2025, to regain compliance with Rule 5450 (a) (1). We did not come into compliance by March 11, 2025. On March 12, 2025, we received approval from the Listing Qualifications Department of Nasdaq Stock Market LLC to transfer the listing of our stock to the Nasdaq Capital Market. Following the transfer of the listing, we have been granted an additional 180 calendar day period to regain compliance with Nasdaq' s $ 1. 00 minimum bid price requirement. The additional 180- day grace period will end on September 8, 2025. If we do not regain compliance within the allotted compliance period (s), including any extensions that may be granted by Nasdaq, Nasdaq will provide notice that our common stock will be subject to delisting. At that time, we may appeal the Nasdaq staff' s determination to a Hearings Panel. We intend to actively monitor the closing bid price for our common stock and will consider available options to resolve the deficiency and regain compliance with Rule 5450 (a) (1), including effecting a reverse stock split. However, there can be no assurance that the Company will regain compliance with the minimum bid price requirement. If Nasdaq delists our securities from trading on its exchange for failure to meet the listing standards, we and our stockholders could face negative consequences including the reduction of liquidity and market price of our common stock, our ability to obtain sufficient additional capital to fund our operations, and our ability to operate as a going concern would be substantially impaired. We have completed, Phase 2 clinical trials ~~and~~ **, but** have no history of commercializing products, which may make it difficult for an investor to evaluate the success of our business to date and to assess our future viability. We commenced operations in 2007, and our operations to date have been largely focused on developing our clinical and preclinical product candidates and our NICE screening platform. We have limited experience conducting and completing clinical trials and not yet demonstrated our ability to successfully complete pivotal clinical trials, obtain regulatory approvals, manufacture a product on a commercial scale, or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful commercialization. Consequently, any predictions you make about our future success or viability may not be as accurate as they could be if we had a longer operating history or a history of successfully developing and commercializing products. We may encounter unforeseen expenses, difficulties, complications, delays and other known or unknown factors in achieving our business objectives. We may also need to transition from a company with a research focus to a company capable of supporting commercial activities. Our inability to adequately address these risks and difficulties or successfully make such a transition could adversely affect our business, financial condition, results of operations and growth prospects. ~~We~~ **40We** will need substantial additional capital to meet our financial obligations in the future and to pursue our business objectives. If we are unable to raise capital when needed, we could be forced to curtail our planned operations and the pursuit of our growth strategy. Our operations have required substantial amounts of capital since inception, and we expect our expenses to increase significantly in the foreseeable future. Identifying potential product candidates and conducting preclinical testing and clinical trials is a time- consuming, expensive and uncertain process that takes years to complete, and we may never ~~50generate~~ **generate** the necessary data or results required to obtain regulatory approval and achieve product sales. We expect to continue to incur significant expenses and operating losses over the next several years as we complete our ongoing clinical trials of our product candidates, initiate future clinical trials of our product candidates, seek marketing approval for ~~CT1812~~ **zervimesine** for the treatment of age- related degenerative diseases and disorders of the CNS and retina, such as AD ~~, GA secondary to dry AMD~~ , PD and DLB, and advance any of our other product candidates we may develop or otherwise acquire. In addition, our product candidates, if approved, may not achieve commercial success. Our revenue, if any, will be derived from sales of products that we do not expect to be commercially available for the foreseeable future, if at all. If we obtain marketing approval for ~~CT1812~~ **zervimesine** or any other product candidates that we develop or otherwise acquire, we expect to incur significant commercialization expenses related to product sales, marketing, distribution and manufacturing. We also expect an increase in our expenses associated with creating additional infrastructure to support operations as a public company. As of December 31, ~~2023~~ **2024** , we had $ ~~29~~ **25** . ~~9~~ **0** million in cash and cash equivalents and have not generated positive cash flows from operations. Based on our current business plans, we believe that our existing cash and cash equivalents, income from our non-dilutive grants, ~~and net proceeds received from our March 2024 follow- on public offering~~ will be sufficient for us to fund our operating expenses and capital expenditures requirements ~~through May~~ **into the fourth quarter** of 2025. We have based these estimates on assumptions that may prove to be incorrect or require adjustment as a result of business decisions, and we could utilize our available capital resources sooner than we currently expect. Our future capital requirements will depend on many factors, including, but not limited to: ● the scope, progress, costs and results of our ongoing and planned clinical trials of ~~CT1812~~ **zervimesine** , as well as the associated costs, including any unforeseen costs we may incur as a result of preclinical study or clinical trial delays due to supply chain disruptions or other delays; ● the scope, progress, costs and results of preclinical development, laboratory testing and clinical trials for any future product candidates we may decide to pursue; ● the extent to which we develop, in- license or acquire other product candidates and technologies; ● the costs and timing of process development and manufacturing scale- up activities associated with our product candidates and other programs we advance them

through preclinical and clinical development; ● the availability, timing and receipt of any future non- dilutive grants from the NIA, or NIA Grants **, or any changes made to existing grants as a result of political or regulatory pressures** ; ● the number and development requirements of other product candidates that we may pursue; ● the costs, timing and outcome of regulatory review of our product candidates; ● the costs and timing of future commercialization activities, including product manufacturing, marketing, sales and distribution, for any of our product candidates for which we receive marketing approval; ● the revenue, if any, received from commercial sales of our product candidates for which we receive marketing approval; ● our ability to establish collaborations to commercialize ~~CT1812~~ **zervimesine** or any of our other product candidates outside the United States; ● macroeconomic factors such as inflationary pressures, rising interest rates, liquidity constraints, failures and instability in U. S. and international financial banking systems, supply disruptions due to political unrest, conflict and war or other factors, and pandemics such as the COVID- 19 pandemic; **41** ● the costs and timing of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending any intellectual property- related claims; and ● the additional costs we may incur as a result of operating as a public company, including our efforts to enhance operational systems and hire additional personnel, including enhanced internal controls over financial reporting. We believe our existing cash and cash equivalents and income from our non- dilutive grants will not be sufficient to fund any of our product candidates through regulatory approval, and we will need to raise substantial additional capital to complete the development and commercialization of ~~C1812~~ **zervimesine** and our product candidates. If we receive regulatory approval for any of these product candidates, we expect to incur significant commercialization expenses related to product manufacturing, sales, marketing and distribution, depending on where we choose to commercialize. In addition to our existing cash and cash equivalents and income from our non- dilutive grans, in March 2023, we entered into a Purchase Agreement with Lincoln Park ~~Capital Fund, LLC, or Lincoln Park~~ , providing for the sale of up to $ 35 million worth of shares of our common stock. In addition, in December 2022, we entered into a sales ~~51agreement~~ -- **agreement** with Cantor Fitzgerald & Co. and B. Riley Securities, Inc., or the Sales Agents, providing for the offering, issuance and sale by us of up to $ 40 million of our common stock from time to time in " at- the- market " offerings, or the ATM Facility **, subject to the limitations of General Instruction I. B. 6 of Form S- 3** . There can be no assurance that we will be able to sell all of the shares under the equity line with Lincoln Park or the ATM Facility. Amounts available under the equity line with Lincoln Park have a strong and direct correlation to the Company' s publicly traded price per share and volumes. There can be no assurances of our traded price per share and volumes being at sufficient levels to provide adequate funding from the equity line with Lincoln Park or the ATM Facility. Additional funds may not be available on a timely basis, on favorable terms, or at all, and such funds, if raised, may not be sufficient to enable us to continue to implement our long- term business strategy. Further, our ability to raise additional capital may be adversely impacted by recent volatility in the equity markets in the United States and worldwide. If we are unable to raise sufficient additional capital, we could be forced to curtail our planned operations and the pursuit of our growth strategy. The economic environment may make it difficult to raise capital on acceptable terms or at all. Our ability to raise additional funds when needed and on acceptable terms or at all will depend on financial, economic and market conditions and other factors, over which we may have no or limited control. For example, the continued challenging capital markets environment, lower prices for many securities and concerns about potential recessionary factors may affect our ability to raise additional funding through sales of our securities or issuance of indebtedness, which may harm our liquidity, force us to delay, limit or terminate certain or all of our product discovery, therapeutic development, research operations or commercialization planning efforts or cause us to grant rights to develop and market products or therapeutic candidates that we would otherwise prefer to develop and market ourselves. If adequate funds are not available on commercially acceptable terms when needed, we may be forced to delay, reduce or terminate the development or commercialization of all or part of our research programs or our product candidates or any future therapeutic candidate, or we may be unable to take advantage of future business opportunities. Market volatility, liquidity constraints, failures and instability in United States and international financial banking systems, geopolitical tensions resulting from the ongoing conflicts between Ukraine and Russia and ~~Israel and Hamas~~ **in the Middle East** , heightened or fluctuating inflation and interest rates and the related impact on U. S. and global economies or other economic or other factors could also adversely impact our ability to access capital as and when needed or increase our costs in order to raise capital. ~~We~~ **42We** cannot guarantee that future financing will be available in sufficient amounts, or on commercially reasonable terms, or at all. Current capital market conditions, including the impact of inflation, have increased borrowing rates and can be expected to significantly increase our cost of capital as compared to prior periods. Moreover, the terms of any financing may adversely affect the holdings or the rights of our stockholders, the issuance of additional securities, whether equity or debt, by us, or the possibility of such issuance, may cause the market price of our stock to decline. The incurrence of indebtedness could result in increased fixed payment obligations and we may be required to agree to certain restrictive covenants, such as limitations on our ability to incur additional debt, limitations on our ability to acquire, sell or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. We could also be required to seek funds through arrangements with collaborators or others at an earlier stage than otherwise would be desirable and we may be required to relinquish rights to our product candidates or any future therapeutics candidates or otherwise agree to terms unfavorable to us, any of which may have a material adverse effect on our business, operating results and prospects. To date, we have partially relied on non- dilutive grants to cover certain of our capital requirements for our clinical trials, and we may fail to continue to receive non- dilutive funding. To date, we have partially relied on the availability of NIA Grants. Although we have applied for and currently anticipate receiving additional NIA Grants, we cannot be certain that our grant applications will be successful, that additional NIA Grants will be made available to support our clinical trials or that we will continue to satisfy the award criteria of prior NIA Grants that have already been awarded to us. If we fail to continue to receive NIA Grants, **or fail to adhere to the terms of those grant agreements,** our ability to continue our clinical programs for ~~CT1812~~ **zervimesine** may be impaired and delayed, and we may otherwise need to seek additional financing through dilutive methods, such as through equity or debt financings.

Such dilutive financings could have an adverse effect on the price of our common stock. ~~52We~~ **In addition, government funding is subject to the political process, which is inherently fluid and unpredictable. Under the Trump administration, the U. S. National Institutes of Health, or NIH, announced on February 7, 2025, a policy significantly reducing research grants by limiting payments for indirect costs. Indirect costs represented more than 25 % of total grant dollars awarded by the NIH in 2023. While, as of the date of this filing, the order has been temporarily stayed, there can be no assurance that it will not take effect or that other adverse actions will not be taken. We** could be subject to audit and repayment of our non- dilutive NIA Grants. In addition, in connection with the NIA Grants, we may be subject to routine audits by certain government agencies. As part of an audit, these agencies may review our performance, cost structures and compliance with applicable laws, regulations, policies and standards and the terms and conditions of the applicable NIA Grant. If any of our expenditures are found to be unallowable or allocated improperly or if we have otherwise violated terms of such NIA Grant, the expenditures may not be reimbursed and / or we may be required to repay funds already disbursed. Any audit by the NIA could require significant financial and management resources and may result in a material adjustment to our results of operations and financial condition and harm our ability to operate in accordance with our business plan. Additionally, negative results in any of our ongoing and planned clinical trials of ~~CT1812~~ **zervimesine** that are funded with NIA Grants may result in our failure to receive additional NIA Grants to fund future clinical trials. Due to the significant resources required for the development of our product candidates, we must prioritize development of certain product candidates and / or certain disease indications. We may expend our limited resources on candidates or indications that do not yield a successful product and fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success. We are currently focused on developing product candidates to address age- related degenerative diseases and disorders of the CNS and retina. We seek to maintain a process of prioritization and resource allocation among our programs to maintain a balance between aggressively advancing our lead product candidate, ~~CT1812~~ **zervimesine** , in identified indications and exploring additional indications or mechanisms as well as developing future product candidates. However, due to the significant resources required for the development of our product candidates, we must focus on specific diseases and disease pathways and decide which product candidates to pursue from time to time and the amount of time and resources to allocate to each such product candidate. ~~Our~~ **43Our** decisions concerning the allocation of research, development, collaboration, management and financial resources toward particular product candidates or therapeutic areas may not lead to the development of any viable commercial product and may divert resources away from better opportunities. Similarly, any decision to delay, terminate or collaborate with third parties with respect to certain programs may subsequently also prove to be suboptimal and could cause us to miss valuable opportunities. If we make incorrect determinations regarding the viability or market potential of any of our programs or product candidates or misread trends in the market of age- related degenerative diseases and disorders of the CNS and retina or pharmaceutical, biopharmaceutical or biotechnology industry, our business, financial condition and results of operations could be materially adversely affected. As a result, we may fail to capitalize on viable commercial products or profitable market opportunities, be required to forego or delay pursuit of opportunities with other product candidates or other diseases and disease pathways that may later prove to have greater commercial potential than those we choose to pursue, or relinquish valuable rights to such product candidates through collaboration, licensing or other royalty arrangements in cases in which it would have been advantageous for us to invest additional resources to retain development and commercialization rights. Our operating results may fluctuate significantly, which makes our future operating results difficult to predict and could cause our operating results to fall below expectations. Our quarterly and annual operating results may fluctuate significantly, which makes it difficult for us to predict our future operating results. These fluctuations may occur due to a variety of factors, many of which are outside of our control and may be difficult to predict, including: ● the timing and cost of, and level of investment in, research, development and, if approved, commercialization activities relating to our product candidates, which may change from time to time; ● the timing and status of enrollment for our clinical trials; ● the cost of manufacturing our product candidates, as well as building out our supply chain, which may vary depending on the quantity of production and the terms of our agreements with manufacturers; ● the availability, timing, and receipt of any future NIA grants; ~~53~~ ● expenditures that we may incur to acquire, develop or commercialize additional product candidates and technologies; ● timing and amount of any milestone, royalty or other payments due under any collaboration or license agreement; ● future accounting pronouncements or changes in our accounting policies; ● the timing and success or failure of preclinical studies and clinical trials for our product candidates or competing product candidates, or any other change in the competitive landscape of our industry, including consolidation among our competitors or partners; ● the timing of receipt of approvals for our product candidates from regulatory authorities in the United States and internationally; ● coverage and reimbursement policies with respect to our product candidates, if approved, and potential future drugs that compete with our products; and ● the level of demand for our product candidates, if approved, which may vary significantly over time. The cumulative effects of these factors could result in large fluctuations and unpredictability in our quarterly and annual operating results. As a result, comparing our operating results on a period- to- period basis may not be meaningful. Investors should not rely on our past results as an indication of our future performance. ~~This~~ **44This** variability and unpredictability could also result in our failing to meet the expectations of industry or financial analysts or investors for any period. If our revenue or operating results fall below the expectations of analysts or investors or below any forecasts we may provide to the market, or if any forecasts we provide to the market are below the expectations of analysts or investors, the price of our common stock could decline substantially. Such a stock price decline could occur even when we have met any previously publicly stated revenue or earnings guidance we may provide. Risks Related to Discovery, Development and Regulatory Approval of Our Product CandidatesOur business is heavily dependent on the successful development, regulatory approval and commercialization of ~~CT1812~~ **zervimesine** and any future product candidates that we may develop or acquire. We currently have no products approved for sale, and our lead product candidate is in early stages of clinical development. The success of our business, including our ability to finance our company and generate revenue in the future, will primarily depend on the

successful development, regulatory approval and commercialization of our product candidates and, in particular, the advancement of ~~CT1812~~ **zervimesine** , currently our only clinical- stage product candidate. However, given our stage of development, it may be many years, if we succeed at all, before we have demonstrated the safety and efficacy of a product candidate sufficient to warrant approval for commercialization. We cannot be certain that our product candidates will receive regulatory approval or be successfully commercialized even if we receive regulatory approval. The clinical and commercial success of ~~CT1812~~ **zervimesine** and any future product candidates that we may develop or acquire will depend on a number of factors, including the following: ● our ability to raise any additional required capital on acceptable terms, or at all; ● our ability to complete an investigational new drug application, or IND, enabling studies and successfully submit INDs or comparable applications; ● timely completion of our preclinical studies and clinical trials, which may be significantly slower or cost more than we currently anticipate and will depend substantially upon the performance of third- party contractors; ● delays or difficulties in enrolling and retaining patients in our clinical trials; ● whether we are required by the U. S. Food and Drug Administration, or FDA, or similar foreign regulatory agencies to conduct additional clinical trials or other studies beyond those planned to support the approval and commercialization of our product candidates or any future product candidates, if approved; ~~54~~ ● acceptance of our proposed indications and primary endpoint assessments relating to the proposed indications of our product candidates by the FDA and similar foreign regulatory authorities; ● our ability to demonstrate to the satisfaction of the FDA and similar foreign regulatory authorities the safety, efficacy and acceptable risk to benefit profile of our product candidates or any future product candidates; ● the prevalence, duration and severity of potential side effects or other safety issues experienced with our product candidates or future approved products, if any; ● achieving and maintaining, and, where applicable, ensuring that our third- party contractors achieve and maintain, compliance with our contractual obligations and with all regulatory requirements applicable to our product candidates or any future product candidates or approved products, if any; ● the ability of third parties with whom we contract to manufacture adequate clinical trial and commercial supplies of our product candidates or any future product candidates remain in good standing with regulatory agencies and develop, validate and maintain commercially viable manufacturing processes that are compliant with current good manufacturing practices, or cGMPs; **45** ● the convenience of our treatment or dosing regimen; ● the timely receipt of necessary marketing approvals from the FDA and similar foreign regulatory authorities; ● acceptance by physicians, payors and patients of the benefits, safety and efficacy of our product candidates or any future product candidates, if approved, including relative to alternative and competing treatments; ● the willingness of physicians, operators of clinics and patients to utilize or adopt any of our product candidates or any future product candidates, if approved; ● our ability to achieve sufficient market acceptance, coverage and adequate reimbursement from third- party payors and adequate market share and revenue for any approved products; ● supply chain disruptions, which may result in clinical site closures, delays to patient enrollment or changes to trial protocols; ● our ability to successfully develop a commercial strategy and thereafter commercialize our product candidates or any future product candidates in the United States and internationally, if approved for marketing, reimbursement, sale and distribution in such countries and territories, whether alone or in collaboration with others; ● patient demand for our product candidates, if approved, including patients' willingness to pay out- of- pocket for any approved products in the absence of coverage and / or adequate reimbursement from third- party payors; ● our ability to establish and enforce intellectual property rights in and to our product candidates or any future product candidates; and ● our ability to avoid third- party patent interference, intellectual property challenges or intellectual property infringement claims. In addition, the FDA or other regulatory agencies may not agree with our clinical development plan and require that we conduct additional clinical trials to support our regulatory submissions. We have not yet conducted an end of Phase 2 meeting with the FDA to discuss the registration pathway for ~~CT1812~~ **zervimesine** , and our current clinical development plans for ~~CT1812~~ **zervimesine** in mild- to- moderate AD may change as a result of future interactions with the FDA. For example, the FDA may not accept the results of the ongoing ~~CT1812~~ **zervimesine** clinical trials and may require that we conduct additional trials, including more than one pivotal trial, in order to gain approval in AD. Furthermore, any approval of ~~CT1812~~ **zervimesine** for AD may be limited to ~~CT1812~~ **zervimesine** in combination with the existing standard of care. These factors, many of which are beyond our control, could cause us to experience significant delays or an inability to obtain regulatory approvals or commercialize our product candidates. Even if regulatory approvals are obtained, we may never be able to successfully commercialize any of our product candidates. Accordingly, we cannot provide assurances that we will be able to generate sufficient revenue through the sale of our product candidates or any future product candidates to continue our business or achieve profitability. ~~55We~~ **46We** may not successfully expand our pipeline of product candidates, including by pursuing additional indications for ~~CT1812~~ **zervimesine** or by in- licensing or acquiring additional product candidates for other diseases. A key element of our strategy is to build and expand our pipeline of product candidates, including by developing ~~CT1812~~ **zervimesine** for the treatment of ~~GA secondary to dry AMD and~~ age- related degenerative diseases and disorders of the CNS beyond indications in AD, and by identifying other product candidates from libraries created using our NICE platform as well as new molecule and screening strategies. In addition, we may in- license or acquire additional product candidates for other diseases. We may not be able to identify or develop additional product candidates that are safe, tolerable and effective. Even if we are successful in continuing to build our pipeline, the potential product candidates that we identify, in- license or acquire may not be suitable for clinical development. For example, our research methodology may be unsuccessful in identifying potential drug candidates or those we identify may be shown to have harmful side effects or other characteristics that make them unmarketable or unlikely to receive regulatory approval. We have devoted significant resources to discovery efforts through our proprietary NICE platform, and we cannot guarantee that we will be successful in identifying additional potential drug candidates, or that we will be able to successfully identify and in- license new and valuable product candidates from other parties. Research and development of pharmaceuticals is inherently risky. We cannot give any assurance that any of our product candidates will receive regulatory approval. We are at an early stage of clinical development of our only clinical stage product candidate, ~~CT1812~~ **zervimesine** . Our future success is dependent on our ability to successfully develop,

obtain regulatory approval for and then successfully commercialize our product candidates, and we may fail to do so for many reasons, including the following: ● our product candidates may not successfully complete preclinical studies or clinical trials; ● a product candidate may on further study be shown to have harmful side effects or other characteristics that indicate it does not meet applicable regulatory criteria; ● our competitors may develop therapeutics that render our product candidates obsolete or less attractive; ● the market for a product candidate may change so that the continued development of that product candidate is no longer reasonable or commercially attractive; ● a product candidate may not be capable of being produced in commercial quantities at an acceptable cost, or at all; ● if a product candidate obtains regulatory approval, we may be unable to establish sales and marketing capabilities, or successfully market such approved product candidate; and ● a product candidate may not be accepted as safe and effective by patients, the medical community or third- party payors. If any of these events occur, we may be forced to abandon our development efforts for a product candidate or candidates, which would have a material adverse effect on our business and could potentially cause us to cease operations. Failure of a product candidate may occur at any stage of preclinical or clinical development, and we may never succeed in developing marketable products or generating product revenue. ~~We~~ **47We** may not be successful in our efforts to further develop our current and future product candidates. Each of our product candidates will require significant clinical development, management of preclinical, clinical and manufacturing activities, regulatory approval, adequate manufacturing supply, a commercial organization and significant marketing efforts before we generate any revenue from product sales, if at all. Any clinical studies that we may conduct may not be acceptable to the FDA or other regulatory authorities or demonstrate the efficacy and safety necessary to obtain regulatory approval to market our product candidates. If the results of our ongoing or future clinical studies are inconclusive with respect to the efficacy of our product candidates, if we do not meet the clinical endpoints with statistical significance or if there are safety concerns or adverse events associated with our product candidates, we may be prevented or delayed in obtaining marketing approval for our product candidates. ~~56In~~ **In** addition, to obtain regulatory approval in countries outside the United States, we must comply with numerous and varying regulatory requirements of such other countries regarding safety, efficacy, chemistry, manufacturing and controls, clinical trials, commercial sales, pricing and distribution of our product candidates. We may also rely on collaborators or partners to conduct the required activities to support an application for regulatory approval and to seek approval for one or more of our product candidates. We cannot be sure that any such collaborators or partners will conduct these activities successfully or do so within the timeframe we desire. Even if we or any future collaborators or partners are successful in obtaining approval in one jurisdiction, we cannot ensure that we will obtain approval in any other jurisdictions. If we are unable to obtain approval for our product candidates in multiple jurisdictions, our revenue and results of operations could be negatively affected. We may encounter substantial delays in our preclinical studies and clinical trials or may not be able to conduct or complete our preclinical studies or clinical trials on the timelines we expect, if at all. Clinical trials are expensive and can take many years to complete, and the outcome is inherently uncertain. We cannot guarantee that any clinical trials will be conducted as planned or completed on schedule, if at all. A failure of one or more clinical trials can occur at any stage and our future clinical trials may not be successful. Clinical trials can be delayed or terminated for a variety of reasons, including delays or failures related to: ● supply chain disruptions, which may result in clinical site closures, delays to patient enrollment or changes to trial protocols; ● the FDA or comparable foreign regulatory authorities disagreeing as to the design or implementation of our clinical trials; ● delays in obtaining, or failure to obtain, regulatory authorization to commence a trial; ● imposition of a temporary or permanent clinical hold by the FDA or comparable foreign regulatory authorities; ● reaching agreement on acceptable terms with prospective contract research organizations, or CROs, and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites; ● identifying, recruiting and training suitable clinical investigators; ● obtaining institutional review board, or IRB, approval at each trial site; ● new safety findings that present unreasonable risk to clinical trial participants; ● a negative finding from an inspection of our clinical trial operations or study sites; ● recruiting an adequate number of suitable patients to participate in a trial; ● having subjects complete a trial or return for post- treatment follow- up; ● clinical sites deviating from trial protocol or dropping out of a trial; **48** ● addressing subject safety concerns that arise during the course of a trial; ● adding a sufficient number of clinical trial sites; or ● obtaining sufficient supply of product candidates for use in preclinical studies or clinical trials from third- party suppliers. We may experience numerous adverse or unforeseen events during, or as a result of, preclinical studies and clinical trials which could delay or prevent our ability to receive marketing approval or commercialize our product candidates, including: ● we may receive feedback from regulatory authorities that requires us to modify the design of our clinical trials or require that we submit additional data or information before allowing a clinical trial to be initiated or continue; ● clinical studies of our product candidates may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon drug development programs; ~~57~~ ● the number of patients required for clinical trials of our product candidates may be larger than we anticipate, enrollment in these clinical trials may be slower than we anticipate or participants may drop out of these clinical trials at a higher rate than we anticipate; ● our third- party contractors may fail to comply with regulatory requirements, fail to maintain adequate quality controls or be unable to provide us with sufficient product supply to conduct and complete preclinical studies or clinical trials of our product candidates in a timely manner, or at all; ● we or our investigators might have to suspend or terminate clinical trials of our product candidates for various reasons, including non-compliance with regulatory requirements, a finding that our product candidates have undesirable side effects or other unexpected characteristics or a finding that the participants are being exposed to unacceptable health risks; ● the cost of clinical trials of our product candidates may be greater than we anticipate; ● the quality of our product candidates or other materials necessary to conduct preclinical studies or clinical trials of our product candidates may be insufficient or inadequate; ● regulators may revise the requirements for approving our product candidates or such requirements may not be as we anticipate; and ● any future collaborators may conduct clinical trials in ways they view as advantageous to them but that are suboptimal for us. If we are required to conduct additional clinical trials or other testing of our product candidates beyond those that we

currently contemplate, if we are unable to successfully complete clinical trials of our product candidates or other testing, if the results of these trials or tests are not positive or are only moderately positive or if there are safety concerns, we may: ● incur unplanned costs; ● be delayed in obtaining marketing approval for our product candidates or not obtain marketing approval at all; ● obtain marketing approval in some countries and not in others; ● obtain marketing approval for indications or patient populations that are not as broad as intended or desired; **49** ● obtain marketing approval with labeling that includes significant use or distribution restrictions or safety warnings, including boxed warnings; ● be subject to additional post- marketing testing requirements; or ● have the product removed from the market after obtaining marketing approval. If we encounter difficulties enrolling patients in our clinical trials, our clinical development activities could be delayed or otherwise adversely affected. We may not be able to initiate or continue clinical trials on a timely basis or at all for any product candidates we identify or develop if we are unable to locate and enroll a sufficient number of eligible patients to participate in the trials as required by applicable regulations or as needed to provide appropriate statistical power for a given trial. The timely completion of clinical trials in accordance with their protocols depends on, among other things, our ability to enroll a sufficient number of patients who remain in the study until its conclusion. The enrollment of patients depends on many factors, including: ● clinicians' and patients' perceptions as to the potential advantages of the product candidate being studied in relation to other available therapies, including any new drugs that may be approved for the indications we are investigating; the severity and difficulty of diagnosing the disease under investigation; ● the patient eligibility and exclusion criteria defined in the protocol; ● the size of the patient population required for analysis of the trial' s primary endpoints; ● the proximity of patients to trial sites; ● competition with other companies for clinical trial sites or patients; ~~58~~ ● the design of the trial; ● our ability to recruit clinical trial investigators with the appropriate competencies and experience; ● the existing body of safety and efficacy data with respect to the study drug and safety concerns; ● patient referral practices of physicians; ● risk that enrolled subjects will drop out before completion of the trial, including as a result of contracting health conditions; ● ability to monitor patients adequately during and after treatment; ● availability and efficacy of approved medications or therapies, or other clinical trials, for the disease or condition under investigation; ● our ability to obtain and maintain patient consents. In addition, our clinical trials may compete with other clinical trials for product candidates that are in the same therapeutic areas as our product candidates, and this competition will reduce the number and types of patients available to us, because some patients who might have opted to enroll in our trials may instead opt to enroll in a trial being conducted by one of our competitors. Delays in patient enrollment may result in increased costs or may affect the timing or outcome of the planned clinical trials, which could prevent completion of these trials and adversely affect our ability to advance the development of our product candidates. ~~Our~~ **50Our** product candidates may cause undesirable and unforeseen side effects or have other properties that could halt their clinical development, delay or prevent their regulatory approval, limit their commercial potential or result in significant negative consequences. Adverse events or other undesirable side effects caused by our product candidates or related to procedures conducted as part of the clinical trials could cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or comparable foreign regulatory authorities. Results of our planned clinical trials could reveal a high and unacceptable severity and prevalence of side effects or unexpected characteristics. If unacceptable side effects arise in the development of our product candidates, we, the FDA, the IRBs at the institutions in which our studies are conducted or the data safety monitoring board, or DSMB could suspend or terminate our clinical trials or the FDA or comparable foreign regulatory authorities could order us to cease clinical trials or deny approval of our product candidates for any or all targeted indications. Treatment- related side effects may not be appropriately recognized or managed by the treating medical staff. We expect to have to train medical personnel using our product candidates to understand the side effect profiles for our clinical trials and upon any commercialization of any of our product candidates. Inadequate training in recognizing or managing the potential side effects of our product candidates could result in patient injury or death. Any of these occurrences may materially and adversely affect our business, financial condition, results of operations and prospects. In addition, early clinical trials may only include a limited number of subjects and limited duration of exposure to our product candidates. In particular, we are pursuing a new approach to inhibiting the synaptic binding and signaling of soluble Aβ oligomers through the use of small molecule receptor antagonists, like ~~CT1812~~ **zervimesine** . As a result, our product candidates may cause unforeseen safety events when evaluated in larger patient populations. Further, clinical trials may not be sufficient to determine the effect and safety consequences of taking our product candidates over a multi- year period. If any of our product candidates receives marketing approval, and we or others later identify undesirable and unforeseen side effects caused by such product, a number of potentially significant negative consequences could result, including but not limited to: ● regulatory authorities may suspend, limit or withdraw approvals of such product, or seek an injunction against its manufacture or distribution; ● we may be required to conduct additional clinical trials or post- approval studies; ● we may be required to recall a product or change the way such product is administered to patients; ~~59~~ ● additional restrictions may be imposed on the marketing of the particular product or the manufacturing processes for the product or any component thereof; ● regulatory authorities may require the addition of labeling statements, such as a " black box " warning or a contraindication, or issue safety alerts, Dear Healthcare Provider letters, press releases or other communications containing warnings or other safety information about the product; ● we may be required to implement a Risk Evaluation and Mitigation Strategy, or REMS, or create a Medication Guide outlining the risks of such side effects for distribution to patients, a communication plan for healthcare providers and / or other elements to assure safe use; ● we could be sued and held liable for harm caused to patients; ● we may be subject to fines, injunctions or the imposition of criminal penalties; ● the product may become less competitive; and ● our reputation may suffer. ~~Any~~ **51Any** of these events could prevent us from achieving or maintaining market acceptance of the particular product candidate, if approved, and result in the loss of significant revenues to us, which would materially and adversely affect our business, financial condition, results of operations and prospects. Preclinical and clinical development involves a lengthy and expensive process with an uncertain outcome, and the results of preclinical studies and early clinical trials are not necessarily predictive of future

results. We have not tested any of our product candidates in pivotal clinical trials and our product candidates may not have favorable results in future clinical trials. Preclinical and clinical development is expensive and can take many years to complete, and its outcome is inherently uncertain. We cannot guarantee that any preclinical studies or clinical trials will be conducted as planned or completed on schedule, if at all, and failure can occur at any time during the preclinical study or clinical trial process. Despite promising preclinical or clinical results, any product candidate can unexpectedly fail at any stage of preclinical or clinical development. The historical failure rate for product candidates in our industry is high. The results from preclinical studies or clinical trials of a product candidate may not predict the results of later clinical trials of the product candidate, and interim, top- line, or preliminary results of a clinical trial are not necessarily indicative of final results. Product candidates in later stages of clinical trials may fail to show the desired safety and efficacy characteristics despite having progressed through preclinical studies and initial clinical trials. In particular, while we have conducted certain Phase 2 clinical trials of ~~CT1812~~ **zervimesine** targeting mild- to- moderate AD **and DLB**, we do not know whether ~~CT1812~~ **zervimesine** will perform in future clinical trials as it has performed in these prior trials. The positive results we have observed for ~~CT1812~~ **zervimesine** in past clinical trials may not be predictive of our ongoing and future clinical trials in humans. It is not uncommon to observe results in clinical trials that are unexpected based on preclinical studies and early clinical trials, and many product candidates fail in clinical trials despite very promising early results. Moreover, preclinical and clinical data may be susceptible to varying interpretations and analyses. In addition, changes to the design of our current or future clinical trials may be necessary if there are new developments in the field of Alzheimer' s research. A number of companies in the biopharmaceutical, pharmaceutical and biotechnology industries have suffered significant setbacks in clinical development even after achieving promising results in earlier studies. Additionally, some of our past clinical trials have utilized an " open- label " trial design. An " open- label " clinical trial is one where both the patient and investigator know whether the patient is receiving the investigational product candidate or either an existing approved drug or placebo. Most typically, open- label clinical trials test only the investigational product candidate and sometimes may do so at different dose levels. Open- label clinical trials are subject to various limitations that may exaggerate any therapeutic effect as patients in open- label clinical trials are aware when they are receiving treatment. Open- label clinical trials may be subject to a " patient bias " where patients perceive their symptoms to have improved merely due to their awareness of receiving an experimental treatment. In addition, open- label clinical trials may be subject to an " investigator bias " where those assessing and reviewing the ~~60physiological~~ **physiological** outcomes of the clinical trials are aware of which patients have received treatment and may interpret the information of the treated group more favorably given this knowledge. The results from an open- label trial may not be predictive of future clinical trial results with any of our product candidates when studied in a controlled environment with a placebo or active control. For all of the foregoing reasons, we cannot be certain that any of our ongoing and planned preclinical studies or clinical trials will be successful or acceptable to the FDA or other regulatory authorities. ~~Interim~~ **52Interim** " top- line " and preliminary data from studies or trials that we announce or publish from time to time may change as more data become available and are subject to audit and verification procedures that could result in material changes in the final data. From time to time, we may publish interim " top- line " or preliminary data from preclinical studies or clinical trials. Interim data are subject to the risk that one or more of the outcomes may materially change as more data become available. We also make assumptions, estimations, calculations and conclusions as part of our analyses of data, and we may not have received or had the opportunity to fully and carefully evaluate all data when we publish such data. As a result, the top- line results that we report may differ from future results of the same studies, or different conclusions or considerations may qualify such results once additional data have been received and fully evaluated. Preliminary or " top- line " data also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published. As a result, interim and preliminary data should be viewed with caution until the final data are available. Additionally, interim data from clinical trials that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data become available. Adverse differences between preliminary or interim data and final data could significantly harm our business, financial condition, results of operations and prospects. Further, others, including regulatory agencies, may not accept or agree with our assumptions, estimates, calculations, conclusions or analyses or may interpret or weigh the importance of data differently, which could impact the value of the particular program, the approvability or commercialization of the particular product candidate or product and our company in general. In addition, the information we choose to publicly disclose regarding a particular study or clinical trial is based on what is typically extensive information, and you or others may not agree with what we determine is the material or otherwise appropriate information to include in our disclosure. Any information we determine not to disclose may ultimately be deemed significant by you or others with respect to future decisions, conclusions, views, activities or otherwise regarding a particular product candidate or our business. If the top- line data that we report differ from final results, or if others, including regulatory authorities, disagree with the conclusions reached, our ability to obtain approval for, and commercialize, product candidates may be harmed, which could significantly harm our business, financial condition, results of operations and prospects. We have initially concentrated our research and development efforts on the treatment of AD **and DLB**, ~~a disease~~ **diseases** that ~~has~~ **have** seen limited success in drug development. Efforts by biopharmaceutical and pharmaceutical companies in treating AD **and DLB** have seen limited success in drug development. Only two disease- modifying therapeutic options have been approved by the FDA **for AD, and none have been approved for DLB**. Specifically, Biogen' s Aduhelm received accelerated approval on June 7, 2021 **(and was later discontinued in January 2024)** and the FDA granted accelerated approval to Eisai' s Leqembi on January 6, 2023. ~~Aduhelm and~~ Leqembi ~~are~~ **is** monoclonal antibodies administered via infusion reported to reduce Aβ plaques and protofibrils. We cannot be certain that our oral, small- molecule approach will lead to the development of approvable or marketable products. With the exception of ~~Aduhelm and~~ Leqembi, the only **currently marketed** ~~drugs~~ **drug** approved by the FDA to treat patients with AD address the symptoms of the disease. As a result, the FDA has a limited set of products to rely on in evaluating ~~CT1812~~ **zervimesine**. This could result in a longer than

expected regulatory review process, increased expected development costs or the delay or prevention of commercialization of ~~CT1812~~ **zervimesine** for the treatment of AD **or DLB** . ~~61We~~ **53We** have never conducted pivotal clinical trials, and we may be unable to do so for any product candidates we may develop. We will need to successfully initiate and complete pivotal clinical trials in order to obtain the approval of the FDA, the European Medicines Agency, or EMA, or other regulatory agencies to market ~~CT1812~~ **zervimesine** or any future product candidate. Carrying out pivotal clinical trials is a complicated process that requires significant financial resources. As an organization, we have not previously initiated nor conducted any later stage or pivotal clinical trials. In order to do so, we will need to expand our clinical development and regulatory capabilities, and we may be unable to recruit and train qualified personnel. We also expect to continue to rely on third parties to conduct our pivotal clinical trials. Consequently, we may be unable to successfully and efficiently execute and complete necessary clinical trials in a way that leads to NDA submission and approval of ~~CT1812~~ **zervimesine** or future product candidates. We may require more time and incur greater costs than our competitors and may not succeed in obtaining regulatory approvals of product candidates that we develop. Failure to commence or complete, or delays in, our planned clinical trials, could prevent us from or delay us in commercializing our product candidates, if approved. A Breakthrough Therapy designation by the FDA, even if granted for any of our product candidates, may not lead to a faster development or regulatory review or approval process, and it does not increase the likelihood that our product candidates will receive marketing approval. We may seek a " Breakthrough Therapy " designation for our product candidates if the clinical data support such a designation for one or more product candidates. A Breakthrough Therapy is defined as a drug or biologic that is intended, alone or in combination with one or more other drugs or biologics, to treat a serious or life- threatening disease or condition and preliminary clinical evidence indicates that the drug, in our case, may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. For product candidates that have been designated as breakthrough therapies, interaction and communication between the FDA and the sponsor of the trial can help to identify the most efficient path for clinical development while minimizing the number of patients placed in ineffective control regimens. Designation as a Breakthrough Therapy is within the discretion of the FDA. Accordingly, even if we believe one of our product candidates meets the criteria for designation as a Breakthrough Therapy, the FDA may disagree and instead determine not to make such designation. In any event, the receipt of a Breakthrough Therapy designation for a product candidate may not result in a faster development process, review or approval compared to drugs considered for approval under non- expedited FDA review procedures and does not assure ultimate approval by the FDA. In addition, even if one or more of our product candidates qualify as breakthrough therapies, the FDA may later decide that the product no longer meets the conditions for qualification or decide that the time period for FDA review or approval will not be shortened. A Fast Track designation by the FDA, even if granted for any of our product candidates, may not lead to a faster development or regulatory review or approval process, and does not increase the likelihood that our product candidates will receive marketing approval. The FDA granted ~~CT1812~~ **zervimesine** Fast Track designation in October 2017 for the treatment of mild- to- moderate AD, and, in the future, we may seek Fast Track designation for other of our product candidates. If a drug is intended for the treatment of a serious or life-threatening condition and the drug demonstrates the potential to address unmet medical needs for this condition, the drug sponsor may apply for Fast Track designation. The FDA has broad discretion whether or not to grant this designation. Even if we believe a particular product candidate is eligible for this designation, we cannot assure you that the FDA would decide to grant it. Fast Track designation may not result in a faster development process, review or approval compared to conventional FDA procedures. The FDA may withdraw Fast Track designation if it believes that the designation is no longer supported by data from our clinical development program. Many small molecule product candidates that have received Fast Track designation have failed to obtain marketing approval. **54Changes in funding for, or** ~~62Disruptions~~ **disruptions** ~~at~~ **to the operations of** the FDA and other government agencies ~~caused by funding shortages or global health concerns~~ could hinder their ability to hire, retain or deploy key leadership and other personnel, or otherwise prevent new or modified products from being developed, approved or commercialized in a timely manner or at all, which could negatively impact our business **. Currently, federal agencies in the U. S. are operating under a continuing resolution that is set to expire on September 30, 2025. Without appropriation of additional funding to federal agencies, our business operations related to our product development activities for the U. S. market could be impacted** . The ability of the FDA to review and / or approve new products can be affected by a variety of factors, including government budget and funding levels, statutory, regulatory, and policy changes, the FDA' s ability to hire and retain key personnel and accept the payment of user fees, and other events that may otherwise affect the FDA' s ability to perform routine functions. Average review times at the FDA have fluctuated in recent years as a result. In addition, government funding of other government agencies that fund research and development activities is subject to the political process, which is inherently fluid and unpredictable. Disruptions at the FDA and other agencies may also slow the time necessary for new drugs to be reviewed and / or approved by necessary government agencies, which would adversely affect our business. **A** ~~If a~~ prolonged government shutdown ~~occurs~~ **significant leadership** , **personnel, and /** or ~~if~~ **policy changes, or other substantial modification in agency activities (including due to** global health concerns ~~continue to prevent the FDA~~ or **geopolitical factors)** ~~other regulatory authorities from conducting their regular inspections, reviews, or other regulatory activities, it~~ could significantly impact the ability of the FDA or other regulatory authorities to timely review and process our regulatory submissions, which could have a material adverse effect on our business. In addition, government funding of other agencies on which our operations may rely, including those that fund research and development activities **and clinical trials** , is subject to the political process, which is inherently fluid and unpredictable **. Disruptions at agencies that fund our research and development activities and our clinical trials, or changes to such agencies' budgets, may negatively impact our operations and ongoing clinical trials and may limit our ability to seek additional funding in the future** . Future shutdowns or other disruptions could also affect other government agencies such as the SEC, which may also impact our business by delaying review of our public filings, to the extent such review is necessary, and our ability to access the public markets. We

have conducted, and in the future plan to conduct, clinical trials for product candidates outside the United States, and the FDA and comparable foreign regulatory authorities may not accept data from such trials. We have conducted clinical trials of our product candidates outside the United States, and plan to continue to do so in the future. For example, we initially conducted our Phase 1b SNAP clinical trial of ~~CT1812~~ **zervimesine** in collaboration with the Karolinska Institute in Sweden. In addition, the Phase 1 single and multiple ascending dose studies of ~~CT1812~~ **zervimesine** in healthy volunteers (COG0101) as well as the first- in- patient study (COG0102) were conducted in Australia. We opened additional clinical trial site in the Netherlands, Czech Republic and Spain for our SHINE study. The acceptance of study data from clinical trials conducted outside the United States or another jurisdiction by the FDA, any comparable foreign regulatory authority may be subject to certain conditions or may not be accepted at all. In cases where data from foreign clinical trials are intended to serve as the basis for marketing approval in the United States, the FDA will generally not approve the application on the basis of foreign data alone unless: ● the data are applicable to the U. S. population and U. S. medical practice; ● the trials were performed by clinical investigators of recognized competence, or GCP, requirements; and ● the data may be considered valid without the need for an on- site inspection by the FDA or, if the FDA considers such as inspection to be necessary, the FDA is able to validate the data through an on- site inspection or other appropriate means. ~~Many~~ **55Many** foreign regulatory authorities have similar requirements. In addition, foreign trials are subject to the applicable local laws of the foreign jurisdictions where the trials are conducted. There can be no assurance that the FDA or any comparable foreign regulatory authority will accept data from trials conducted outside of the United States or the applicable jurisdiction. If the FDA or any comparable foreign regulatory authority does not accept such data, it would result in the need for additional trials, which would be costly and time- consuming and delay aspects ~~63of~~ **of** our business plan, and which may result in product candidates that we may develop not receiving approval or clearance for commercialization in the applicable jurisdiction. If we are not successful in identifying, developing and commercializing additional product candidates, our ability to expand our business and achieve our strategic objectives would be impaired. Although a substantial amount of our effort will focus on the continued development and potential approval of our current product candidates, a key element of our strategy is to identify, develop and commercialize a portfolio of products that help restore normal cellular damage responses in age- related degenerative diseases and disorders of the CNS and retina. A component of our strategy is to evaluate our product candidates in multiple indications based, in part, on our evaluation of certain biomarkers in a disease area. For example, we intend to evaluate ~~CT1812~~ **zervimesine** and other product candidates discovered through our NICE platform in other diseases beyond indications in AD, such as ~~GA secondary to dry AMD, and~~ synucleinopathies, including PD and DLB. However, we may find that while we have seen promising results in one neurodegenerative disease, that effect is not replicated across other indications with promising similarities. Even if we successfully identify additional product candidates, we may still fail to yield additional product candidates for development and commercialization for many reasons, including the following: ● the research methodology used may not be successful in identifying potential product candidates; ● we may be unable to identify viable product candidates through our NICE platform and other molecule generating and screening strategies; ● competitors may develop alternatives that render our additional product candidates obsolete; ● additional product candidates we develop may be covered by third parties' patents or other exclusive rights; ● an additional product candidate may 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; ● an additional product candidate may not be capable of being produced in commercial quantities at an acceptable cost, or at all; and ● an additional product candidate may not be accepted as safe and effective by physicians and patients. We therefore cannot provide any assurance that we will be able to successfully identify or acquire additional product candidates, advance any of these additional product candidates through the development process, successfully commercialize any such additional product candidates, if approved, or assemble sufficient resources to identify, acquire, develop or, if approved, commercialize additional product candidates. If we are unable to successfully identify, acquire, develop and commercialize additional product candidates, our commercial opportunities may be limited. ~~Even~~ **56Even** if the product candidates that we develop receive regulatory approval in the United States or another jurisdiction, they may never receive approval in other jurisdictions, which would limit market opportunities for our product candidates and adversely affect our business. Approval of a product candidate in the United States by the FDA or by the requisite regulatory agencies in any other jurisdiction does not ensure approval of such product candidate by regulatory authorities in other countries or jurisdictions. The approval process varies among countries and may limit our or any future collaborators' ability to develop, manufacture, promote and sell product candidates internationally. Failure to obtain marketing approval in international jurisdictions would prevent the product candidates from being marketed outside of the jurisdictions in which regulatory approvals have been received. In order to market and sell product candidates in the European Union, or EU, and many other jurisdictions, we and any future collaborators must obtain separate marketing approvals and comply with numerous and varying regulatory requirements. The approval procedure varies among countries and may involve additional preclinical studies or clinical trials both before and after approval. In many countries, any product candidate for human use must be approved for reimbursement before it can be approved for sale in that country. In some cases, the intended price for such product is also subject to approval. Further, while regulatory approval of a product candidate in one country does not ensure approval in any other country, a failure or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory approval process in others. If we or any future collaborators fail to comply with the ~~64regulatory~~ **regulatory** requirements in international markets or to obtain all required marketing approvals, the target market for a particular potential product will be reduced, which would limit our ability to realize the full market potential for the product and adversely affect our business. Risks Related to Our Business and IndustryWe are heavily dependent on the success of ~~CT1812~~ **zervimesine**, our lead product candidate, which is still under clinical development, and if ~~CT1812~~ **zervimesine** does not receive regulatory approval or is not successfully commercialized, our business may be harmed. The success of our business, including our ability to finance our company and generate revenue in the future, will primarily depend on the successful development, regulatory

approval and commercialization of ~~CT1812~~ **zervimesine** , currently our only clinical- stage product candidate. To date, we have invested a significant portion of our efforts and financial resources in the development of ~~CT1812~~ **zervimesine** for the treatment of AD **and DLB** . Our future success is substantially dependent on our ability to successfully complete clinical development for, obtain regulatory approval for and successfully commercialize ~~CT1812~~ **zervimesine** , which may never occur. We expect that a substantial portion of our efforts and expenditures over the next few years will be devoted to ~~CT1812~~ **zervimesine** , which will require additional clinical development, management of clinical and manufacturing activities, regulatory approval in multiple jurisdictions, obtaining manufacturing supply, building of a commercial organization, substantial investment and significant marketing efforts before we can generate any revenues from any commercial sales. We cannot be certain that we will be able to successfully complete any of these activities. Furthermore, while inhibition of Aβ oligomers has been validated as a therapeutic approach, the use of small molecule receptor antagonists, such as ~~CT1812~~ **zervimesine** , to inhibit the synaptic binding and signaling of soluble Aβ oligomers is an innovative therapeutic approach, which exposes us to certain risks. For example, we may discover unforeseen safety events or that ~~CT1812~~ **zervimesine** does not possess certain properties required for therapeutic effectiveness. Even if found to be effective in one type of disease, ~~CT1812~~ **zervimesine** , or the associated therapeutic approach, may not be effective in other diseases. In addition, given our therapeutic approach, designing preclinical studies and clinical trials to demonstrate its effect is complex and exposes us to risks. ~~The~~ **57The** research, testing, manufacturing, labeling, approval, sale, marketing and distribution of drug products are subject to extensive regulation by the FDA and comparable regulatory authorities in other countries. We are not permitted to market ~~CT1812~~ **zervimesine** in the United States until we receive approval of an NDA from the FDA, or in any foreign countries until we receive the requisite approval from such countries. We have not submitted an NDA to the FDA or comparable applications to other regulatory authorities for ~~CT1812~~ **zervimesine** and may not be in a position to do so for several years, if ever. If we are unable to obtain the necessary regulatory approvals for ~~CT1812~~ **zervimesine** , we will not be able to commercialize ~~CT1812~~ **zervimesine** in AD ~~, GA secondary to dry AMD~~ , PD and DLB or other age- related degenerative diseases and disorders of the CNS and retina, and our financial position will be materially adversely affected and we may not be able to generate sufficient revenue to continue our business. We will need to increase the size of our organization, and we may experience difficulties in managing growth. As of March 1, ~~2024~~ **2025** , we had 25 full- time and 3 part- time employees. We will need to continue to expand our managerial, operational, finance and other resources in order to manage our operations and clinical trials, continue our development activities and commercialize ~~CT1812~~ **zervimesine** , our lead product candidate, or any future product candidates. Our management and personnel, systems and facilities currently in place may not be adequate to support this future growth and we expect will lead to increasing costs. Our need to effectively execute our growth strategy requires that we: ● manage our clinical trials effectively; ● identify, recruit, retain, incentivize and integrate additional employees, including personnel focused on research and development and, if our product candidates receive marketing approval, sales; ~~65~~ ● manage our internal development and operational efforts effectively while carrying out our contractual obligations to third parties; and ● continue to improve our operational, financial and management controls, reports systems and procedures. Our future financial performance and our ability to develop, manufacture and commercialize ~~CT1812~~ **zervimesine** and our product candidates, if approved, will depend, in part, on our ability to effectively manage any future growth, and our management may also have to divert financial and other resources, and a disproportionate amount of its attention away from day- to- day activities in order to devote a substantial amount of time, to managing these growth activities. If we are not able to effectively expand our organization by hiring new employees and expanding our groups of consultants and contractors, we may not be able to successfully implement the tasks necessary to further develop and commercialize ~~CT1812~~ **zervimesine** , if approved, and our product candidates and, accordingly, may not achieve our research, development and commercialization goals. If we fail to attract and retain senior management and key scientific personnel, our business may be materially and adversely affected. Our success depends in part on our continued ability to attract, retain and motivate highly qualified management and clinical and scientific personnel. We are highly dependent upon members of our senior management, particularly our President and Chief Executive Officer, Lisa Ricciardi, as well as our senior scientists and other members of our management team. The loss of services of any of these individuals could delay or prevent the successful development of our product pipeline, initiation or completion of our planned clinical trials or the commercialization of our product candidates or any future product candidates. ~~Competition~~ **58Competition** for qualified personnel in the biopharmaceutical field is intense due to the limited number of individuals who possess the skills and experience required by our industry. We will need to hire additional personnel as we expand our clinical development and if we initiate commercial activities. We may not be able to attract and retain quality personnel on acceptable terms, or at all. The expansion of our operations may lead to significant costs and may divert our management and business development resources. Any inability to manage growth or raise funds to support our growth could delay the execution of our business plans or disrupt our operations. In addition, to the extent we hire personnel from competitors, we may be subject to allegations that they have been improperly solicited or that they have divulged proprietary or other confidential information, or that their former employers own their research output. If product liability lawsuits are brought against us, we may incur substantial liabilities and may be required to limit commercialization of our current or future product candidates. We face an inherent risk of product liability as a result of the clinical testing of our product candidates and will face an even greater risk if we commercialize any products. For example, we may be sued if any product we develop allegedly causes injury or is found to be otherwise unsuitable during product testing, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability and breach of warranty. Claims could also be asserted under state consumer protection acts. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit commercialization of our product candidates. Even a successful defense would require significant financial and management resources. Regardless of the merits or eventual outcome, liability claims may result in: ● decreased demand for our current or future product candidates; ● injury to our

reputation; ● withdrawal of clinical trial participants; ● costs to defend the related litigation; ● diversion of management' s time and our resources; ~~66~~ ● substantial monetary awards to trial participants or patients; ● regulatory investigations, product recalls, withdrawals or labeling, marketing or promotional restrictions; ● loss of revenue; and ● the inability to commercialize our current or any future product candidates. If we are unable to obtain and maintain sufficient product liability insurance at an acceptable cost and scope of coverage to protect against potential product liability claims, the commercialization of our current or any future product candidates we develop could be inhibited or prevented. We currently carry product liability insurance covering our clinical trials. Although we maintain such insurance, any claim that may be brought against us could result in a court judgment or settlement in an amount that is not covered, in whole or in part, by our insurance or that is in excess of the limits of our insurance coverage. Our insurance policies also have various exclusions and deductibles, and we may be subject to a product liability claim for which we have no coverage. We will have to pay any amounts awarded by a court or negotiated in a settlement that exceed our coverage limitations or that are not covered by our insurance, and we may not have, or be able to obtain, sufficient funds to pay such amounts. Moreover, in the future, we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses. If and when we obtain approval for marketing any of our product candidates, we intend to expand our insurance coverage to include the sale of such product candidate; however, we may be unable to obtain this liability insurance on commercially reasonable terms or at all. ~~We~~ **59We** may explore strategic collaborations that may never materialize or may fail. We may attempt to broaden the global reach of our platform by selectively collaborating with leading therapeutic companies and other organizations. As a result, we may periodically explore a variety of possible additional strategic collaborations in an effort to gain access to additional product candidates or resources. At the current time, we cannot predict what form such a strategic collaboration might take. In the event we do form such collaborations, we intend to retain significant economic and commercial rights to our programs in key geographic areas that are core to our long- term strategy. 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. We may seek to grow our business through acquisitions of complementary businesses, and the failure to manage acquisitions, or the failure to integrate them with our existing business, could harm our financial condition and operating results. From time to time, we may consider opportunities to acquire other companies, products or technologies that may enhance our manufacturing capabilities, expand the breadth of our markets or customer base, or advance our business strategies. Potential acquisitions involve numerous risks, including: problems assimilating the acquired service offerings, products or technologies; issues maintaining uniform standards, procedures, quality control and policies; unanticipated costs associated with acquisitions; diversion of management' s attention from our existing business; risks associated with entering new markets in which we have limited or no experience; increased legal and accounting costs relating to the acquisitions or compliance with regulatory matters; and unanticipated or undisclosed liabilities of any target. We have no current commitments with respect to any acquisition. We do not know if we will be able to identify acquisitions we deem suitable, whether we will be able to successfully complete any such acquisitions on favorable terms or at all, or whether we will be able to successfully integrate any acquired service offerings, products or technologies. Our potential inability to integrate any business, products or technologies effectively may adversely affect our business, results of operations and financial condition. ~~67Significant~~ -- **Significant** disruptions of information technology systems and infrastructure, **data** breaches ~~of data security~~ and other **cybersecurity** incidents could materially adversely affect our business, results of operations and financial condition. We collect and maintain information in digital and other forms that is necessary to conduct our business, and we are increasingly dependent on information technology systems and infrastructure to operate our business. In the ordinary course of our business, we collect, store and transmit large amounts of confidential information, including intellectual property, proprietary business information and personal information. It is critical that we do so in a secure manner to maintain the privacy, security, confidentiality and integrity of such confidential information. We have established physical, electronic and organizational measures designed to safeguard and secure our systems and infrastructure to prevent a data compromise, and rely on commercially available systems, software, tools and monitoring to provide security for our information technology systems and infrastructure and the processing, transmission and storage of digital information. We have also outsourced elements of our information technology infrastructure, and as a result a number of third- party vendors may have access to our confidential information. Our internal information technology systems and infrastructure, and those of any future collaborators and our contractors, consultants, vendors and other third parties on which we rely, are vulnerable to damage, disruption, security compromise or incident, or other unauthorized access or use resulting from computer viruses, malware, natural disasters, terrorism, war, telecommunication and electrical failures, cyber- attacks or cyber- intrusions ~~over the~~ **, malicious** ~~Internet~~ **internet - based activity** , ~~denial or degradation of service~~ **online and offline fraud, phishing** attacks ~~, ransomware, hacking, phishing schemes intended to cause an unauthorized transfer of funds~~ and other social engineering **schemes, denial or degradation of service** attacks, **ransomware** ~~attachments to emails~~ , ~~persons~~ **hacking, wrongful conduct by** ~~inside~~ **insider employees** ~~our~~ - **or vendors,** ~~organization or persons with access to systems and~~ data ~~inside our organization~~ **breaches, and other similar activities** . **Such threats are prevalent and continue to rise, are increasingly difficult to detect, and come from a variety of sources.** ~~The~~ **60The** risk of a security compromise, incident, breach or disruption, particularly through cyber- attacks or cyber intrusion, including by computer hackers, foreign governments and cyber terrorists, has generally increased as the number, intensity and sophistication of attempted attacks and intrusions from around the world have increased. The prevalent use of mobile devices that access confidential information also increases the risk of lost or stolen devices, security incidents and data ~~security compromises or~~ breaches, which could lead to the loss of confidential information, including intellectual property, proprietary business information and personal information. ~~We may face increased risks of a~~ **Like other companies in our industry, we, and our third party vendors, have experienced and will continue to experience**

threats and ~~security~~ **cybersecurity** ~~compromise, incident~~ **incidents** ~~, breach~~ **relating to** ~~or~~ **our** ~~disruption~~ **information technology systems and infrastructure. Further, and** due to our reliance on internet technology and **based on** the number of our employees who work on a hybrid basis, at home and in the office ~~. This~~ **, there** may ~~create additional~~ **be increased** opportunities for ~~cybercriminals~~ **bad actors** to exploit **security** vulnerabilities. The costs to us to investigate, mitigate and remediate security incidents, compromises, **data** breaches, disruptions, network security problems, bugs, viruses, worms, malicious software programs and security vulnerabilities could be significant. **Additionally, 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 privacy and data security obligations. Further, although we maintain cyber liability insurance, this insurance may not provide adequate coverage against potential liabilities related to any experienced cybersecurity incident or breach.** We have in the past experienced threats related to our data and systems, including phishing attacks, and we ~~may~~ **will** in the future experience ~~other~~ **such** threats **and cybersecurity incidents** ~~, compromises or breaches affecting confidential information~~ . While we have implemented security measures designed to protect our data security and information technology systems and infrastructure, our efforts to address these problems may not be successful, and these problems could result in unexpected interruptions, delays, cessation of service, negative publicity and other harm to our business and our competitive position. If such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our product development programs. For example, the loss or misappropriation of clinical trial data from completed or ongoing or planned clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. Any security compromise affecting us, our partners or our industry, whether real or perceived, could harm our reputation, erode confidence in the effectiveness of our security measures and lead to regulatory scrutiny. Moreover, if a computer security compromise or breach affects our systems or infrastructure or results in the unauthorized access to or unauthorized use, disclosure, release or other processing of personal information or clinical trial data, it may be necessary to notify **affected** individuals, governmental authorities, ~~supervisory bodies~~ **regulatory agencies** , the media and other parties pursuant to privacy and security laws, and our reputation could be materially damaged. We would also be exposed to a risk of loss, governmental investigations or enforcement, litigation, fines, penalties, and other potential legal and financial exposure and liability, which could materially adversely affect our business, results of operations and financial condition. ~~68Failure~~ -- **Failure** to comply with health and data protection laws and regulations could lead to government enforcement actions and civil or criminal penalties, private litigation or adverse publicity and could negatively affect our operating results and business. We are subject to or affected by federal, state and foreign data protection laws and regulations that address privacy and data security. In the United States, numerous federal and state laws and regulations, including the U. S. federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 and its implementing regulations, or HITECH, state data breach notification laws, state health information privacy laws and federal and state consumer protection laws, including Section 5 of the Federal Trade Commission Act, which govern the collection, use, disclosure and protection of health- related and other personal information, may apply to our operations and the operations of any future collaborators. In addition, we may obtain health information from third parties, including research institutions from which we obtain clinical trial data, that are subject to privacy and security requirements under HIPAA, as amended by HITECH, and other privacy and data security laws. Depending on the facts and circumstances, we could be subject to significant administrative, civil and criminal penalties if we obtain, use or disclose individually identifiable health information maintained by a HIPAA- covered entity in a manner that is not authorized or permitted by HIPAA. Further, various states have implemented similar privacy laws and regulations. ~~For~~ **61For** example, California also recently enacted the California Consumer Privacy Act of 2018, or CCPA. The CCPA gives California residents expanded rights to access and delete their personal information, opt out of certain personal information sharing and receive detailed information about how their personal information is used. The CCPA also 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. The CCPA went into effect on January 1, 2020 and grants the California Attorney General the power to bring enforcement actions for violations beginning July 1, 2020. The CCPA has been amended from time to time, and it remains unclear what, if any, further modifications will be made to this legislation or how it will be interpreted. As currently written, the CCPA may impact our business activities and as a result may increase our compliance costs and potential liability. Many similar privacy laws have been proposed at the federal level and in other states. Foreign data protection laws, including Regulation 2016 / 679, known as the General Data Protection Regulation, or GDPR, may also apply to health- related and other personal information data subjects in the European Union or the United Kingdom. The GDPR went into effect on May 25, 2018. Companies that must comply with the GDPR face increased compliance obligations and risk, including robust regulatory enforcement of data protection requirements as well as potential fines for noncompliance of up to € 20 million or 4 % of annual global revenue of the noncompliance company, whichever is greater. The GDPR imposes numerous requirements for the collection, use, storage and disclosure of personal information of European Union or United Kingdom data subjects, including requirements relating to providing notice to and obtaining consent from data subjects, personal data breach notification, cross- border transfers of personal information, and honoring and providing for the rights of European Union or United Kingdom individuals in relation to their personal information, including the right to access, correct and delete their data. Compliance with U. S. and foreign data protection laws and regulations could require us to take on more onerous obligations in our contracts, require us to engage in costly compliance exercises, restrict our ability to collect, use and disclose data, or in some cases, impact our or our partners' or suppliers' ability to operate in certain jurisdictions. Failure to comply with U. S. and foreign data protection laws and regulations could result in government investigations and / or enforcement actions, fines, civil or criminal penalties, private litigation or adverse publicity and could negatively affect our operating results and business. Moreover, clinical trial subjects about whom we or any of our potential collaborators obtain information, as well as the providers who

share this information with us, may contractually limit our ability to use and disclose the information. Claims that we have violated individuals' privacy rights, failed to comply with data protection laws or breached our contractual obligations, even if we are not found liable, could be expensive and time consuming to defend and could result in adverse publicity that could materially and adversely affect our business, financial condition, results of operations and prospects. ~~69Our~~ **62Our** employees and independent contractors, including principal investigators, consultants, any future commercial collaborators, service providers and other vendors, may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, which could have an adverse effect on our results of operations. We are exposed to the risk that our employees and independent contractors, including principal investigators, consultants, any future commercial collaborators, service providers and other vendors may engage in misconduct or other illegal activity. Misconduct by these parties could include intentional, reckless and / or negligent conduct or other unauthorized activities that violate the laws and regulations of the FDA and other similar regulatory bodies, including those laws that require the reporting of true, complete and accurate information to such regulatory bodies; manufacturing standards; U. S. federal and state healthcare fraud and abuse, data privacy laws and other similar non- U. S. laws; or laws that require the true, complete and accurate reporting of financial information or data. Activities subject to these laws also involve the improper use or misrepresentation of information obtained in the course of clinical trials, the creation of fraudulent data in our preclinical studies or clinical trials, or illegal misappropriation of product, which could result in regulatory sanctions and cause serious harm to our reputation. It is not always possible to identify and deter misconduct by 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 such laws or regulations. In addition, we are subject to the risk that a person or government could allege such fraud or other misconduct, even if none occurred. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business and financial results, including, without limitation, the imposition of significant civil, criminal and administrative penalties, damages, monetary fines, disgorgements, possible exclusion from participation in Medicare, Medicaid and other U. S. healthcare programs, other sanctions, imprisonment, contractual damages, reputational harm, diminished profits and future earnings and curtailment of our operations, any of which could adversely affect our ability to operate our business and our results of operations. **Environmental, social and governance matters may impact our business and reputation. In addition to the changing rules and regulations related to environmental, social and governance, or ESG, matters imposed by governmental and self- regulatory organizations, a variety of third- party organizations, institutional investors and customers evaluate the performance of companies on ESG topics, and the results of these assessments are widely publicized. These changing rules, regulations and stakeholder expectations have resulted in, and are likely to continue to result in, increased general and administrative expenses and increased management time and attention spent complying with or meeting such regulations and expectations. Reduced access to or increased cost of capital may occur as financial institutions and investors increase expectations related to ESG matters. Developing and acting on initiatives within the scope of ESG, and collecting, measuring and reporting ESG- related information and metrics can be costly, difficult and time consuming and is subject to evolving reporting standards. We may also communicate certain initiatives and goals, regarding environmental matters, social investments and other ESG- related matters, in our SEC filings or in other public disclosures. These initiatives and goals within the scope of ESG could be difficult and expensive to implement, the technologies needed to implement them may not be cost effective and may not advance at a sufficient pace, and we could be criticized for the accuracy, adequacy or completeness of the disclosure. Furthermore, statements about our ESG- related initiatives and goals, and progress against those goals, may be based on standards for measuring progress that are still developing, internal controls and processes that continue to evolve and assumptions that are subject to change in the future. In addition, we could be criticized for the scope or nature of such initiatives or goals, or for any revisions to these goals. If our ESG- related data, processes and reporting are incomplete or inaccurate, or if we fail to achieve progress with respect to our goals, including our previously announced commitments to reduce greenhouse gas emissions, within the scope of ESG on a timely basis, or at all, our reputation, business, financial performance and growth could be adversely affected. In addition, in recent years " anti- ESG " sentiment has gained momentum across the U. S., with several states and Congress having proposed or enacted " anti- ESG " policies, legislation, or initiatives or issued related legal opinions. Such anti- ESG policies, legislation, initiatives, litigation, legal opinions, and scrutiny could result in the Company facing additional compliance obligations, becoming the subject of investigations and enforcement actions, or sustaining reputational harm.** ~~Risks~~ **63Risks** Related to Our Intellectual PropertyIf we are unable to obtain and maintain patent protection for our technology and product candidates including our lead product candidate, ~~CT1812~~ **zervimesine** , 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, and will continue to rely, upon a combination of patents, trademarks, trade secret protection and confidentiality agreements with employees, consultants, collaborators, advisors and other third parties to protect the intellectual property related to our current and future drug development programs and product 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 technology and product candidates. We seek to protect our proprietary position by filing patent applications in the United States and abroad related to our current and future drug development programs and product candidates, successfully defend our intellectual property rights against third- party challenges and successfully enforce our intellectual property rights to prevent third- party infringement. 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. We may choose not to seek patent protection for certain innovations or products and may choose not to pursue patent protection in

certain jurisdictions, and under the laws of certain jurisdictions, patents or other intellectual property rights may be unavailable or limited in scope and, in any event, any patent protection we obtain may be limited. As a result, some of our product candidates are not, and in the future may not be, protected by patents. We generally apply for patents in those countries where we intend to make, have made, use, offer for sale, or sell products and where we assess the risk of infringement to justify the cost of seeking patent protection. However, we do not seek protection in all countries where we intend to sell products and we may not accurately predict all the countries where patent protection would ultimately be desirable. If we fail to timely file a patent application in any such country, we may be precluded from doing so at a later date. The patent applications that we own may fail to result in issued patents with claims that cover any of our product candidates in the United ~~70States~~ **States** or in other foreign countries. We may also inadvertently make statements to regulatory agencies during the regulatory approval process that may be inconsistent with positions that have been taken during prosecution of our patents, which may result in such patents being narrowed, invalidated or held unenforceable, and vice versa that may affect the regulatory approval process. The patents and patent applications that we own may fail to result in issued patents with claims that protect any of our product candidates in the United States or in other foreign countries. We cannot guarantee any current or future patents will provide us with any meaningful protection or competitive advantage. There is no assurance that all of the potentially relevant prior art relating to our patents and patent applications has been found, which can prevent a patent from issuing from a pending patent application, or be used to invalidate a patent. The examination process may require us to narrow our claims, which may limit the scope of patent protection that we may obtain. Even if patents do successfully issue based on our patent applications, and even if such patents cover our product candidates, uses of our product candidates, or other aspects related to our product candidates, third parties may challenge their validity, enforceability or scope, which may result in such patents being narrowed, invalidated or held unenforceable, any of which could limit our ability to prevent competitors and other third parties from developing and marketing similar products or limit the length of terms of patent protection we may have for our products and technologies. Other companies may also design around technologies we have patented or developed. Any successful opposition to these patents or any other patents owned by us in the future could deprive us of rights necessary for the successful commercialization of any of our product candidates, if approved. Further, if we encounter delays in regulatory approvals, the period of time during which we could market a product candidate under patent protection could be reduced. If any of our patents are challenged, invalidated, circumvented by third parties or otherwise limited or expire prior to the commercialization of our products, and if we do not own or have exclusive rights to other enforceable patents protecting our products or other technologies, competitors and other third parties could market products and use processes that are substantially similar to, or superior to, ours and our business would suffer. ~~If~~ **64If** the patent applications we hold with respect to our development programs and product candidates fail to issue, if their breadth or strength of protection is threatened, or if they fail to provide meaningful exclusivity for any of our product candidates, it could dissuade companies from collaborating with us to develop product candidates, and threaten our ability to commercialize, future products. Our pending applications cannot be enforced against third parties practicing the technology claimed in such applications unless and until a patent issues from such applications. Any such outcome could harm 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. The standards that the U. S. Patent and Trademark Office, or USPTO, and its foreign counterparts use to grant patents are not always applied predictably or uniformly. In addition, the laws of foreign countries may not protect our rights to the same extent as the laws of the United States, and many companies have encountered significant problems in protecting and defending such rights in foreign jurisdictions. For example, European patent law restricts the patentability of methods of treatment of the human body more than U. S. 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 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 product candidates, in whole or in part, or which effectively prevent others from commercializing competitive technologies and products. 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. Patent reform legislation in the United States, including the Leahy- Smith America Invents Act, or the Leahy- Smith Act, could increase those uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents. The Leahy- Smith Act was signed into law on September 16, 2011 and includes a number of significant changes to U. S. patent law. These include provisions that affect the way patent ~~71applications~~ **applications** are prosecuted, redefine prior art and provide more efficient and cost- effective avenues for competitors to challenge the validity of patents. These include allowing third- party submission of prior art to the USPTO during patent prosecution and additional procedures to attack the validity of a patent by USPTO administered post- grant proceedings, including post- grant review, inter partes review, and derivation proceedings. After March 15, 2013, under the Leahy- Smith Act, the United States transitioned to a first inventor to file system in which, assuming that the other statutory requirements are met, the first inventor to file a patent application will be entitled to the patent on an invention regardless of whether a third party was the first to invent the claimed invention. The Leahy- Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications, our ability to obtain future patents, and the enforcement or defense of our issued patents, all of which could harm our business, financial condition, results of operations and prospects. 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 owned patent rights. 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 products and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize products 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 product candidates. ~~The~~ **65The** issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our patents may be challenged in the courts or patent offices in the United States and abroad. 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 products, or limit the duration of the patent protection of our technology and products. Moreover, patents have a limited lifespan. In the United States, the natural expiration of a patent is generally 20 years after it is filed. 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 product candidates, we may be open to competition from generic versions of such products. Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours. We may not be able to protect our intellectual property rights throughout the world. Filing, prosecuting and defending patents on our product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States can be less extensive than those in the United States. The requirements for patentability may differ in certain countries, particularly developing countries, and the breadth of patent claims allowed can be inconsistent. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and may also export infringing products to territories where we have patent protection, but enforcement is not as strong as that in the United States. These products may compete with our products and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing. We do not have patent rights in certain foreign countries in which a market may exist. Moreover, in foreign jurisdictions where we do have patent rights, proceedings to enforce such rights could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly, and our patent applications at risk of not issuing. Additionally, such proceedings could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate and the damages ~~72or~~ **or** other remedies awarded, if any, may not be commercially meaningful. Thus, we may not be able to stop a competitor from marketing and selling in foreign countries products and services that are the same as or similar to our products and services, and our competitive position in the international market would be harmed. Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets, and other intellectual property protection, particularly those relating to biotechnology products, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our proprietary rights generally. Proceedings to enforce our patent rights in foreign jurisdictions, whether or not successful, could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop. ~~Patent~~ **66Patent** terms may be inadequate to protect our competitive position on our product candidates including our lead product candidate, ~~CT1812~~ **zervimesine** , for an adequate amount of time. Patents have a limited lifespan. In the United States, if all maintenance fees are timely paid, the natural expiration of a patent is generally 20 years from its earliest U. S. non- provisional filing date. Various extensions may be available, but the life of a patent, and the protection it affords, is limited. In the United States, a patent' s term may be lengthened by patent term adjustment, which compensates a patentee for administrative delays by the USPTO in examining and granting a patent, or may be shortened if a patent is terminally disclaimed over an earlier filed patent. Even if patents covering our product candidates are obtained, once the patent life has expired, we may be open to competition from competitive products, including generics or biosimilars. Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours. We expect to seek extensions of patent terms in the United States and, if available, in other countries where we are prosecuting patents. Depending upon the timing, duration and specifics of FDA marketing approval of our drug candidates, one or more of our U. S. patents may be eligible for limited patent term extension, or PTE, under the Drug Price Competition and Patent Term Restoration Act of 1984, or the Hatch- Waxman Amendments. The Hatch- Waxman Amendments permit a patent restoration term of up to five years beyond the normal expiration of the patent as compensation for patent term lost during development and the FDA regulatory review process, which is limited to the approved indication (and potentially additional indications approved during the period of extension) covered by the patent. This extension is limited to only one patent that covers the approved product, the approved use of the product, or a method of manufacturing the product. 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. We may

not be granted an extension because of, for example, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents or otherwise failing to satisfy applicable requirements. Moreover, the applicable time- period or the scope of patent protection afforded could be less than we request. Even if we are able to obtain an extension, the patent term may still expire before or shortly after we receive FDA marketing approval. If we are unable to extend the expiration date of our existing patents or obtain new patents with longer expiry dates, our competitors may be able to take advantage of our investment in development and clinical trials by ~~73referencing~~ **referencing** our clinical and preclinical data to obtain approval of competing products following our patent expiration and launch their product earlier than might otherwise be the case. ~~If~~ **67If** we do not obtain protection under the Hatch- Waxman Amendments by obtaining data exclusivity, our business may be harmed. Our commercial success will largely depend on our ability to obtain market exclusivity in the United States and other countries with respect to our drug candidates and their target indications. Depending upon the timing, duration and specifics of FDA marketing approval of our drug candidates, certain of our product candidates may be eligible for marketing exclusivity. The Food, Drug and Cosmetic Act, or FDCA, provides a five- year period of non- patent marketing exclusivity within the United States to the first applicant to obtain approval of an NDA for an NCE. A drug is an NCE if the FDA has not previously approved any other new drug containing the same active moiety, which is the molecule or ion responsible for the action of the drug substance. If market exclusivity is granted for an NCE, during the exclusivity period, the FDA may not accept for review or approve an abbreviated new drug application, or ANDA, or a 505 (b) (2) NDA submitted by another company for another version of such drug where the applicant does not own or have a legal right of reference to all the data required for approval. However, an application may be submitted after four years if it contains a certification of patent invalidity or non- infringement to one of the patents listed in the Orange Book, with the FDA by the innovator NDA holder. The FDCA also provides three years of marketing exclusivity for an NDA, or supplement to an existing NDA if new clinical investigations, other than bioavailability studies, that were conducted or sponsored by the applicant are deemed by the FDA to be essential to the approval of the application, for example new indications, dosages, dosage forms or strengths of an existing drug. This three- year exclusivity covers only the conditions associated with the new clinical investigations and prohibits the FDA from approving an ANDA or a 505 (b) (2) NDA submitted by another company with overlapping conditions associated with the new clinical investigations for the three- year period. Clinical investigation exclusivity does not prohibit the FDA from approving ANDAs for drugs containing the original active agent. Five- year and three- year exclusivity will not delay the submission or approval of an NDA for the same drug. However, an applicant submitting an NDA would be required to conduct or obtain a right of reference to all of the preclinical studies and adequate and well- controlled clinical trials necessary to demonstrate safety and effectiveness. If we are unable to obtain such marketing exclusivity for our product candidates, our competitors may be able to take advantage of our investment in development and clinical trials by referencing our clinical and preclinical data to obtain approval of competing products and launch their product earlier than might otherwise be the case. The validity, scope and enforceability of any patents listed in the Orange Book that cover our product candidates including our lead product candidate ~~CT1812~~ **zervimesine** can be challenged by third parties. If one of our product candidates is approved by the FDA, one or more third parties may challenge the current patents, or patents that may issue in the future, within our portfolio which could result in the invalidation of, or render unenforceable, some or all of the relevant patent claims or a finding of non- infringement. For example, if a third party files an application under Section 505 (b) (2) or an ANDA for a generic drug containing any of our product candidates, and relies in whole or in part on studies conducted by or for us, the third party will be required to certify to the FDA that either: (1) there is no patent information listed in the Orange Book with respect to our NDA for the applicable approved drug candidate; (2) the patents listed in the Orange Book have expired; (3) the listed patents have not expired, but will expire on a particular date and approval is sought after patent expiration; or (4) the listed patents are invalid or will not be infringed by the manufacture, use or sale of the third party' s generic drug. A certification that the new drug will not infringe the Orange Book- listed patents for the applicable approved drug candidate, or that such patents are invalid, is called a paragraph IV certification. If the third party submits a paragraph IV certification to the FDA, a notice of the paragraph IV certification must also be sent to us once the third party' s ANDA is accepted for filing by the FDA. We may then initiate a lawsuit to defend the patents identified in the notice. The filing of a patent infringement lawsuit within 45 days of receipt of the notice automatically prevents the FDA from approving the third party' s ANDA until the earliest of 30 months or the date on which the patent expires, the lawsuit is settled, or the court reaches a decision in the infringement lawsuit in favor of the third party. If we do not ~~74file~~ **file** a patent infringement lawsuit within the required 45- day period, the third party' s ANDA will not be subject to the 30- month stay of FDA approval. ~~Morcover~~ **68Moreover**, a third party may challenge the current patents, or patents that may issue in the future, within our portfolio which could result in the invalidation of some or all of the patents that might otherwise be eligible for listing in the Orange Book for one of our products. If a third party successfully challenges all of the patents that might otherwise be eligible for listing in the Orange Book for one of our products, we will not be entitled to the 30- month stay of FDA approval upon the filing of an ANDA for a generic drug containing any of our product candidates, and relies in whole or in part on studies conducted by or for us. Litigation or other proceedings to enforce or defend intellectual property rights are often very complex in nature, may be very expensive and time- consuming, may divert our management' s attention from our core business, and may result in unfavorable results that could limit our ability to prevent third parties from competing with our drug candidates. Obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for noncompliance with these requirements. Periodic maintenance fees on any issued patent are due to be paid to the USPTO and other foreign patent agencies in several stages over the lifetime of the patent. The USPTO and various foreign national or international patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can

result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Noncompliance events that could result in abandonment or lapse of patent rights include, but are not limited to, failure to timely file national and regional stage patent applications based on our international patent application, failure to respond to official actions within prescribed time limits, non- payment of fees and failure to properly legalize and submit formal documents. If we fail to maintain the patents and patent applications covering any of our product candidates, our competitors might be able to enter the market earlier than anticipated, which would harm our business. We may need to license intellectual property from third parties, and such licenses may not be available or may not be available on commercially reasonable terms. The issuance of a patent does not give us the right to practice the patented invention. A third party may hold intellectual property, including patent rights, that are important or necessary to the development of our product candidates. Third parties may also have blocking patents that could prevent us from marketing our products or practicing our own patented technology. It may be necessary for us to use the patented or proprietary technology of third parties to commercialize our drug candidates, in which case we would be required to obtain a license from these third parties on commercially reasonable terms. Such a license may not be available, or it may not be available on commercially reasonable terms, in which case our business would be harmed. The risks described elsewhere pertaining to our intellectual property rights also apply to any intellectual property rights that we may in- license, and any failure by us or our potential licensors to obtain, maintain, defend and enforce these rights could harm our business. In some cases we may not have control over the prosecution, maintenance or enforcement of the patents that we may license, and may not have sufficient ability to provide input into the patent prosecution, maintenance and defense process with respect to such patents, and our potential licensors may fail to take the steps that we believe are necessary or desirable in order to obtain, maintain, defend and enforce the licensed patents. ~~75Third~~ **69Third** - party claims or litigation alleging infringement of patents or other proprietary rights, or seeking to invalidate patents or other proprietary rights, may delay or prevent the development and commercialization of any of our product candidates including our lead product candidate, ~~CT1812~~ **zervimesine** . Our commercial success depends in part on our avoiding infringement and other violations of the patents and proprietary rights of third parties. However, while certain research, development and commercialization activities may be protected by the safe harbor provision of the Hatch Waxman Act, other activities may subject to claims that we infringe or otherwise violate patents or other intellectual property rights owned or controlled by third parties. There is a substantial amount of litigation, both within and outside the United States, involving patent and other intellectual property rights in the biotechnology and pharmaceutical industries, including patent infringement lawsuits, interferences, derivation and administrative law proceedings, inter partes review and post- grant review before the USPTO, as well as oppositions and similar processes in foreign jurisdictions. Numerous United States and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we and our collaborators are developing product candidates. As the biotechnology and pharmaceutical industries expand and more patents are issued, and as we gain greater visibility and market exposure as a public company, the risk increases that our product candidates or other business activities may be subject to claims of infringement of the patent and other proprietary rights of third parties. Third parties may assert that we are infringing their patents or employing their proprietary technology without authorization. There may be third- party patents or patent applications with claims to materials, formulations, methods of manufacture or methods for treatment related to the use or manufacture of our product candidates. Because patent applications can take many years to issue, there may be currently pending patent applications that may later result in issued patents that our product candidates may infringe. In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents. If any third- party patents were held by a court of competent jurisdiction to cover the manufacturing process of any of our product candidates, any molecules formed during the manufacturing process or any final product itself, the holders of any such patents may be able to block our ability to commercialize such product candidate unless we obtained a license under the applicable patents, or until such patents expire. Similarly, if any third- party patent was to be held by a court of competent jurisdiction to cover aspects of our formulations, processes for manufacture or methods of use, including combination therapy, the holders of any such patent may be able to block our ability to develop and commercialize the applicable product candidate unless we obtained a license or until such patent expires. In either case, such a license may not be available on commercially reasonable terms or at all. In addition, we may be subject to claims that we are infringing other intellectual property rights, such as trademarks or copyrights, or misappropriating the trade secrets of others, and to the extent that our employees, consultants or contractors use intellectual property or proprietary information owned by others in their work for us, disputes may arise as to the rights in related or resulting know- how and inventions. Parties making claims against us may obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize one or more of our product candidates. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business. In the event of a successful infringement or other intellectual property claim against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, obtain one or more licenses from third parties, pay royalties or redesign our affected products, which may be impossible or require substantial time and monetary expenditure. We cannot predict whether any such license would be available at all or whether it would be available on commercially reasonable terms. Furthermore, even in the absence of litigation, we may need to obtain licenses from third parties to advance our research or allow commercialization of our product candidates, and we have done so from time to time. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all. In that event, we would be unable to further develop and commercialize one or more of our product candidates, which could harm our business significantly. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative impact on our business. ~~Some~~ **70Some** of our competitors may be able to sustain the costs of complex intellectual property litigation more effectively than we can because they have substantially greater resources. In addition, intellectual property litigation, regardless of its outcome, may cause negative publicity, adversely impact prospective customers,

cause product ~~76shipment~~ -- **shipment** delays, or prohibit us from manufacturing, marketing or otherwise commercializing our products, services and technology. Any uncertainties resulting from the initiation and continuation of any litigation could adversely impact our ability to raise additional funds or otherwise harm our business, results of operation, financial condition or cash flows. 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, which could adversely impact the price of our common shares. If securities analysts or investors perceive these results to be negative, it could adversely impact the price of our common shares. The occurrence of any of these events may harm our business, results of operation, financial condition or cash flows. We cannot provide any assurances that third- party patents do not exist which might be enforced against our drugs or product candidates, resulting in either an injunction prohibiting our sales, or, with respect to our sales, an obligation on our part to pay royalties or other forms of compensation to third parties. We may not identify relevant third- party patents or may incorrectly interpret the relevance, scope or expiration of a third- party patent, which might harm our ability to develop and market our products. We cannot guarantee that any of our patent searches or analyses, including the identification of relevant patents, the scope of patent claims or the expiration of relevant patents, are complete or thorough, nor can we be certain that we have identified each and every third- party patent and pending application in the United States and abroad that is or may be relevant to or necessary for the commercialization of our product candidates in any jurisdiction. Patent applications in the United States and elsewhere are not published until approximately 18 months after the earliest filing for which priority is claimed, with such earliest filing date being commonly referred to as the priority date. In addition, U. S. patent applications filed before November 29, 2000 and certain U. S. patent applications filed after that date that will not be filed outside the United States remain confidential until patents issue. Therefore, patent applications covering our products could have been filed by others without our knowledge. Additionally, pending patent applications that have been published can, subject to certain limitations, be later amended in a manner that could cover our product candidates or the use of our products. The scope of a patent claim is determined by an interpretation of the law, the written disclosure in a patent and the patent' s prosecution history. Our interpretation of the relevance or the scope of a patent or a pending application may be incorrect, which may negatively impact our ability to market our products. We may incorrectly determine that our products are not covered by a third- party patent or may incorrectly predict whether a third party' s pending application will issue with claims of relevant scope. Our determination of the expiration date of any patent in the United States or abroad that we consider relevant may be incorrect, and our failure to identify and correctly interpret relevant patents may negatively impact our ability to develop and market our products. If we fail to identify and correctly interpret relevant patents, we may be subject to infringement claims. We cannot guarantee that we will be able to successfully settle or otherwise resolve such infringement claims. If we fail in any such dispute, in addition to being forced to pay damages, we may be temporarily or permanently prohibited from commercializing any of our products that are held to be infringing. We might, if possible, also be forced to redesign products or services so that we no longer infringe the third- party intellectual property rights. Any of these events, even if we were ultimately to prevail, could require us to divert substantial financial and management resources that we would otherwise be able to devote to our business. ~~We~~ **71We** may become involved in lawsuits to protect or enforce our patents or our other intellectual property rights, which could be expensive, time consuming and unsuccessful. Competitors may infringe or otherwise violate our patents 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 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 ~~77patents~~ -- **patents** do not cover the technology in question. As a result, we cannot predict with certainty how much protection, if any, will be given to our patents if we attempt to enforce them and they are challenged in court. Further, even if we prevail against an infringer in U. S. district court, there is always the risk that the infringer will file an appeal and the district court judgment will be overturned at the appeals court and / or that an adverse decision will be issued by the appeals court relating to the validity or enforceability of our patents. 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 written description or 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. 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 product candidates. We may not be able to detect or prevent 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. Even if we establish infringement, the court may decide not to grant an injunction against further infringing activity and instead award only monetary damages, which may or may not be an adequate remedy. Furthermore, because of the substantial amount of

discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. 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 harm the price of our common shares. Because of the expense and uncertainty of litigation, we may not be in a position to enforce our intellectual property rights against third parties. Because of the expense and uncertainty of litigation, we may conclude that even if a third party is infringing our issued patent, any patents that may be issued as a result of our pending or future patent applications or other intellectual property rights, the risk- adjusted cost of bringing and enforcing such a claim or action may be too high or not in the best interest of our company or our stockholders. In such cases, we may decide that the more prudent course of action is to simply monitor the situation or initiate or seek some other non- litigious action or solution. ~~Changes~~ **72Changes** 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 protects our product including our lead product candidate, ~~CT1812~~ **zervimesine** . The United States has recently enacted and implemented wide- ranging patent reform legislation. In addition, patent reform legislation may pass in the future that could lead to additional uncertainties and increased costs surrounding the prosecution, enforcement and defense of our patents and pending patent applications. The United States 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 United States ~~78Congress~~ -- **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 own 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 own or that we may obtain in the future. We cannot predict future changes in the interpretation of patent laws or changes to patent laws that might be enacted into law by United States and foreign legislative bodies. Those changes may materially affect our patents or patent applications and our ability to obtain additional patent protection in the future. The United States federal government retains certain rights in inventions produced with its financial assistance under the Bayh- Dole Act. The federal government retains a " nonexclusive, nontransferable, irrevocable, paid- up license " for its own benefit. The Bayh- Dole Act also provides federal agencies with " march- in rights. " March- in rights allow the government, in specified circumstances, to require the contractor or successors in title to the patent to grant a " nonexclusive, partially exclusive, or exclusive license " to a " responsible applicant or applicants. " If the patent owner refuses to do so, the government may grant the license itself. We may not be able to protect our intellectual property rights throughout the world, which could impair our business. Filing, prosecuting and defending patents covering any of our product 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 products and, further, may export otherwise infringing products to territories where we may obtain patent protection, but where patent enforcement is not as strong as that in the United States. These products may compete with our products in jurisdictions where we do not have any issued patents and any future patent claims or other intellectual property rights may not be effective or sufficient to prevent them from so competing. We do not have patent rights in certain foreign countries in which a market may exist. Moreover, many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of some countries do not favor the enforcement of patents and other intellectual property protection, which could make it difficult for us to stop the infringement of our patents generally. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing and could provoke third parties to assert claims against us. Additionally, such proceedings could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate, and the damages or other remedies awarded, if any, may not be commercially meaningful. Thus, we may not be able to stop a competitor from marketing and selling in foreign countries products and services that are the same as or similar to our products and services, and our competitive position in the international market would be harmed. Many countries, including European Union countries, India, Japan and China, have compulsory licensing laws under which a patent owner may be compelled under specified circumstances to grant licenses to third parties. In those countries, we may have limited remedies if patents are infringed or if we are compelled to grant a license to a third party, which could materially diminish the value of those patents. This could limit our potential revenue opportunities. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop. ~~Our~~ **73Our** 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. Because we expect to rely on third parties to manufacture our product candidates and expect to continue to collaborate with third parties on the development of our product candidates, we must, at times, share trade secrets with them. 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 ~~79our~~ -- **our** competitors, are inadvertently incorporated into the technology of others, or are disclosed or used in violation of these agreements. Any disclosure, either intentional or unintentional, by our employees, the employees of third parties with whom we share our facilities or third- party consultants and

vendors that we engage to perform research, clinical trials or manufacturing activities, or misappropriation by third parties (such as through a cybersecurity breach) of our trade secrets or proprietary information could enable competitors to duplicate or surpass our technological achievements, thus eroding our competitive position in our market. Further, adequate remedies may not exist in the event of unauthorized use or disclosure. 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 would impair our competitive position and may harm 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, although our agreements may contain certain limited publication rights. Policing unauthorized use of our intellectual property is difficult, expensive and time- consuming, and we may be unable to determine the extent of any unauthorized use. Moreover, enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, some courts inside and outside the United States are less willing or unwilling to protect trade secrets. 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 of our third- party collaborators. A competitor' s discovery of our trade secrets would impair our competitive position and have an adverse impact on our business. We may be subject to claims that our employees, consultants, independent contractors or we have wrongfully used or disclosed confidential information of their former employers or other third parties. We do and may employ individuals who were previously employed at universities or other biotechnology or pharmaceutical companies, competitors or potential competitors. Although we seek to protect our ownership of intellectual property rights by ensuring that our agreements with our employees, collaborators and other third parties with whom we do business include provisions requiring such parties to assign rights in inventions to us and to not use the confidential information of their former employer, we may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise used or disclosed confidential information of our employees' former employers or other third parties. Litigation may be necessary to defend against these claims. There is no guarantee of success in defending these claims, and if we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Such intellectual property rights could be awarded to a third party, and we could be required to obtain a license from such third party to commercialize our technology or product candidates. Such a license may not be available on commercially reasonable terms or at all. Even if we are successful, litigation could result in substantial cost and be a distraction to our management and other employees. Moreover, any such litigation or the threat thereof may harm our reputation, our ability to form strategic alliances or sublicense our rights to collaborators, engage with scientific advisors or hire employees or consultants, each of which would harm our business, results of operations and financial condition. ~~We~~ **74We** may be subject to claims challenging the inventorship or ownership of our patents and other intellectual property. We may be subject to claims that former employees, collaborators or other third parties have an interest in our patents, trade secrets, or other intellectual property as an inventor or co-inventor. For example, we may have inventorship disputes arise from conflicting obligations of employees, consultants or others who are involved in developing our product candidates. Litigation may be necessary to defend against these and other claims challenging inventorship or our ownership of our patents, trade secrets or other intellectual property. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, intellectual property that is important to our product candidates. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees. Any of the foregoing could harm our business, financial condition, results of operations and prospects. ~~80In~~ **In** addition, while it is our policy to require our employees and contractors who may be involved in the development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who in fact develops intellectual property that we regard as our own. Our and their assignment agreements may not be self- executing or may be breached, and we may be forced to bring claims against third parties, or defend claims they may bring against us, to determine the ownership of what we regard as our intellectual property. If we fail in prosecuting or 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 prosecuting or defending against such claims, litigation could result in substantial costs and be a distraction to management. Intellectual property litigation could cause us to spend substantial resources and distract our personnel from their normal responsibilities, and have a harmful effect on the success of our business. Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses, and could distract our technical and management personnel from their normal responsibilities. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments, and if securities analysts or investors perceive these results to be negative, it could adversely impact the price of our common shares. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing or distribution activities. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources. Accordingly, despite our efforts, we may not be able to prevent third parties from infringing upon or misappropriating our intellectual property. In addition, the uncertainties associated with litigation could compromise our ability to raise the funds necessary to continue our clinical trials and internal research programs. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could compromise our ability to compete in the marketplace, including compromising our ability to raise the funds necessary to continue our clinical trials, continue our research programs, license necessary technology from third parties, or enter into development collaborations that would help us commercialize our product candidates, if approved. ~~If~~ **75If** we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be harmed. In addition to

seeking patents for our product candidates, we also rely on trade secrets, including unpatented know- how, technology and other proprietary information, to maintain our competitive position. We seek to protect our trade secrets, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to them, such as our employees, corporate collaborators, outside scientific collaborators, contract manufacturers, consultants, advisors and other third parties. We also enter into confidentiality and invention or patent assignment agreements with our employees and consultants. Despite these efforts, any of these parties may breach the agreements and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. Monitoring unauthorized uses and disclosures of our intellectual property is difficult, and we do not know whether the steps we have taken to protect our intellectual property will be effective. In addition, we may not be able to obtain adequate remedies for any such breaches. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time- consuming, and the outcome is unpredictable. In addition, some courts inside and outside the United States are less willing or unwilling to protect trade secrets. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent them, or those to whom they communicate it, from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to or independently developed by a competitor, our competitive position would be harmed. ~~81Any~~ **Any** trademarks we have obtained or may obtain may be infringed or successfully challenged, resulting in harm to our business. We expect to rely on trademarks as one means to distinguish any of our drug candidates that are approved for marketing from the products of our competitors. Once we select new trademarks and apply to register them, our trademark applications may not be approved. Third parties may oppose or attempt to cancel our trademark applications or trademarks, or otherwise challenge our use of the trademarks. In the event that our trademarks are successfully challenged, we could be forced to rebrand our drugs, which could result in loss of brand recognition and could require us to devote resources to advertising and marketing new brands. Our competitors may infringe our trademarks and we may not have adequate resources to enforce our trademarks. If we attempt to enforce our trademarks and assert trademark infringement claims, a court may determine that the marks we have asserted are invalid or unenforceable, or that the party against whom we have asserted trademark infringement has superior rights to the marks in question. In this case, we could ultimately be forced to cease use of such trademarks. Our intellectual property agreements with third parties may be subject to disagreements over contract interpretation, which could narrow the scope of our rights to the relevant intellectual property or technology. Certain provisions in our intellectual property agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could affect the scope of our rights to the relevant intellectual property or technology, or affect financial or other obligations under the relevant agreement, either of which could harm our business, financial condition, results of operations and prospects. For example, the NIA has provided grants to fund certain of our preclinical activities and clinical trials. If the United States or another jurisdiction decides that the NIA grant bestows rights to our patent applications, that could affect our ability to obtain valid and enforceable patent claims protecting our rights as they relate to our lead product candidate, ~~CT1812~~ **zervimesine** , our other product candidates and our NICE platform. As a consequence of these and other factors, our patent applications may fail to result in issued patents with claims that cover our product candidates in the United States or in other countries. Such a loss of patent protection could harm our business. ~~Intellectual~~ **76Intellectual** property rights do not necessarily address all potential threats to our competitive advantage. Once granted, patents may remain open to invalidity challenges including opposition, interference, re- examination, post- grant review, inter partes review, nullification or derivation action in court or before patent offices or similar proceedings for a given period after allowance or grant, during which time third parties can raise objections against such grant. In the course of such proceedings, which may continue for a protracted period of time, the patent owner may be compelled to limit the scope of the allowed or granted claims thus attacked, or may lose the allowed or granted claims altogether. In addition, 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, provide a barrier to entry against our competitors or potential competitors, or permit us to maintain our competitive advantage. Moreover, if a third party has intellectual property rights that cover the practice of our technology, we may not be able to fully exercise or extract value from our intellectual property rights. The following examples are illustrative: ● others may be able to make product that is similar to product candidates we intend to commercialize that is not covered by the patents that we own; ● we, or any collaborators might not have been the first to make or reduce to practice the inventions covered by the issued patents or pending patent applications that we own; ● we or any collaborators 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; ~~82~~ ● issued patents that we own may not provide us with any competitive advantages, or may be held invalid or unenforceable as a result 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 products for sale in our major commercial markets; and we may not develop additional proprietary technologies that are patentable; ● third parties performing manufacturing or testing for us using our products or technologies could use the intellectual property of others without obtaining a proper license; ● parties may assert an ownership interest in our intellectual property and, if successful, such disputes may preclude us from exercising exclusive rights over that intellectual property; ● we may not develop additional proprietary technologies that are patentable; ● we may not be able to obtain and maintain necessary licenses on commercially reasonable terms, or at all; and ● the patents of others may harm our business. Should any of these events occur, they could significantly harm our business and results of operations. ~~Risks~~ **77Risks** Related to Commercialization, Manufacturing and Reliance on Third PartiesEven if our current or future product candidates obtain regulatory approval, they may fail to achieve the broad degree of adoption and use by physicians, patients, hospitals, healthcare payors and others in the

medical community necessary for commercial success. Even if one or more of our product candidates receive FDA or other regulatory approvals, they may nonetheless fail to gain sufficient market acceptance by physicians, patients, healthcare payors and others in the medical community. Most of our product candidates target mechanisms for which there are limited or no currently approved products, which may result in slower adoption by physicians, patients and payors. If our product candidates do not achieve an adequate level of acceptance, we may not generate significant product revenue and we may not become profitable. The degree of market acceptance of our product candidates, if approved for commercial sale, will depend on a number of factors, including: ● the clinical indications for which the product is approved and patient demand for approved products that treat those indications; ● the safety and efficacy of our product as compared to other available therapies; ● the availability of coverage and adequate reimbursement from governmental healthcare plans or third party payors for any of our product candidates that may be approved; ● acceptance by physicians, operators of clinics and patients of the product as a safe and effective treatment; ● physician and patient willingness to adopt a new therapy over other available therapies to treat approved indications; ● overcoming any biases physicians or patients may have toward particular therapies for the treatment of approved indications; ● proper training and administration of our product candidates by physicians and medical staff; ● public misperception regarding the use of our therapies, if approved for commercial sale; ● patient satisfaction with the results and administration of our product candidates and overall treatment experience, including, for example, the convenience of any dosing regimen; ● the cost of treatment with our product candidates in relation to alternative treatments and reimbursement levels, if any, and willingness to pay for the product, if approved, on the part of insurance companies and other third- party payors, physicians and patients; ● the revenue and profitability that our products may offer a physician as compared to alternative therapies; ● limitations or warnings contained in the FDA- approved labeling for our products; ~~83~~ ● any FDA requirement to undertake a REMS; ● the effectiveness of our sales, marketing and distribution efforts; ● adverse publicity about our products or favorable publicity about competitive products; and ● potential product liability claims. We cannot assure you that our current or future product candidates, if approved, will achieve broad market acceptance among physicians, patients, healthcare payors and others in the medical community. Even if we receive regulatory approval to market any of our product candidates, we cannot assure you that any such product candidate will be more effective than other commercially available alternatives or successfully commercialized. Any approval we may obtain could be for indications or patient populations that are not as broad as intended or desired or may require labeling that includes significant use or distribution restrictions or safety warnings. We may also be required to perform additional or unanticipated clinical trials to obtain approval or be subject to additional post- marketing testing requirements to maintain approval. In addition, regulatory authorities may withdraw their approval of a product or impose restrictions on its distribution, such as in the form of a REMS. Any failure by our product candidates that obtain regulatory approval to achieve market acceptance or commercial success would adversely affect our reputation, ability to raise additional capital, financial condition, results of operations and business prospects. ~~The~~ **78The** market opportunities for ~~CT1812~~ **zervimesine** , if approved, may be smaller than we anticipate. We expect to initially seek approval for ~~CT1812~~ **zervimesine** for AD ~~, GA secondary to dry AMD~~ , PD and DLB and other age- related degenerative diseases and disorders of the CNS and retina. Our estimates of market potential have been derived from a variety of sources, including scientific literature, patient foundations and market research and may prove to be incorrect. Even if we obtain significant market share for ~~CT1812~~ **zervimesine** after FDA approval, the potential target populations may be too small to consistently generate revenue, and we may never achieve profitability without obtaining marketing approval for additional indications. We rely on third- party suppliers to manufacture our product candidates, and we intend to rely on third parties to produce commercial supplies of any approved product. The loss of these suppliers, or their failure to comply with applicable regulatory requirements or to provide us with sufficient quantities at acceptable quality levels or prices, or at all, would materially and adversely affect our business, financial condition, results of operations and prospects. We do not currently have **,** nor do we plan to build or acquire the infrastructure or **internal** capability ~~internally~~ to manufacture supplies of our product candidates or the materials necessary to produce our product candidates for use in ~~the conduct~~ **conducting** ~~of~~ our preclinical studies or clinical trials, and we lack the internal resources and the capability to manufacture any of our product candidates on a preclinical, clinical or commercial scale. The facilities used by our contract manufacturers to manufacture our product candidates are subject to various regulatory requirements and may be subject to the inspection of the FDA or other regulatory authorities. We do not control the manufacturing processes of, and are completely dependent on, our contract manufacturing partners for compliance with the regulatory requirements, known as cGMPs. If our contract manufacturers cannot successfully manufacture material that conforms to our specifications and the strict regulatory requirements of the FDA or comparable regulatory authorities in foreign jurisdictions, we may not be able to rely on their manufacturing facilities for the manufacture of our product candidates. In addition, we have limited control over the ability of our contract manufacturers to maintain adequate quality control, quality assurance and qualified personnel. If the FDA or a comparable foreign regulatory authority finds these facilities inadequate for the manufacture of our product candidates or if such facilities are subject to enforcement action in the future or are otherwise inadequate, we may need to find alternative manufacturing facilities, which we may not be able to do on reasonable terms, if at all, ~~,~~ which would significantly impact our ability to develop, obtain regulatory approval for or market our product candidates. In some cases, the technical skills required to manufacture our product candidates may be unique or proprietary to the original manufacturer and we may have difficulty, or there may be contractual restrictions prohibiting us from, transferring such skills to a back- up or alternate supplier, or we may be unable to transfer such skills at all. In addition, if we are required to change CMOs for any reason, we will be required to verify that the new manufacturer maintains facilities ~~84and~~ -- **and** procedures that comply with quality standards and with all applicable regulations. The delays associated with the verification of a new manufacturer could negatively affect our ability to develop product candidates in a timely manner or within budget. In addition, changes in manufacturers often involve changes in manufacturing procedures and processes, which could require that we conduct bridging studies between our prior clinical supply used in our clinical trials and that of any new manufacturer. We may

be unsuccessful in demonstrating the comparability of clinical supplies which could require the conduct of additional clinical trials. We currently rely on third parties at key stages in our supply chain. For instance, the supply chains for our lead product candidate involves several manufacturers that specialize in specific operations of the manufacturing process, specifically, raw materials manufacturing, drug substance manufacturing and drug product manufacturing. As a result, the supply chain for the manufacturing of our product candidates is complicated, **but not atypical,** and we expect the logistical challenges associated with our supply chain to grow more complex as our product candidates are further developed. ~~We~~ **79We** do not have ~~any~~ **complete** control over the process or timing of the acquisition or manufacture of materials by our manufacturers. We generally do not begin preclinical **studies** or clinical trials unless we believe we have access to a sufficient supply of a product candidate to complete such study. In addition, any significant delay in, or quality control problems with respect to, the supply of a product candidate, or the raw material components thereof, for an ongoing study could considerably delay completion of our preclinical or clinical trials, product testing and potential regulatory approval of our product candidates. We have not yet engaged any manufacturers for the commercial supply of our product candidates. Although we intend to enter into such agreements prior to commercial launch of any of our product candidates, if approved, we may be unable to enter into any such agreement or do so on commercially reasonable terms, which could have a material adverse impact upon our business. Moreover, if there is a disruption to one or more of our third- party manufacturers' or suppliers' relevant operations, or if we are unable to enter into arrangements for the commercial supply of our product candidates, if approved, we will have no other means of producing our product candidates until they restore the affected facilities or we or they procure alternative manufacturing facilities or sources of supply. Our ability to progress our preclinical and clinical programs could be materially and adversely impacted if any of the third- party suppliers upon which we rely were to experience a significant business challenge, disruption or failure due to issues such as financial difficulties or bankruptcy, issues relating to other customers such as regulatory or quality compliance issues, or other financial, legal, regulatory or reputational issues. Additionally, any damage to or destruction of our third- party manufacturers' or suppliers' facilities or equipment may significantly impair our ability to manufacture our product candidates on a timely basis. In addition, to manufacture our product candidates in the quantities we believe would be required to meet anticipated market demand, our third- party manufacturers would likely need to increase manufacturing capacity and we may need to secure alternative sources of commercial supply, which could involve significant challenges and may require additional regulatory approvals. In addition, the development of commercial- scale manufacturing capabilities may require us and our third- party manufacturers to invest substantial additional funds and hire and retain the technical personnel who have the necessary manufacturing experience. Neither we nor our third- party manufacturers may successfully complete any required increase to existing manufacturing capacity in a timely manner, or at all. If our manufacturers or we are unable to purchase the raw materials necessary for the manufacture of our product candidates on acceptable terms, at sufficient quality levels or in adequate quantities, if at all, the commercial launch of our product candidates, if approved, would be delayed or there would be a shortage in supply, which would impair our ability to generate revenues from the sale of such product candidates, if approved. ~~85Our~~ -- **Our** product candidates have never been manufactured on a commercial scale, and there are risks associated with scaling up manufacturing to commercial scale. In particular, we will need to develop a larger scale manufacturing process that is more efficient and cost- effective to commercialize our potential products, which may not be successful. Our product candidates have never been manufactured on a commercial scale, and there are risks associated with scaling up manufacturing to commercial scale including, among others, cost overruns, potential problems with process scale- up, process reproducibility, stability issues, lot consistency and timely availability of raw materials. There is no assurance that our third- party manufacturers will be successful in establishing a larger- scale commercial manufacturing process for our product candidates which achieves our objectives for manufacturing capacity and cost of goods. In addition, there is no assurance that our third-party manufacturers will be able to manufacture our product candidates to specifications acceptable to the FDA or other regulatory authorities, to produce it in sufficient quantities to meet the requirements for the potential launch of such products or to meet potential future demand. Our failure to properly or adequately scale up manufacturing for commercial scale would adversely affect our business, results of operations and financial condition. ~~We~~ **80We** rely on third parties in the conduct of all of our clinical trials. If these third parties do not successfully carry out their contractual duties, fail to comply with applicable regulatory requirements or meet expected deadlines, we may be unable to obtain regulatory approval for our product candidates. We currently do not have the ability to independently conduct clinical trials that comply with the regulatory requirements known as good laboratory practice, or GLP, requirements or GCP requirements, respectively. The FDA and regulatory authorities in other jurisdictions require us to comply with GCP requirements for conducting, monitoring, recording and reporting the results of clinical trials, in order to ensure that the data and results are scientifically credible and accurate and that the trial subjects are adequately informed of the potential risks of participating in clinical trials. We rely on medical institutions, clinical investigators, contract laboratories and other third parties, such as CROs, to conduct GLP- compliant preclinical studies and GCP- compliant clinical trials on our product candidates properly and on time. While we have agreements governing their activities, we control only certain aspects of their activities and have limited influence over their actual performance. The third parties with whom we contract for execution of our GLP- compliant preclinical studies and our GCP- compliant clinical trials play a significant role in the conduct of these studies and the subsequent collection and analysis of data. These third parties are not our employees and, except for restrictions imposed by our contracts with such third parties, we have limited ability to control the amount or timing of resources that they devote to our programs. Although we rely on these third parties to conduct our GLP-compliant preclinical studies and GCP- compliant clinical trials, we remain responsible for ensuring that each of our 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. Many of the third parties with whom we contract may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting preclinical studies, clinical trials or other drug development activities that could harm our competitive

position. If the third parties conducting our preclinical studies or our clinical trials do not adequately perform their contractual duties or obligations, experience significant business challenges, disruptions or failures, do not meet expected deadlines, terminate their agreements with us or need to be replaced, or if the quality or accuracy of the data they obtain is compromised due to their failure to adhere to our protocols or to GLPs or GCPs, or for any other reason, we may need to enter into new arrangements with alternative third parties. This could be difficult, costly or impossible, and our preclinical studies or clinical trials may need to be extended, delayed, terminated or repeated. As a result we may not be able to obtain regulatory approval in a timely fashion, or at all, for the applicable product candidate, our business, financial results and the commercial prospects for our product candidates would be harmed, our costs could increase, and our ability to generate revenues could be delayed. ~~86We~~ **We** face significant competition in an environment of rapid technological and scientific change, and there is a possibility that our competitors may achieve regulatory approval before us or develop therapies that are safer, more advanced or more effective than ours, which may negatively impact our ability to successfully market or commercialize any product candidates we may develop and ultimately harm our financial condition. The development and commercialization of new drug products is highly competitive. Moreover, the neurodegenerative field is characterized by strong and increasing competition, and a strong emphasis on intellectual property. We may face competition with respect to any of our product candidates that we seek to develop or commercialize in the future from major pharmaceutical companies, specialty pharmaceutical companies, and biotechnology companies worldwide. Potential competitors also include academic institutions, government agencies, and other public and private research organizations that conduct research, seek patent protection, and establish collaborative arrangements for research, development, manufacturing, and commercialization. ~~There~~ **81There** are a number of large pharmaceutical and biotechnology companies that are currently pursuing the development of product candidates for the treatment of the diseases and disorders for which we have research programs, including AD ~~, dry AMD~~ , PD and DLB. Companies developing therapeutics for similar indications include large companies with significant financial resources, such as AbbVie, AstraZeneca, Biogen, Celgene **(as acquired by Bristol Myers Squibb)** , Eli Lilly, GlaxoSmithKline, Johnson & Johnson, Novartis, Pfizer, Roche, Sanofi and Takeda. In addition to competition from other companies targeting neurodegenerative indications, any products we may develop may also face competition from other types of therapies. Many of our current or potential competitors, either alone or with their strategic partners, have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals, and marketing approved products than we do. Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller or early- stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs. Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient, or are less expensive than any products that we may develop. Furthermore, currently approved products could be discovered to have application for treatment of age- related degenerative diseases and disorders, which could give such products significant regulatory and market timing advantages over any of our product candidates. Our competitors also may obtain FDA, EMA or other regulatory approval for their products more rapidly than we may obtain approval for ours and may obtain orphan product exclusivity from the FDA for indications our product candidates are targeting, which could result in our competitors establishing a strong market position before we are able to enter the market. Additionally, products or technologies developed by our competitors may render our potential product candidates uneconomical or obsolete, and we may not be successful in marketing any product candidates we may develop against competitors. In addition, we could face litigation or other proceedings with respect to the scope, ownership, validity and / or enforceability of our patents relating to our competitors' products and our competitors may allege that our products infringe, misappropriate or otherwise violate their intellectual property. The availability of our competitors' products could limit the demand, and the price we are able to charge, for any products that we may develop and commercialize. See " Risks Related to Our Intellectual Property. " The successful commercialization of our product candidates will depend in part on the extent to which governmental authorities and health insurers establish adequate coverage, reimbursement levels and pricing policies. Failure to obtain or maintain coverage and adequate reimbursement for our product candidates, if approved, could limit our ability to market those products and decrease our ability to generate revenue. ~~87The~~ -- **The** successful commercialization of our product candidates, if approved, will depend in part on the extent to which governmental authorities and health insurers establish adequate coverage, reimbursement levels and pricing policies. Failure to obtain or maintain coverage and adequate reimbursement for our product candidates, if approved, could limit our ability to market those drugs and decrease our ability to generate revenue. The availability and adequacy of coverage and reimbursement by governmental healthcare programs such as Medicare and Medicaid, private health insurers and other third- party payors are essential for most patients to be able to afford prescription medications such as our product candidates, if approved. Our ability to achieve acceptable levels of coverage and reimbursement for products by governmental authorities, private health insurers and other organizations will have an effect on our ability to successfully commercialize our product candidates, if approved. Even if we obtain coverage for our product candidates, if approved, by a third- party payor, the resulting reimbursement payment rates may not be adequate or may require co- payments that patients find unacceptably high. We cannot be sure that coverage and reimbursement in the United States, the European Union or elsewhere will be available for our product candidates, if approved, or any product that we may develop, and any reimbursement that may become available may be decreased or eliminated in the future. ~~Third~~ **82Third** - party payors increasingly are challenging prices charged for biopharmaceutical products and services, and many third- party payors may refuse to provide coverage and reimbursement for particular drugs or biologics when an equivalent generic drug, biosimilar or a less expensive therapy is available. It is possible that a third- party payor may consider our product candidates as substitutable

and only offer to reimburse patients for the cost of the less expensive product. Even if we show improved efficacy or improved convenience of administration with our product candidates, pricing of existing third- party therapeutics may limit the amounts we will be able to charge for our product candidates. These payors may deny or revoke the reimbursement status of a given product or establish prices for new or existing marketed products at levels that are too low to enable us to realize an appropriate return on our investment in our product candidates. If reimbursement is not available or is available only at limited levels, we may not be able to successfully commercialize our product candidates, if approved, and may not be able to obtain a satisfactory financial return on our investment in the development of product candidates. There is significant uncertainty related to the insurance coverage and reimbursement of newly- approved products. In the United States, third- party payors, and governmental healthcare plans, such as the Medicare and Medicaid programs, play an important role in determining the extent to which new drugs and biologics will be covered. The Medicare and Medicaid programs increasingly are used as models in the United States for how private payors and other governmental payors develop their coverage and reimbursement policies for drugs and biologics. Some third- party payors may require pre- approval of coverage for new or innovative devices or drug therapies before they will reimburse healthcare providers who use such therapies. We cannot predict at this time what third- party payors will decide with respect to the coverage and reimbursement for our product candidates. No uniform policy for coverage and reimbursement for products exists among third- party payors in the United States. Therefore, coverage and reimbursement for products can differ significantly from payor to payor. As a result, the coverage determination process is often a time- consuming and costly process that will require us to provide scientific and clinical support for the use of our product candidates to each payor separately, with no assurance that coverage and adequate reimbursement will be applied consistently or obtained in the first instance. Furthermore, rules and regulations regarding reimbursement change frequently, in some cases on short notice, and we believe that changes in these rules and regulations are likely. Outside the United States, international operations are generally subject to extensive governmental price controls and other market regulations, and we believe the increasing emphasis on cost- containment initiatives in Europe and other foreign jurisdictions have and will continue to put pressure on the pricing and usage of our product candidates. In many countries, the prices of medical products are subject to varying price control mechanisms as part of national health systems. Other countries allow companies to fix their own prices for medical products, but monitor and control company profits. Additional foreign price controls or other changes in pricing regulation could restrict the amounts that we are able to charge for our product candidates. Accordingly, in markets outside the United States, the reimbursement for our product candidates may be reduced compared with the United States and may be insufficient to generate commercially- reasonable revenue and profits. ~~88Moreover --~~ **Moreover** , increasing efforts by governmental and third- party payors in the United States and abroad to cap or reduce healthcare costs may cause such organizations to limit both coverage and the level of reimbursement for newly approved products, and, as a result, they may not cover or provide adequate payment for our product candidates. We expect to experience pricing pressures in connection with the sale of our product candidates due to the trend toward managed health care, the increasing influence of health maintenance organizations and additional legislative changes. The downward pressure on healthcare costs in general, particularly prescription drugs and biologics and surgical procedures and other treatments, has become intense. As a result, increasingly high barriers are being erected to the entry of new products. ~~We~~ **83We** currently have no sales organization. If we are unable to establish sales capabilities on our own or through third parties, we may not be able to market and sell our product candidates, if approved, effectively in the United States and foreign jurisdictions or generate product revenue. We currently do not have a marketing or sales organization. In order to commercialize our product candidates, if approved, in the United States and foreign jurisdictions, we must build our marketing, sales, distribution, managerial and other non- technical capabilities or make arrangements with third parties to perform these services, and we may not be successful in doing so. If any of our product candidates receive regulatory approval, we expect to establish a sales organization with technical expertise and supporting distribution capabilities to commercialize each such product candidate, which will be expensive and time consuming. We have no prior experience in the marketing, sale and distribution of biopharmaceutical products, and there are significant risks involved in building and managing a sales organization, including our ability to hire, retain and incentivize qualified individuals, generate sufficient sales leads, provide adequate training to sales and marketing personnel and effectively manage a geographically dispersed sales and marketing team. Any failure or delay in the development of our internal sales, marketing and distribution capabilities would adversely impact the commercialization of these products. We may choose to collaborate with third parties that have direct sales forces and established distribution systems, either to augment our own sales force and distribution systems or in lieu of our own sales force and distribution systems. If we are unable to enter into such arrangements on acceptable terms or at all, we may not be able to successfully commercialize our product candidates. If we are not successful in commercializing our product candidates or any future product candidates, either on our own or through arrangements with one or more third parties, we may not be able to generate any future product revenue and we would incur significant additional losses. Risks Related to Government RegulationEven if we obtain regulatory approval for a product candidate, our products will remain subject to regulatory scrutiny. If our product candidates are approved, they will be subject to ongoing regulatory requirements for manufacturing, labeling, packaging, storage, advertising, promotion, sampling, record- keeping, conduct of post- marketing studies and submission of safety, efficacy and other post- market information, including both federal and state requirements in the United States and requirements of comparable foreign regulatory authorities. Manufacturers and manufacturers' facilities are required to comply with extensive FDA and comparable foreign regulatory authority requirements, including ensuring that quality control and manufacturing procedures conform to cGMP regulations. As such, we and our contract manufacturers will be subject to continual review and inspections to assess compliance with cGMPs and adherence to commitments made in any approved marketing application. Accordingly, we and others with whom we work must continue to expend time, money and effort in all areas of regulatory compliance, including manufacturing, production and quality control. We will have to comply with requirements concerning advertising and promotion for any future products. Promotional communications with respect to

prescription drugs and biologics are subject to a variety of legal and regulatory restrictions and must be consistent with the information in the product' s approved label. We may not promote products for indications or uses for which they do not have approval. The holder of an approved application must submit new or supplemental applications and obtain approval for certain changes to the approved product, product labeling or manufacturing process. We could also be asked to conduct post- marketing clinical trials to verify ~~89the~~ -- **the** safety and efficacy of our products in general or in specific patient subsets. An unsuccessful post- marketing study or failure to complete such a study could result in the withdrawal of marketing approval. ~~If~~ **84If** a regulatory agency discovers previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured, or disagrees with the promotion, marketing or labeling of a product, such regulatory agency may impose restrictions on that product or us, including requiring withdrawal of the product from the market. If we fail to comply with applicable regulatory requirements, a regulatory agency or enforcement authority may, among other things: ● issue warning letters, untitled letters, or Form 483s; ● impose civil or criminal penalties; ● suspend or withdraw regulatory approval; ● suspend any of our clinical trials; ● refuse to approve pending applications or supplements to approved applications submitted by us; ● impose restrictions on our operations, including closing our contract manufacturers' facilities; or ● seize or detain products, or require a product recall. Any government investigation of alleged violations of law could require us to expend significant time and resources in response, and could generate negative publicity. Any failure to comply with ongoing regulatory requirements may significantly and adversely affect our ability to commercialize and generate revenue from any future products. If regulatory sanctions are applied or if regulatory approval is withdrawn, the value of our company and our operating results will be adversely affected. Healthcare legislation, including potentially unfavorable pricing regulations or other healthcare reform initiatives, may increase the difficulty and cost for us to obtain marketing approval of and commercialize our product candidates. The United States and many foreign jurisdictions have enacted or proposed legislative and regulatory changes affecting the healthcare system, including implementing cost- containment programs to limit the growth of government- paid healthcare costs, including price controls, restrictions on reimbursement and requirements for substitution of generic products for branded prescription products. In recent years, Congress has considered reductions in Medicare reimbursement levels for products administered by physicians. The Centers for Medicare & Medicaid Services, or CMS, the agency that administers the Medicare and Medicaid programs, also has authority to revise reimbursement rates and to implement coverage restrictions for some products. Cost reduction initiatives and changes in coverage implemented through legislation or regulation could decrease utilization of and reimbursement for any approved products. While Medicare regulations apply only to drug benefits for Medicare beneficiaries, private payers often follow Medicare coverage policy and payment limitations in setting their own reimbursement rates. Therefore, any reduction in reimbursement that results from federal legislation or regulation may result in a similar reduction in payments from private payers. The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Affordability Reconciliation Act, or collectively the Affordable Care Act substantially changed the way healthcare is financed by both governmental and private insurers, and significantly impacts the pharmaceutical industry. The Affordable Care Act is intended to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against healthcare fraud and abuse, add new transparency requirements for healthcare and health insurance industries, impose new taxes and fees on pharmaceutical and medical device manufacturers, and impose additional health policy reforms. Among other things, the Affordable Care Act expanded manufacturers' rebate liability under the Medicaid Drug Rebate Program by increasing the minimum Medicaid rebate for both branded and generic products, expanded the 340B program, and revised the definition of average manufacturer price, or AMP, which could increase the amount of Medicaid rebates manufacturers are required to pay to states. The legislation also extended Medicaid rebates, previously due only on fee- for- service Medicaid utilization, to include the utilization of Medicaid managed care organizations as well and created an alternative rebate formula for certain new formulations of certain existing products that is intended to increase the amount of rebates due on those products. There have been significant ongoing efforts to modify or eliminate the ~~90Affordable~~ -- **Affordable** Care Act. For example, the Tax Act, enacted on December 22, 2017, repealed the shared responsibility payment for individuals who fail to maintain minimum essential coverage under section 5000A of the Internal Revenue Code of 1986, as amended, or the Code or the individual mandate. ~~Other~~ **85Other** legislative changes have been proposed and adopted since the passage of the Affordable Care Act. The Budget Control Act of 2011, among other things, created measures for spending reductions by Congress that include aggregate reductions to Medicare payments to healthcare providers of up to 2. 0 % per fiscal year, which remain went into through 2031. The American Taxpayer Relief Act of 2012, among other things, reduced Medicare payments to several types of providers, including hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. The American Rescue Plan Act of 2021 eliminates the statutory Medicaid drug rebate cap, currently set at 100 % of a drug' s average manufacturer price, for single source and innovator multiple source drugs, beginning January 1, 2024. These laws and regulations may result in additional reductions in Medicare and other healthcare funding and otherwise affect the prices we may obtain for any of our product candidates for which we may obtain regulatory approval or the frequency with which any such product candidate is prescribed or used. The Inflation Reduction Act of 2022 contains substantial drug pricing reforms, including the establishment of a drug price negotiation program within the U. S. Department of Health and Human Services that would require manufacturers to charge a negotiated " maximum fair price " for certain selected drugs or pay an excise tax for noncompliance, the establishment of rebate payment requirements on manufacturers of certain drugs payable under Medicare Parts B and D to penalize price increases that outpace inflation, and requires manufacturers to provide discounts on Part D drugs. Substantial penalties can be assessed for noncompliance with the drug pricing provisions in the Inflation Reduction Act of 2022. The Inflation Reduction Act of 2022 could have the effect of reducing the prices we can charge and reimbursement we receive for our products, if approved, thereby reducing our profitability, and could have a material adverse effect on our financial condition,

results of operations and growth prospects. The effect of Inflation Reduction Act of 2022 on our business and the pharmaceutical industry in general is not yet known. The Affordable Care Act, or ACA, has also been subject to challenges in the courts. In the most recent such challenge in June, 2021, the Supreme Court ruled that the plaintiffs lacked standing to challenge the law as they had not alleged personal injury traceable to the allegedly unlawful conduct. As a result, the Supreme Court did not rule on the constitutionality of the ACA or any of its provisions. Further changes to and under the Affordable Care Act remain possible but it is unknown what form any such changes or any law proposed to replace or revise the Affordable Care Act would take, and how or whether it may affect our business in the future. We expect that changes to the Affordable Care Act, the Medicare and Medicaid programs and changes stemming from other healthcare reform measures, especially with regard to healthcare access, financing or other legislation in individual states, could have a material adverse effect on the healthcare industry. At the state level, legislatures have increasingly passed legislation and implemented regulations designed to control pharmaceutical product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. We expect that additional federal, state and foreign healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in limited coverage and reimbursement and reduced demand for our products, once approved, or additional pricing pressures. ~~91If~~ **86If** we develop a small molecule product candidate that obtains regulatory approval, additional competitors could enter the market with generic versions of such drugs, which may result in a material decline in sales of affected products. Under the Hatch- Waxman Act, a pharmaceutical manufacturer may file an ANDA seeking approval of a generic version of an approved, small molecule innovator product. Under the Hatch- Waxman Act, a manufacturer may also submit an NDA, under section 505 (b) (2) of the Federal Food, Drug, and Cosmetic Act that references the FDA' s prior approval of the small molecule innovator product. A 505 (b) (2) NDA product may be for a new or improved version of the original innovator product. The Hatch- Waxman Act also provides for certain periods of regulatory exclusivity, which preclude FDA approval (or in some circumstances, FDA filing and review) of an ANDA or 505 (b) (2) NDA. In addition to the benefits of regulatory exclusivity, an innovator NDA holder may have patents claiming the active ingredient, product formulation or an approved use of the drug, which would be listed with the product in the Orange Book. If there are patents listed in the Orange Book for a product, a generic or 505 (b) (2) applicant that seeks to market its product before expiration of the patents must include in their applications a paragraph IV certification, challenging the validity or enforceability of, or claiming non-infringement of, the listed patent or patents. Notice of the certification must be given to the patent owner and NDA holder and if, within 45 days of receiving notice, either the patent owner or NDA holder sues for patent infringement, approval of the ANDA or 505 (b) (2) NDA is stayed for up to 30 months. Accordingly, if we choose to develop a small molecule product candidate, and the product is approved, competitors could file ANDAs for generic versions of our small molecule drug products or 505 (b) (2) NDAs that reference our small molecule drug products. If there are patents listed for our small molecule drug products in the Orange Book, those ANDAs and 505 (b) (2) NDAs would be required to include a certification as to each listed patent indicating whether the ANDA applicant does or does not intend to challenge the patent. We cannot predict which, if any, patents in our current portfolio or patents we may obtain in the future will be eligible for listing in the Orange Book, how any generic competitor would address such patents, whether we would sue on any such patents, or the outcome of any such suit. We may not be successful in securing or maintaining proprietary patent protection for products and technologies we develop or license. Moreover, if any of our owned or in- licensed patents that are listed in the Orange Book are successfully challenged by way of a paragraph IV certification and subsequent litigation, the affected product could immediately face generic competition and its sales would likely decline rapidly and materially. Our business operations and current and future relationships with investigators, healthcare professionals, consultants, third- party payors, patient organizations and customers will be subject to applicable healthcare regulatory laws, which could expose us to penalties. Our activities are subject to various federal and state fraud and abuse laws, including, without limitation, the federal Anti- Kickback Statute, the federal civil False Claims Act, and laws and regulations pertaining to limitations on and reporting of healthcare provider payments (physician sunshine laws). These laws and regulations are interpreted and enforced by various federal, state and local authorities including CMS, the Office of Inspector General for the U. S. Department of Health and Human Services, the U. S. Department of Justice, individual U. S. Attorney offices within the Department of Justice, and state and local governments. These laws include: ● the U. S. federal Anti- Kickback Statute, which prohibits, among other things, persons or entities from knowingly and willfully soliciting, offering, receiving or paying any remuneration, directly or indirectly, overtly or covertly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, lease, order, or arranging for or recommending the purchase, lease or order of, any good or service, for which payment may be made, in whole or in part, under federal healthcare programs such as Medicare and Medicaid. A person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation; **87** ● the U. S. False Claims Act (which can be enforced through " qui tam, " or whistleblower actions, by private citizens on behalf of the federal government), prohibits any person from, among other things, knowingly presenting, or causing to be presented false or fraudulent claims for payment of government funds or knowingly making, using ~~92or~~ **or** causing to be made or used, a false record or statement material to an obligation to pay money to the government or knowingly and improperly avoiding, decreasing or concealing an obligation to pay money to the U. S. federal government; ● HIPAA, which imposes criminal liability and amends provisions on the reporting, investigation, enforcement, and penalizing of civil liability for, among other things, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, or knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement, in connection with the delivery of, or payment for healthcare benefits, items or services by a healthcare benefit program, which includes both government and privately funded benefits programs; similar to the U. S. federal Anti- Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to

violate it in order to have committed a violation; ● state laws and regulations, including state anti- kickback and false claims laws, that may apply to our business practices, including but not limited to, research, distribution, sales and marketing arrangements and claims involving healthcare items or services reimbursed by any third- party payer, including private insurers; state laws that require pharmaceutical companies to comply with the pharmaceutical industry' s voluntary compliance guidelines and the relevant compliance guidance promulgated by the U. S. federal government, or otherwise restrict payments that may be made to healthcare providers and other potential referral sources; and state laws and regulations that require drug manufacturers to file reports relating to pricing and marketing information, which requires tracking gifts and other remuneration and items of value provided to healthcare professionals and entities; ● the Physician Payments Sunshine Act, implemented as the Open Payments program, and its implementing regulations, requires certain manufacturers of drugs, devices, biologics and medical supplies that are reimbursable under Medicare, Medicaid, or the Children' s Health Insurance Program to report annually to CMS information related to certain payments made in the preceding calendar year and other transfers of value to physicians and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members; applicable manufacturers are also required to report such information regarding payments and transfers of value provided during the previous year to physician assistants, nurse practitioners, clinical nurse specialists, certified nurse anesthetists, and certified nurse- midwives; ● the U. S. Foreign Corrupt Practices Act of 1977, as amended, which prohibits, among other things, U. S. companies and their employees and agents from authorizing, promising, offering or providing, directly or indirectly, corrupt or improper payments or anything else of value to foreign government officials, employees of public international organizations and foreign government owned or affiliated entities, candidates for foreign political office and foreign political parties or officials thereof; and ● similar data protection and healthcare laws and regulations in the European Union and other jurisdictions, including reporting requirements detailing interactions with and payments to healthcare providers and laws governing the privacy and security of personal data, including the GDPR, which imposes obligations and restrictions on the collection and use of personal data relating to individuals located in the European Union and European Economic Area (including with regard to health data). Violations of any of these laws or any other governmental regulations that may apply to us, may subject us to significant civil, criminal and administrative sanctions including penalties, damages, fines, imprisonment, and exclusion from government funded healthcare programs, such as Medicare and Medicaid, and / or adverse publicity. Moreover, government entities and private litigants have asserted claims under state consumer protection statutes against pharmaceutical companies for alleged false or misleading statements in connection with the marketing, promotion and / or sale of pharmaceutical products. Further, defending against any such actions can be costly and ~~93time~~ -- **time** - consuming and may require significant personnel resources. Even if we are successful in defending against any such actions that may be brought against us, our business may be impaired. ~~Changes~~ **88Changes** in tax laws and regulations may have a material adverse effect on our business, financial condition and results of operations. New income, sales, use or other tax laws, statutes, rules, regulations or ordinances could be enacted at any time, which could affect the tax treatment of any of our future domestic and foreign earnings. Any new taxes could adversely affect our domestic and international business operations, and our business and financial performance. Further, existing tax laws, statutes, rules, regulations or ordinances could be interpreted, changed, modified or applied adversely to us. In addition, it is unclear how these U. S. federal income tax changes will affect state and local taxation. Generally, future changes in applicable U. S. tax laws and regulations, or their interpretation and application could have an adverse effect on our business, financial conditions and results of operations. We are unable to predict whether such changes will occur and, if so, the ultimate impact on our business. We are subject to U. S. and certain foreign export and import controls, sanctions, embargoes, anti- corruption laws, and anti- money laundering laws and regulations. Compliance with these legal standards could impair our ability to compete in domestic and international markets. We can face criminal liability and other serious consequences for violations, which can harm our business. We are subject to export control and import laws and regulations, including the U. S. Export Administration Regulations, U. S. Customs regulations, various economic and trade sanctions regulations administered by the U. S. Treasury Department' s Office of Foreign Assets Controls, the U. S. Foreign Corrupt Practices Act of 1977, as amended, or FCPA, the U. S. domestic bribery statute contained in 18 U. S. C. § 201, the U. S. Travel Act, the USA PATRIOT Act, and other state and national anti- bribery and anti- money laundering laws in the countries in which we conduct activities. Anti- corruption laws are interpreted broadly and prohibit companies and their employees, agents, contractors and other collaborators from authorizing, promising, offering or providing, directly or indirectly, improper payments or anything else of value to recipients in the public or private sector. We may engage third parties to sell our products outside the United States, to conduct clinical trials and / or to obtain necessary permits, licenses, patent registrations and other regulatory approvals. We have direct or indirect interactions with officials and employees of government agencies or government- affiliated hospitals, universities and other organizations. We can be held liable for the corrupt or other illegal activities of our employees, agents, contractors and other collaborators, even if we do not explicitly authorize or have actual knowledge of such activities. Any violations of the laws and regulations described above may result in substantial civil and criminal fines and penalties, imprisonment, the loss of export or import privileges, debarment, tax reassessments, breach of contract and fraud litigation, reputational harm and other consequences. **Existing regulatory policies may change, and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates. In June 2024, the U. S. Supreme Court overruled the Chevron doctrine, which gives deference to regulatory agencies' statutory interpretations in litigation against federal government agencies, such as the FDA, where the law is ambiguous. This decision may result in more lawsuits against the FDA to challenge longstanding decisions and policies of the FDA, which could undermine the FDA' s authority, lead to uncertainties in the industry, and disrupt the FDA' s normal operations, any of which could delay the FDA' s review of our regulatory submissions. We cannot predict the full impact of this decision, future judicial challenges brought against the FDA, or the nature or extent of government regulation that may arise from future legislation or administrative action. 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. 89The U. S. Congress, the Trump administration, or any new administration may make substantial changes to fiscal, tax, and other federal policies that may adversely affect our business. In 2017, the U. S. Congress and the Trump administration made substantial changes to U. S. policies, which included comprehensive corporate and individual tax reform. In addition, the Trump administration called for significant changes to U. S. trade, healthcare, immigration and government regulatory policy. With the transition to the Biden administration in early 2021, changes to U. S. policy occurred and since the start of the Trump Administration in 2025, U. S. policy changes have been implemented at a rapid pace and additional changes are likely. Changes to U. S. policy implemented by the U. S. Congress, the Trump administration or any new administration have impacted and may in the future impact, among other things, the U. S. and global economy, international trade relations, unemployment, immigration, healthcare, taxation, the U. S. regulatory environment, inflation and other areas. Although we cannot predict the impact, if any, of these changes to our business, they could adversely affect our business. Until we know what policy changes are made, whether those policy changes are challenged and subsequently upheld by the court system and how those changes impact our business and the business of our competitors over the long term, we will not know if, overall, we will benefit from them or be negatively affected by them. Risks Related to Our Common StockOur stock price may be volatile, and you may not be able to resell shares of our common stock at or above the price you paid. The trading price of our common stock could be highly volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control. **Our** ~~Since our~~ common stock began trading on the Nasdaq Global Market on October 8, 2021 **and was transferred to a listing on Nasdaq Capital Market on March 14, 2025; since its initial listing** , our stock has traded at prices as low as $ 0. ~~90~~ **34** per share and as high as $ 13. 80 per share through March ~~22~~ **13** , ~~2024~~ **2025** . In particular, the trading prices for biopharmaceutical companies have been highly volatile as a result of supply chain disruptions and the COVID- 19 pandemic. These factors include those discussed in this " Risk Factors " section and others such as: ● the commencement, enrollment, or results of our current and future preclinical studies and clinical trials, and the results of trials of our competitors or those of other companies in our market sector; ● regulatory approval of our product candidates, or limitations to specific label indications or patient populations for its use, or changes or delays in the regulatory review process; ~~94~~ ● regulatory developments in the United States and foreign countries; ● changes in the structure of healthcare payment systems, especially in light of current reforms to the United States healthcare system; ● the success or failure of our efforts to acquire, license, or develop additional product candidates; ● innovations or new products developed by us or our competitors; ● announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures, or capital commitments; ● manufacturing, supply or distribution delays or shortages; ● any changes to our relationship with manufacturers, suppliers, licensors, future collaborators, or other strategic partners; ● achievement of expected product sales and profitability; ● variations in our financial results or those of companies that are perceived to be similar to us; ● market conditions in the biopharmaceutical sector and issuance of securities analysts' reports or recommendations; **90** ● trading volume of our common stock; ● an inability to obtain additional funding; ● sales of our stock by insiders and stockholders; ● additions or departures of key personnel **; ● our ability to maintain our listing on the Nasdaq Capital Market** ; ● intellectual property, product liability, or other litigation against us; and ● general economic, industry and market conditions, including with respect to the financial markets in the United States and worldwide resulting from inflation, the COVID- 19 pandemic and ongoing global and regional conflicts. In addition, the stock markets in general, and the markets for biopharmaceutical stocks in particular, have experienced extreme volatility that may have been unrelated to the operating performance of the issuer. These broad market fluctuations may adversely affect the trading price or liquidity of our common stock. We are an " emerging growth company " and a " smaller reporting company " and, as a result of the reduced disclosure and governance requirements applicable to emerging growth companies and smaller reporting companies, our common stock may be less attractive to investors. We are an " emerging growth company " as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and we intend to take advantage of some of the exemptions from reporting requirements that are applicable to other public companies that are not emerging growth companies, including: ● not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting; ~~95~~ ● not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor' s report providing additional information about the audit and the financial statements; ● reduced disclosure obligations regarding executive compensation in our periodic reports, proxy statements and registration statements; and ● not being required to hold a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. We cannot predict if investors will find our common stock less attractive because we will rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile. We may take advantage of these reporting exemptions until we are no longer an emerging growth company. We will remain an emerging growth company until the earlier of (1) the last day of the fiscal year (a) following the fifth anniversary of the closing of our IPO, (b) in which we have total annual gross revenue of at least $ 1. 235 billion, or (c) in which we are deemed to be a large accelerated filer, which means the market value of our common stock that is held by non- affiliates exceeds $ 700 million as of the prior June 30th, and (2) the date on which we have issued more than $ 1. 0 billion in non- convertible debt during the prior three- year period. Under Section 107 (b) of the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards until such time as those standards apply to private companies. Even after we no longer qualify as an emerging growth company, we may, under certain circumstances, still qualify as a " smaller reporting company, " which would allow us to take advantage of many of the same exemptions from disclosure requirements, including reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements. ~~If~~ **91If** we sell shares of our common

stock in future financings, stockholders may experience dilution and, as a result, our stock price may decline. Because we expect our expenses to increase significantly in the foreseeable future and because, based on our current business plans, we believe that our cash, cash equivalents ~~,~~ **and** income from our non- dilutive grants ~~, and net proceeds received from our March 2024 follow- on public offering~~ will be sufficient for us to fund our operating and capital expenditures ~~through May~~ **into the fourth quarter** of 2025. As a result, we may from time to time issue additional shares of common stock or other securities to raise capital. These issuances may be at a discount from the current trading price of our common stock. Our stockholders would experience dilution upon the purchase of any shares of our common stock sold at such discount. In addition, as opportunities present themselves, we may enter into financing or similar arrangements in the future, including the issuance of debt securities, preferred stock or common stock. If we issue common stock or securities convertible into common stock, our common stockholders will experience additional dilution and, as a result, our stock price may decline. Concentration of ownership of our common stock among our existing executive officers, directors and principal stockholders may prevent new investors from influencing significant corporate decisions. As of March ~~22~~ **17** , ~~2024~~ **2025** , our executive officers, directors and current beneficial owners of 5 % or more of our common stock and their respective affiliates beneficially owned approximately ~~30~~ **15** % of our outstanding common stock. As a result, these persons, acting together, would be able to significantly influence all matters requiring stockholder approval, including the election and removal of directors, any merger, consolidation, sale of all or substantially all of our assets, or other significant corporate transactions. Some of these persons or entities may have interests different than yours. For example, because many of these stockholders purchased their shares at prices substantially below the current market price of our common stock and have held their shares for a longer period, they may be more interested in selling our company to an acquirer than other investors, or they may want us to pursue strategies that deviate from the interests of other stockholders. ~~96Sales~~ -- **Sales** of a substantial number of shares of our common stock in the public market could cause our stock price to fall. Sales of a substantial number of shares of our common stock in the public market or the perception that these sales might occur, could depress the market price of our common stock and could impair our ability to raise capital through the sale of additional equity securities. We are unable to predict the effect that sales may have on the prevailing market price of our common stock. Sales of significant number of shares of our common stock may make it more difficult for us to sell equity or equity- related securities in the future at a time and price that we deem reasonable or appropriate, and make it more difficult for you to sell shares of our common stock. We have also registered or intend to register all shares of our common stock subject to options or other equity awards issued or reserved for future issuance under our equity incentive plans. As a result, these shares will be available for sale in the public market subject to vesting arrangements and exercise of options, and restrictions under applicable securities laws. In addition, our directors, executive officers and certain affiliates may in the future establish programmed selling plans under Rule 10b5- 1 of the Exchange Act for the purpose of effecting sales of our common stock. If any of these events cause a large number of our shares to be sold in the public market, the sales could reduce the trading price of our common stock and impede our ability to raise future capital. ~~In~~ **92In** December 2022, we filed a registration statement on Form S- 3 relating to the registration of our common stock, preferred stock, debt securities, warrants, units and subscription rights or any combination thereof. Concurrently with the filing of such registration statement, we entered into ~~an" at-~~ the ~~- market" offering program, or~~ ATM **Facility** , which provides for the offering, issuance and sale by us of up shares of our common stock from time to time for aggregate gross proceeds of up to $ 40 million in sales deemed to be " at- the- market " as defined by the Securities Act of 1933, as amended. For the **year ended December 31, 2024, we sold 19, 913, 189 shares of our common stock pursuant to the ATM for gross proceeds of approximately $ 12. 8 million, subject to the limitations of General Instruction I. B. 6 of Form S- 3. For the** period ended December 31, ~~2023~~ **2024** , **the Company did not sell any** ~~we sold 2, 859, 074~~ shares of ~~its~~ common stock ~~pursuant to the ATM for gross proceeds of approximately $ 5. 3 million. For the period ended December 31, 2023, the Company sold 125, 000 shares of common stock~~ to Lincoln Park **pursuant to** ~~for proceeds of $ 0. 2 million, as part of~~ the equity line financing arrangement. As of December 31, ~~2023~~ **2024** , $ 34. 8 million was available to draw pursuant to the Purchase Agreement. Any additional sale or issuance of securities pursuant to this registration statement or otherwise may result in dilution to our stockholders and may cause the market price of our stock to decline. Furthermore, new investors purchasing securities that we may issue and sell in the future could obtain rights superior to the rights of our existing stockholders. We are also authorized to grant stock options and other equity- based awards to our employees, directors and consultants pursuant to our 2021 Equity Incentive Plan. The number of shares available for future grant under the 2021 will automatically increase each year by up to 5 % of all shares of our capital stock outstanding as of December 31 of the prior calendar year, subject to the ability of our board of directors or compensation committee to take action to reduce the size of the increase in any given year. Currently, we plan to register any increase in the number of shares available for issuance under the 2021 Plan promptly following the effectiveness of any such increase. If our board of directors elects to increase the number of shares available for future grant under the 2021 Plan, our stockholders may experience additional dilution, and our stock price may fall. Our ability to use net operating loss carryforwards and other tax attributes may be limited. As of December 31, ~~2023~~ **2024** , we had federal net operating loss, or NOL, carryforwards of approximately $ ~~29~~ **38** . ~~8~~ **1** million and state NOL carryforwards of approximately $ 12. ~~1~~ **6** million available to offset future taxable income. Of the federal NOL carryforwards, $ 11. 5 million begin to expire in 2035, and $ ~~18~~ **26** . ~~3~~ **6** million can be carried forward indefinitely. State NOL carryforwards will begin to expire in 2028. As of December 31, ~~2023~~ **2024** , we also had $ ~~2~~ **3** . ~~9~~ **8** million of federal research and development tax credit carryforwards available to reduce future income taxes. The federal research and development tax credits will begin to expire in 2029, if not utilized. Utilization of NOL carryforwards and credits may be subject to an annual limitation due to the " ownership change " provisions under Sections 382 and 383 of the Code. An " ownership change " is generally defined as a cumulative change in the ownership interest of significant stockholders over a rolling three- year period in excess of 50 percentage points. Similar provisions under state tax law may also apply. If finalized, Treasury Regulations currently proposed under Section 382 of the Code may further limit our ability to utilize our pre- change

NOLs or credits if we undergo a future ownership change. We may experience an ownership change in the future as a result of subsequent shifts in our stock ownership, some of which may be outside of our control. Such ownership changes could result in the expiration of ~~97our --~~ **our** NOL carryforwards and other tax attributes before they can be utilized and, if we are profitable, our future cash flows could be adversely affected due to our increased tax liability. In 2023 **,** we completed an analysis covering the periods from inception through December 31, 2022 to determine whether there may have been a Section 382 ownership change. This analysis showed an ownership change occurred in January 2009 and the Section 382 limitation would result in $ 0. 6 million of federal net operating loss carryforwards expiring unutilized. We updated the analysis through December 31, ~~2023~~ **2024** and determined that it is more- likely- than- not that our existing net operating loss and research and development tax credit carryforwards could be utilized to offset current and future taxable income or tax, respectively. ~~Additionally~~ **93Additionally** , under the Tax Cuts and Jobs Act, or the TCJA, NOL carryforwards arising in tax years beginning after December 31, 2017 are limited to 80 % of taxable income, and may be carried forward indefinitely and are prohibited from being carried back. The Coronavirus Aid, Relief, and Economic Security Act, or the CARES Act, allowed federal NOL carryforwards arising in tax years beginning after December 31, 2017 and before January 1, 2021 to be carried back to each of the five tax years preceding the tax year of such loss and temporarily suspends the 80 % limitation mentioned above for this period. The changes in the carryforward and carryback periods as well as the limitation on use of NOL carryforwards may significantly impact our ability to use NOL carryforwards, particularly for tax years beginning after December 31, ~~2023~~ **2024** , as well as the timing of any such use, and could adversely affect our results of operations. Provisions in our charter documents and under Delaware law could discourage a takeover that stockholders may consider favorable and may lead to entrenchment of management. Our third amended and restated certificate of incorporation and second amended and restated bylaws each contain provisions that could delay or prevent changes in control or changes in our management without the consent of our board of directors. These provisions include the following: ● a classified board of directors with three- year staggered terms, which may delay the ability of stockholders to change the membership of a majority of our board of directors; ● no cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates; ● the exclusive right of our board of directors to elect a director to fill a vacancy, however occurring, including by an expansion of the board of directors, which prevents stockholders from being able to fill vacancies on our board of directors; ● the ability of our board of directors to authorize the issuance of shares of preferred stock and to determine the price and other terms of those shares, including voting or other rights or preferences, without stockholder approval, which could be used to significantly dilute the ownership of a hostile acquiror; ● the ability of our board of directors to alter our second amended and restated bylaws without obtaining stockholder approval; ● the required approval of at least 662 ⁄ 3 % of the shares entitled to vote at an election of directors to adopt, amend or repeal our second amended and restated bylaws or repeal the provisions of our amended and restated certificate of incorporation regarding the election and removal of directors; ● a prohibition on stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders; ● the requirement that a special meeting of stockholders may be called only by the board of directors, which may delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors; and ● advance notice procedures that stockholders must comply with in order to nominate candidates to our board of directors or to propose matters to be acted upon at a stockholders' meeting, which may discourage or deter a potential acquiror from conducting a solicitation of proxies to elect the acquiror' s own slate of directors or otherwise attempting to obtain control of us. ~~98We~~ **We** are also subject to the anti- takeover provisions contained in Section 203 of the Delaware General Corporation Law, or the DGCL. Under Section 203, 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 exceptions, the board of directors has approved the transaction. ~~Our~~ **94Our** third amended and restated certificate of incorporation and second amended and restated bylaws provide that the Court of Chancery of the State of Delaware will be the exclusive forum for certain disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees. Our third amended and restated certificate of incorporation and second amended and restated bylaws provide that the Court of Chancery of the State of Delaware (or, in the event that the Court of Chancery does not have jurisdiction, the United States District Court for the District of Delaware or other state courts of the State of Delaware) is the exclusive forum for any derivative action or proceeding brought on our behalf, any action asserting a claim of breach of fiduciary duty, any action asserting a claim against us arising pursuant to the DGCL, our third amended and restated certificate of incorporation or our second amended and restated bylaws, or any action asserting a claim against us that is governed by the internal affairs doctrine; provided that, the exclusive forum provision will not apply to suits brought to enforce any liability or duty created by the Exchange Act, or any other claim for which the federal courts have exclusive jurisdiction; and provided further that, if and only if the Court of Chancery of the State of Delaware dismisses any such action for lack of subject matter jurisdiction, such action may be brought in another state or federal court sitting in the State of Delaware. Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all suits brought to enforce any duty or liability created by the Securities Act or the rules and regulations thereunder. Our third amended and restated certificate of incorporation and second amended and restated bylaws, however, provide that the federal district courts of the United States of America will be the exclusive forum for the resolution of any complaint asserting a cause of action against us or any of our directors, officers, employees or agents and arising under the Securities Act. The Supreme Court of Delaware has held that this type of exclusive federal forum provision is enforceable. There may be uncertainty, however, as to whether courts of other jurisdictions would enforce this provision, if applicable. These choice of forum provisions may limit a stockholder' s ability to bring a claim in a judicial forum that it finds favorable for disputes with us or any of our directors, officers, other employees or stockholders, which may discourage lawsuits with respect to such claims, although our stockholders will not be deemed to have waived our compliance with federal securities laws and the rules and regulations thereunder. Furthermore, 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 a court could find these types of provisions to be inapplicable or unenforceable. While the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive forum provisions, and there can be no assurance that such provisions will be enforced by a court in those other jurisdictions. If a court were to find the choice of forum provision contained in our third amended and restated certificate of incorporation and second amended and restated bylaws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could adversely affect our business and financial condition. We do not currently intend to pay dividends on our common stock, and, consequently, your ability to achieve a return on your investment will depend on appreciation in the price of our common stock. We do not currently intend to pay any cash dividends on our common stock for the foreseeable future. We currently intend to invest our future earnings, if any, to fund our growth. Therefore, you are not likely to receive any dividends on your common stock for the foreseeable future. Since we do not intend to pay dividends, your ability to receive a return on your investment will depend on any future appreciation in the market value of our common stock. There is no guarantee that our common stock will appreciate or even maintain the price at which our holders have purchased it. ~~99General~~ **95General** Risk FactorsUnfavorable global economic or political conditions has in the past and could in the future adversely affect our business, financial condition or results of operations. Our business is susceptible to general conditions in the global economy and in the global financial markets. Further, the impacts of..... business or ability to access the capital markets. A severe or prolonged economic downturn, including rises in interest rates, liquidity constraints, failures and instability in the United States and international financial banking systems, inflation, recession or depression, or political disruption has and could result in a variety of risks to our business, including weakened demand for our product candidates or any future product candidates, if approved, and our ability to raise additional capital when needed on acceptable terms, if at all. A weak or declining economy or political disruption could also strain our manufacturers or suppliers, possibly resulting in supply disruption, or cause our customers to delay making payments for our potential products. Key national economies, including the United States, have been affected from time to time by economic downturns or recessions, supply chain constraints, heightened and fluctuating inflation and interest rates, restricted credit, poor liquidity, reduced corporate profitability, volatility in credit, equity and foreign exchange markets, bankruptcies and overall uncertainty with respect to the economy. In particular, in relation to uncertainty around inflation and the U. S. Federal Reserve' s measures to slow inflation, the stock market has been exceptionally volatile. In addition, U. S. debt ceiling and budget deficit concerns have increased the possibility of additional credit- rating downgrades and economic slowdowns, or a recession in the United States. The impact of this or any further downgrades to the U. S. government' s sovereign credit rating or its perceived creditworthiness could adversely affect the U. S. and global financial markets and economic conditions. Any of the foregoing could materially and adversely affect our business, financial condition, results of operations and prospects, and we cannot anticipate all of the ways in which the political or economic climate and financial market conditions could adversely impact our business. **markets.** Further,the impacts of political unrest,including as a result geopolitical tension,such as a deterioration in the relationship between the United States and China or the conflicts between Russia and Ukraine and **Israel and Hamas** ~~in the Middle East~~ ,including any additional sanctions,export controls or other restrictive actions that may be imposed by the United States and / or other countries against governmental or other entities in,for example,Russia,also has in the past and could in the future lead to disruption,instability and volatility in the global markets,which may have an adverse impact on our business or ability to access the capital ~~markets Adverse~~ **96Adverse** developments affecting the financial services industry, including events or concerns involving liquidity, defaults or non- performance by financial institutions or transactional counterparties, could adversely affect our business, financial condition or results of operations. Events involving limited liquidity, defaults, non- performance or other adverse developments that affect financial institutions, transactional counterparties or other companies in the financial services industry or the financial services industry generally, or concerns or rumors about any events of these kinds or other similar risks, have in the past and may in the future lead to market- wide liquidity problems. In March 2023, Silicon Valley Bank (" SVB ") was closed by the California Department of Financial Protection and Innovation, which appointed the Federal Deposit Insurance Corporation (" FDIC ") as receiver. Similarly, in March 2023, Signature Bank and Silvergate Capital Corp. were each swept into receivership. Since then, additional financial institutions have experienced similar failures and have been placed into receivership. Although we assess our banking and customer relationships as we believe necessary or appropriate, our access to funding sources and other credit arrangements in amounts adequate to finance or capitalize our current and projected future business operations could be significantly impaired by factors that affect us, the financial services industry or economy in general. These factors could include, among others, events such as liquidity constraints or failures, the ability to perform obligations under various types of financial, credit or liquidity agreements or arrangements, disruptions or instability in the financial services industry or financial markets, or concerns or negative expectations about the prospects for companies in the financial services industry. In addition, investor concerns regarding the U. S. or international financial systems could result in less favorable commercial financing terms, including higher interest rates or costs and tighter financial and operating covenants, or systemic limitations on access to credit and liquidity sources, thereby making it more difficult for us to acquire financing on acceptable terms or at all. Any decline in available funding or access to our cash and liquidity resources could, among other risks, adversely impact our ability to meet our operating expenses, financial obligations or fulfill our other ~~100obligations~~ --- **obligations** , result in breaches of our contractual obligations or result in violations of federal or state wage and hour laws. Any of these impacts, or any other impacts resulting from the factors described above or other related or similar factors not described above, could have material adverse impacts on our liquidity and our business, financial condition or results of operations. If securities or industry analysts do not publish research or reports about our business, or if they issue an adverse or misleading opinion regarding our stock, our stock price and trading volume could decline. The trading market for our common stock may be influenced by the research and reports that industry or securities analysts publish about us or our business. If any of the

analysts who cover us issue an adverse or misleading opinion regarding us, our business model, our intellectual property or our stock performance, or if our clinical trials and operating results fail to meet the expectations of analysts, our stock price would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline. We may be subject to securities litigation, which is expensive and could divert our management' s attention. In the past, companies that have experienced volatility in the market price of their securities have been subject to securities class action litigation. We may be the target of this type of litigation in the future. Regardless of the merits or the ultimate results of such litigation, securities litigation brought against us could result in substantial costs and divert our management' s attention from other business concerns. ~~We~~ **97We** have incurred, and will continue to incur, significant costs as a result of operating as a public company, and our management will devote substantial time to new compliance initiatives. We may fail to comply with the rules that apply to public companies, including Section 404 of the Sarbanes- Oxley Act of 2002, or Section 404, which could result in sanctions or other penalties that could materially and adversely affect our business, financial condition, results of operations and prospects. We have incurred, and will continue to incur, significant legal, accounting and other expenses as a public company, including costs resulting from public company reporting obligations under the Exchange Act and regulations regarding corporate governance practices. The listing requirements of the Nasdaq ~~Global~~ **Capital** Market and the rules of the SEC require that we satisfy certain corporate governance requirements relating to director independence, filing annual and interim reports, stockholder meetings, approvals and voting, soliciting proxies, conflicts of interest and a code of conduct. Our management and other personnel will need to devote a substantial amount of time to ensure that we comply with all of these requirements. Moreover, the reporting requirements, rules and regulations will increase our legal and financial compliance costs and will make some activities more time- consuming and costly. Any changes we make to comply with these obligations may not be sufficient to allow us to satisfy our obligations as a public company on a timely basis, or at all. These reporting requirements, rules and regulations, coupled with the increase in potential litigation exposure associated with being a public company, could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors or board committees or to serve as executive officers, or to obtain certain types of insurance, including directors' and officers' insurance, on acceptable terms. We are subject to Section 404 and the related rules of the SEC, which generally require our management and independent registered public accounting firm to report on the effectiveness of our internal control over financial reporting. Section 404 requires an annual management assessment of the effectiveness of our internal control over financial reporting. However, for so long as we remain an emerging growth company as defined in the JOBS Act, we intend to take advantage of certain exemptions from various reporting requirements that are applicable to public companies that are not emerging growth companies, including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404. Once we are deemed to be a large accelerated filer or an accelerated filer, we will be required to include an attestation report on internal control over financial reporting. ~~101~~ **During the course of our review and testing, we may identify deficiencies and be unable to remediate them before we must provide the required reports. Furthermore, if we identify any material weaknesses, we may not detect errors on a timely basis and our financial statements may be materially misstated. We or our independent registered public accounting firm may not be able to conclude on an ongoing basis that we have effective internal control over financial reporting, which could materially and adversely affect our business, financial condition, results of operations and prospects, cause investors to lose confidence in our reported financial information and cause the trading price of our stock to fall. In addition, as a public company we are required to file accurate and timely quarterly and annual reports with the SEC under the Exchange Act. In order to report our results of operations and financial statements on an accurate and timely basis, we will depend in part on CROs and other third parties to provide timely and accurate notice of their costs to us. Any failure to report our financial results on an accurate and timely basis could result in sanctions, lawsuits, delisting of our shares from the Nasdaq Capital Market or other adverse consequences that would materially and adversely affect our business, financial condition, results of operations and prospects. 98**