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

Form 10-K

(Mark One)

☑ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the Fiscal Year Ended December 31, 2024
or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from _____ to _____
Commission File Number: 000-29959

Cassava Sciences, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**91-1911336**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification Number)*

6801 N. Capital of Texas Highway, Building 1; Suite 300, Austin, TX 78731
(512) 501-2444
(Address, including zip code, of registrant's principal executive offices and telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.001 par value	SAVA	NASDAQ Capital Market

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

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

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

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

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

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

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

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

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

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

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

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates was approximately $558 million computed by reference to the last sales price of $12.35 as reported on the Nasdaq Capital Market, as of the last business day of the Registrant's most recently completed second fiscal quarter, June 28, 2024. The number of shares outstanding of the Registrant's common stock, par value $0.001 per share, on February 27, 2025 was 48,307,896.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's proxy statement for its 2025 Annual Meeting of Stockholders (the "Proxy Statement"), to be filed with the U.S. Securities and Exchange Commission, no later than 120 days after the Registrant's fiscal year ended December 31, 2024, are incorporated by reference to Part III of this Annual Report on Form 10-K.

CASSAVA SCIENCES, INC.

FORM 10-K
INDEX

PART I

FORWARD-LOOKING STATEMENTS AND NOTICES

This Annual Report on Form 10-K, including the portions of our definitive Proxy Statement incorporated by reference herein, contains "forward-looking statements". All statements other than statements of present or historical facts contained in this Annual Report, including statements anticipating or otherwise relating to our future results of operations and financial position, future results of clinical trials, business strategy, plans and objectives for future operations, and anticipated events or trends, are forward-looking statements. In some cases, forward-looking statements are identified by terms such as "aim," "anticipate," "believe," "could," "drive," "estimate," "expect," "forecast," "future," "goal," "intend," "may," "objective," "plan," "potential," "project," "seek," "should," "strategy," "will" and "would" or the negatives of these terms or other comparable terminology.

Examples of forward-looking statements include, but are not limited to, statements about:

- the safety profile or treatment benefits, if any, of simufilam;
- our reliance on third-party contractors to conduct all of our clinical and non-clinical trials and to make drug supply, or their ability to do so on-time or on-budget;
- limitations around the interpretation of data from any studies that are not randomized controlled trials;
- the ability of clinical scales to assess cognition or health with respect to Alzheimer's disease;
- our plans or ability to expand therapeutic indications for simufilam outside of Alzheimer's disease;
- our ability to conduct planned preclinical studies of simufilam relating to epilepsy in Tuberous Sclerosis Complex (TSC)
- our ability to initiate, conduct or analyze additional clinical and non-clinical studies with our product candidates targeted at Alzheimer's disease, TSC-related epilepsy and other central nervous system disorders;
- the impact of pre-clinical findings on our ability to develop our product candidates;
- the interpretation of results from our pre-clinical or early clinical studies, such as Phase 1 and Phase 2 studies;
- our plans to further develop SavaDx, our investigational blood-based diagnostic product candidate;
- the safety, efficacy, or potential therapeutic benefits of our product candidates;
- our use of exploratory 'research use only' non-safety related biomarkers in our clinical studies;
- our ability to file for and obtain regulatory approval of our product candidates;
- our strategy and ability to establish an infrastructure to commercialize any product candidates, if approved;
- the potential future revenues of our product candidates, if approved and commercialized;
- the market acceptance of our product candidates, if approved and commercialized;
- the pricing and reimbursement of our product candidates, if approved and commercialized;
- the utility of protection, or the sufficiency, of our intellectual property;
- our potential competitors or competitive products for the treatment of Alzheimer's disease and other therapeutic areas we may elect to pursue;
- our need to raise new capital from time to time to continue our operations or to expand our operations;
- our use of multiple third-party vendors and collaborators, including a Clinical Research Organization (CRO), to conduct clinical and non-clinical studies of simufilam;
- expectations regarding trade secrets, technological innovations, licensing agreements and outsourcing of certain business functions;
- our ability to successfully carry out our obligations under our License Agreement (as defined below) with Yale University ("Yale"), for which we have assumed all responsibility for global development and commercialization for simufilam for the treatment of TSC-related epilepsy;
- our expenses or incurred costs increasing by material amounts in excess of budgeted amounts due to unexpected cost overruns, imperfect forecasting, increased scope of activities or other causes;
- fluctuations in our financial or operating results;
- our operating losses, anticipated operating and capital expenditures and legal expenses;
- expectations regarding the issuance of shares of common stock, options or other equity to employees or directors pursuant to equity compensation awards, net of employment taxes;
- the development and maintenance of our internal information systems and infrastructure;
- our ability to minimize the likelihood and impact of adverse cybersecurity incidents in our information systems and infrastructure;

- our need to hire additional personnel and our ability to attract and retain such personnel;
- existing or emerging regulations and regulatory developments in the United States and other jurisdictions in which we operate;
- our expectations regarding the appropriate size and scope of our operations;
- the sufficiency of our cash resources to continue to fund our operations;
- potential future agreements with third parties in connection with the commercialization of our product candidates;
- the accuracy of our estimates regarding expenses, loss contingency reserves, capital requirements, and needs for additional financing;
- assumptions and estimates used for our disclosures regarding stock-based compensation;
- the expense, timing and outcome of pending or future litigation or other legal proceedings and claims, including U.S. government inquiries; and
- litigation, claims or other uncertainties that may arise from allegations made against us or our former employees or collaborators.

The forward-looking statements in this Annual Report are based on our beliefs, assumptions and expectations of our future performance, events and developments, based on currently available information and plans. Forward-looking statements involve risks and uncertainties, and our actual results and the timing of events may differ materially from those discussed in the forward-looking statements. Such forward-looking statements include, but are not limited to, those described in "Item 1A. Risk Factors", and investors should consider such risks before investing in our Company. Accordingly, you should not place undue reliance upon any forward-looking statements.

We cannot assure you that we will realize the results or developments we expect or anticipate or, even if substantially realized, that they will affect us or our operations in the way we expect.

The forward-looking statements included in this Annual Report on Form 10-K are made only as of the date hereof. We undertake no obligation to publicly update or revise any forward-looking statement as a result of new information, future events or otherwise, except as required by law.

This Annual Report on Form 10-K may also contain statistical data and drug information received from our independent consultants or based on industry publications or other publicly available information. We have not independently verified the accuracy or completeness of the data contained in these sources of data and information. Although we believe that such sources are reliable, we make no representations as to the accuracy or completeness of such data and information. You are cautioned not to give undue weight to such data and information.

In addition, statements that "we believe" or similar statements reflecting our beliefs, views, and opinions on the relevant subject are based upon information available to us as of the date of this Annual Report. While we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and involve a number of assumptions and limitations, and you are cautioned not to unduly rely upon these statements.

Our research programs in neurodegeneration have historically benefited from scientific and financial support from the National Institutes of Health (NIH). The contents of this Annual Report are solely our responsibility and do not represent any views of NIH, the Department of Health and Human Services, or any other agency of the United States government, or any of our vendors, collaborators or unrelated third-parties.

All our pharmaceutical assets under development are investigational product candidates. These have not been approved for use in any medical indication by any regulatory authority in any jurisdiction and their safety, efficacy or other desirable attributes, if any, have not been established in any patient population. Consequently, none of our product candidates are approved or available for sale anywhere in the world.

Our clinical results from earlier-stage clinical trials may not be indicative of future results from later-stage or larger scale clinical trials and do not ensure regulatory approval. You are cautioned that subsequent results may differ materially.

Other than our Phase 3 trials, all of our earlier-stage clinical trials have involved a relatively small number of patients and limited data. Information and results generated from our early-stage studies do not constitute, and should not be interpreted as, evidence of safety or efficacy for simufilam in Alzheimer's disease. Rigorous evidence for drug safety and efficacy is required for regulatory approval and is derived from one or more large, randomized, placebo-controlled Phase 3 studies. The design and limited size of our early-stage studies may introduce clinical or statistical bias or may generate results that may not fully distinguish between drug effects, if any, placebo effects and random variation. Different methods of statistical analysis on clinical data from the same study may lead to objectively different numerical results. These and other statistical and clinical features of our early-stage clinical studies add complexity or limitations to the scope of data interpretation. In addition, 'top-line results' is a summary of the clinical data prior to the completion of a full and final audit or quality-control of the clinical database. We generally communicate top-line results so that our stakeholders have timely access to a summary of a study's findings prior to us receiving the final dataset. Final data may change from initial top-line data.

Unless otherwise noted, all clinical data in this Annual Report is statistically non-significant at a standard probability level of $p<0.05$. In addition, from time to time, our scientific research may include the use of exploratory biomarkers, typically labelled 'research use only.' They are understood to mean non-safety-related, investigational diagnostic products that are in the research phase of development and have not been approved by any regulatory agency to be effective, sensitive, specific, accurate, predictive or linked to a specific diagnosis or indication. At present there is no sufficiently reliable evidence that any observed treatment effect on such biomarkers is reasonably likely to predict clinical benefit.

National Clinical Trial (NCT) is an eight-digit identification number that http://www.ClinicalTrials.gov assigns a clinical study when it is registered with the National Library of Medicine, which is operated by the United States government.

Item 1. *Business*

Overview

Cassava Sciences, Inc. is a clinical-stage biotechnology company based in Austin, Texas. Our mission is to detect and treat central nervous system disorders, such as Alzheimer's disease and Tuberous Sclerosis Complex (TSC)-related epilepsy. Our novel science is based on stabilizing – but not removing – a critical protein in the brain for patients with certain central nervous system disorders, such as Alzheimer's or TSC. Our lead therapeutic drug candidate, simufilam, was under clinical evaluation for the proposed treatment of Alzheimer's disease in Phase 3 clinical studies through 2024, when all ongoing clinical trials for simufilam in Alzheimer's disease were discontinued.

We combine innovative technology with new insights in neurobiology to develop novel solutions targeting Alzheimer's disease, TSC-related epilepsy, and other central nervous system disorders. Our strategy is to leverage our unique scientific/clinical platform to develop first-in-class programs for treating central nervous system disorders. In addition, we are in the early stages of exploring potential artificial intelligence ("AI") capabilities and related data analytics to target improvements in productivity and efficiency in our business, enhancements to research and development activities, and advancements in statistical analysis capabilities.

We currently have two biopharmaceutical assets under development:

- our lead therapeutic product candidate, called simufilam, is a proprietary small molecule oral treatment drug being studied for the treatment of Alzheimer's disease and TSC-related epilepsy; and
- our lead investigational diagnostic product candidate, called SavaDx, is a novel biomarker assay being studied for detection of the presence of Alzheimer's disease from a small sample of blood.

Simufilam was discovered and designed in-house and was characterized by our academic collaborators during research activities that were conducted from approximately 2008 to date.

Simufilam targets a protein called filamin A (FLNA) in the brain of patients with central nervous system disorders, such as Alzheimer's or TSC. Our and our collaborators' published studies have demonstrated that an altered form of FLNA is linked to neuronal dysfunction, neuronal degeneration and neuroinflammation. In Alzheimer's disease, we believe simufilam disrupts amyloid binding to the α7 nicotinic acetylcholine receptor (α7nAChR), which underlies our drug's primary mechanism of action in Alzheimer's disease. Published pre-clinical studies further show that overexpression of FLNA in patients with TSC may be associated with epileptic seizure activity. On February 26, 2025, we entered into a License Agreement (the "License Agreement") with Yale to support our development and commercialization efforts for simufilam for the treatment of TSC-related epilepsy.

We solely own patents covering the composition of matter of our drug simufilam in the United States, Europe, Australia, Israel and Canada. We solely own patents covering certain methods of use of our drug simufilam in the United States, Europe and Japan. We solely own pending patent applications that cover diagnostic assets for simufilam in the United States, Europe, Japan, China, Canada, and Australia. We solely own pending patent applications that cover other diagnostic assets in the United States, Europe, Japan, China and Canada. We have no obligation to pay any royalty to any third party in connection with any of the foregoing described patents and patent applications. In the United States, our patent protection with respect to simufilam, its solid forms, and uses of simufilam for Alzheimer's disease and other neurodegenerative diseases includes nine issued United States patents, with terms expiring on dates ranging from 2029 to 2040, subject to any patent extensions that may be available for such patents. Corresponding foreign filings have been made for each of the Unites States filings.

About Alzheimer's Disease

Alzheimer's disease is a degenerative disease of the brain that affects cognition, function and behavior. Over time, a patient's cognition and health functions decline as the disease takes its toll. With disease progression, patients move from mild to moderate to, eventually, severe Alzheimer's disease. Cognitive decline becomes more pronounced, and presumably more difficult to treat, in advanced stages of the disease.

An estimated 6.9 million Americans age 65 and older were living with Alzheimer's dementia in 2024, according to the Alzheimer's Association. According to the same source, in 2011, the largest ever demographic generation of the American population — the baby-boom generation — started reaching age 65. By 2030, the segment of the U.S. population age 65 and older will have grown substantially, and the projected 74 million older Americans will make up over 20% of the total population. Because age is a well-known risk factor for Alzheimer's dementia, new cases of Alzheimer's dementia are expected to climb with the growth in the number of elderly Americans.

Clinical Trials in Alzheimer's Disease (Discontinued)

We have conducted two randomized placebo-controlled Phase 3 clinical trials of oral simufilam in patients with mild-to-moderate Alzheimer's disease. Our first Phase 3 study, called RETHINK-ALZ, was designed to evaluate the safety and efficacy of simufilam 100 mg tablets versus placebo over 52 weeks (NCT04994483). Our second Phase 3 study, called REFOCUS-ALZ, was designed to evaluate the safety and efficacy of oral simufilam 100 mg and 50 mg tablets versus placebo over 76 weeks (NCT05026177).

On November 25, 2024, we announced that the top-line results from the Phase 3 RETHINK-ALZ study of simufilam in mild-to-moderate Alzheimer's disease did not meet each of the pre-specified co-primary, secondary and exploratory biomarker endpoints. The co-primary endpoints were the change in cognition and function from baseline to the end of the double-blind treatment period at week 52, assessed by the ADAS-COG12 and ADCS-ADL scales, comparing simufilam to placebo. Simufilam continued to demonstrate an overall favorable safety profile.

In light of the top-line results from the Phase 3 RETHINK-ALZ study, the Company also outlined its plan to discontinue the Phase 3 REFOCUS-ALZ study and Open Label Extension study and to analyze the complete 52-week dataset from the REFOCUS-ALZ study, along with a large portion of 76-week data. The Company expects to complete these efforts and plans to release top-line REFOCUS-ALZ results late first-quarter/early second-quarter 2025.

All statistical analyses for the REFOCUS-ALZ Phase 3 study data are being performed by independent biostatisticians at Pentara Corporation. Importantly, the database for each Phase 3 study was or will be unblinded and sent directly from the clinical research organization to the biostatisticians at Pentara. Pentara notifies us when their top-line statistical analyses have been completed. Cassava has no access to the unblinded data until after Pentara has performed its statistical analyses. Similarly, plasma samples have been provided directly to an independent, accredited commercial laboratory to perform analyses of these samples under blinded conditions.

Following the release of the topline REFOCUS-ALZ results, the Company intends to evaluate the results and determine the next steps for the future advancement, if any, of its Alzheimer's program.

About Tuberous Sclerosis Complex (TSC)

TSC is a genetic disorder that results from a mutation in the TSC1 or TSC2 genes. According to the Tuberous Sclerosis Alliance (TSCA), TSC is estimated to affect around 1 in 6,000 live births with approximately 50,000 people affected in the United States and more than one million worldwide. Clinical symptoms of TSC are variable and can impact organ systems with non-malignant tumors developing in brain, eyes, heart, kidney, skin and lungs. Interrelated neuropsychiatric manifestations of TSC such as intellectual disability, autism spectrum disorder, anxiety, aggression, attention deficit hyperactivity disorder, and sleep disturbance can significantly impact quality of life. Epilepsy is common in TSC, occurring in 84% of patients registered in the TSC Alliance Natural History Database with onset often occurring in their first year of life. Approximately 60 percent of TSC patients suffer from treatment-resistant seizures despite use of multiple anti-seizure medications. TSC-related epilepsy is associated with poor outcomes and increases the risk of cognitive deficits.

Exploratory Preclinical Studies with Simufilam in Tuberous Sclerosis Complex (TSC)

Preclinical research conducted at Yale indicate that simufilam (then PTI-125) may be effective in reducing TSC-related seizure activity. A study conducted by Angelique Bordey, PhD, at Yale and published in the peer-reviewed journal *Neuron* found overexpression of FLNA in brain tissue from TSC patients. The paper, MEK-ERK1/2-Dependent FLNA Overexpression Promotes Abnormal Dendritic Patterning in Tuberous Sclerosis Independent of mTOR (*Neuron*. 2014 Oct 1. PMID: 25277454), was co-authored by Zhang L, Bartley CM, Gong X, Hsieh LS, Lin TV and Feliciano DM. A later study conducted by Dr. Bordey and published in the peer-reviewed journal *Science Translational Medicine* in 2020 likewise found elevated FLNA in brains of a related mouse model. That study further demonstrated that simufilam treatment in the mouse model reduced the number of seizing mice and reduced seizure frequency. This 2020 paper, Filamin A Inhibition Reduces Seizure Activity in a Mouse Model of Focal Cortical Malformations (*Sci Transl Med*. 2020 Feb 19. PMID: 32076941), was co-authored by Zhang L, Huang T, Teaw S, Nguyen LH, Hsieh LS, Gong X, and Lindsay Burns, a former employee of the Company. While these data are promising, understanding their true significance requires additional exploration.

We intend to conduct exploratory preclinical studies in collaboration with the TSCA to better understand simufilam's potential as a treatment for TSC-related seizures. Based on the results of these studies, considered together with Dr. Bordey's work, the Company will assess whether sufficient support exists for an Investigational New Drug (IND) application in respect of a proof-of-concept open-label clinical trial for simufilam in TSC-related epilepsy.

License Agreement with Yale

On February 26, 2025, we entered into the License Agreement with Yale pursuant to which we were granted exclusive worldwide rights, with rights to sublicense, to Yale's interest in certain patent and other intellectual property rights that could be useful or necessary to the development and commercialization of simufilam for the treatment of TSC-related epilepsy and other potential indications. Pursuant to the License Agreement, we have agreed to use reasonable commercial efforts to implement a plan that it has designed for such development and commercialization.

In exchange for the rights acquired pursuant to the License Agreement, we agreed to pay Yale (i) a nominal upfront license fee, (ii) payments upon the achievement of specified clinical, regulatory and commercial milestones, totaling up to $4.5 million and (iii) upon transfer to a third party of a regulatory priority review voucher, if issued, a low-to-mid double digit percentage of any consideration received for such transfer. We also agreed to pay Yale tiered royalties, ranging from a low- to mid- single digit percentage, on aggregate net sales of licensed products, subject to tiered minimum annual royalty payments ranging from the low- to mid- hundreds of thousands of dollars.

Unless earlier terminated, the License Agreement will continue on a country-by-country basis until the later of (i) the date on which the last valid claim of the license patents expires or otherwise lapses, (ii) the end of any government or regulatory exclusivity period, and (iii) 10 years following the date of first sale of licensed product in such country. We may terminate the License Agreement: (i) at our option, upon specified advance notice to Yale and (ii) if Yale commits a material breach of the License Agreement that is not cured within a specified timeframe. Yale may terminate the License Agreement under specified circumstances, including if we (i) fail to make any payment due under the License Agreement and fail to cure such non-payment within a specified timeframe, (ii) commit a breach of the License Agreement that is not cured within a specified timeframe, (iii) default on a material obligation to any creditor, unless cured within a specified timeframe, (iv) fail to obtain or maintain insurance required by the License Agreement, (v) bring or assist a patent challenge against Yale (or if a sublicensee does so). In addition, the License Agreement will terminate automatically upon the occurrence of certain bankruptcy and insolvency events involving us.

The License Agreement includes customary confidentiality, reporting and inspection, and indemnification provisions.

Risk is Fundamental to the Drug Development Process

We are in the business of new drug discovery and development. Our research and development activities are long, complex, costly and involve a high degree of risk. Holders of our common stock should carefully read this Annual Report in its entirety, including "Item 1A. Risk Factors". *Because risk is fundamental to the process of drug discovery and development, you are cautioned to not invest in our securities unless you are prepared to sustain a total loss of the money you have invested.*

Our Scientific Approach is Different

Our scientific approach is to treat central nervous system diseases by targeting a scaffolding protein called FLNA. Through years of basic research, we and our academic collaborators identified FLNA as a promising target for drug development in Alzheimer's disease and, more recently, with respect to TSC-related epilepsy.

Research that we sponsored has identified a family of high-affinity, small molecules to target FLNA as a means of potentially treating central nervous system disorders, including Alzheimer's disease and TSC-related epilepsy. This family of small molecules, including simufilam, our lead small molecule (oral) therapeutic product candidate, was designed in-house and characterized by our academic collaborators.

Our science is based on targeting a critical protein in the brain

Proteins are essential for cell function because they participate in virtually every biological process. If protein function is impaired, the health consequences can be devastating. When disease changes the shape and/or function of critical proteins, multiple downstream processes can be impaired. Restoring shape and/or function is a well-accepted therapeutic strategy in clinical medicine.

FLNA is a scaffolding protein found in the brain. A healthy scaffolding protein brings multiple proteins together, coordinating their interaction. Our product candidate, simufilam, targets FLNA and attempts to prevent abnormal functioning of this critical protein in diseases such as Alzheimer's disease and TSC.

We believe simufilam impedes downstream toxic effects of altered or overexpressed FLNA.

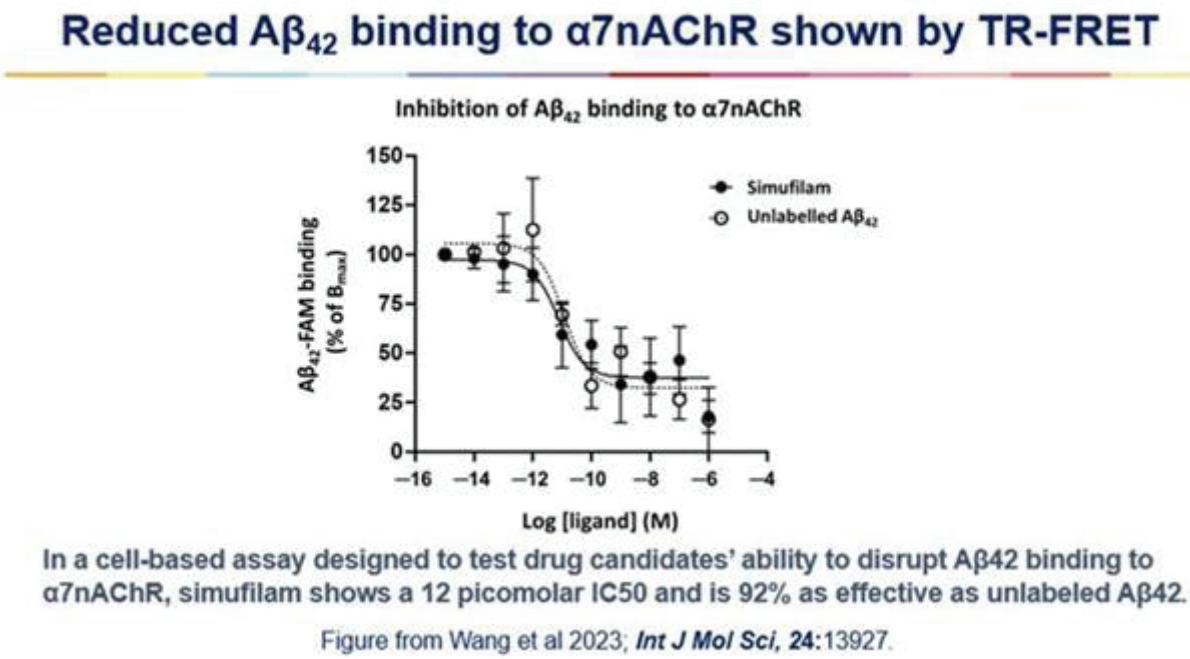
In Alzheimer's disease, this drug effect aims to restore the normal function of key brain receptors, including: the alpha-7 nicotinic acetylcholine receptor (α7nAChR); the N-methyl-D-aspartate (NMDA) receptor; and the insulin receptor. These receptors have pivotal roles in brain cell survival, cognition and memory. By seeking to restore function to multiple receptors, our approach has potential to slow the progression of Alzheimer's disease in patients.

We also believe simufilam may present an opportunity to potentially reduce seizures in patients with TSC. In TSC, preclinical studies in a mouse model indicate that simufilam reduces seizure activity in a manner similar to normalizing FLNA levels, but without actually lowering the level of FLNA.

Publication Confirming Mechanism of Action of Simufilam in Alzhieimer's disease

In September 2023, we announced the publication of confirmatory research with respect to the proposed mechanism of action of simufilam in Alzheimer's disease. Researchers at the Cochin Institute (Paris, France) used a precise cell-based assay based on TR-FRET to show that simufilam interrupts amyloid binding to the α7 nicotinic acetylcholine receptor (α7nAChR). We believe disruption of amyloid binding to α7nAChR underlies simufilam's primary mechanism of action in Alzheimer's disease. The research paper was co-authored by Hoau-Yan Wang and Zhe Pei of the City University of New York, Erika Cecon, Julie Dam and Ralf Jockers of the Institut Cochin, and Lindsay Burns, a former employee of Cassava Sciences, and appeared in a special issue of *International Journal of Molecular Sciences,* a peer-reviewed journal.

Experiment conducted by Erika Cecon, Université Paris Cité, Institut Cochin in an assay she developed: Cecon et al 2019; *Br J Pharmacol;* 176:3475-3488. Data shown are means of pooled data from 4 separate experiments ±SEM. Although Dr. Hoau-Yan Wang is listed as a co-author on the research paper, City University of New York and Dr. Wang had no involvement in the underlying research activities performed by Institut Cochin and Dr. Cecon. See "—2024 Non-Product Development Business Developments—Indictment of Hoau-Yan Wang."



Publication Showing Simufilam Suppresses Overactive mTOR

Recent data suggest that there also may be a beneficial impact of simufilam on mTOR signaling.

In June 2023, we announced the publication of research that showed the effects of simufilam on the mechanistic Target of Rapamycin (mTOR). Scientific literature shows overactive mTOR plays a key role in aging, Alzheimer's disease and other conditions. When functioning normally, mTOR monitors cellular needs and is activated by insulin. The research shows mTOR is overactive in lymphocytes isolated from blood collected from Alzheimer's patients versus healthy controls. After oral administration of simufilam 100 mg twice daily to Alzheimer's patients for 28 days, lymphocytes showed normalized mTOR activity and restored sensitivity to insulin.

These data suggest a meaningful impact of simufilam on mTOR signaling. The suppression of overactive mTOR signaling and its improved responsiveness to insulin represents a mechanistic benefit of simufilam beyond the disruption of pathogenic signaling pathways of soluble amyloid. These improvements in mTOR signaling may also result from reversing an altered conformation of FLNA, allowing FLNA to dissociate from the insulin receptor when insulin binds and initiates signaling. This mTOR research paper was co-authored by Hoau-Yan Wang, Zhe Pei and Kuo-Chieh Lee of the City University of New York, Boris Nikolov, Tamara Doehner and John Puente, who were investigators in the clinical trial protocols, and Lindsay Burns, a former employee of Cassava Sciences. This research paper appeared in *Frontiers in Aging*, a peer-reviewed journal, which has issued an "Expression of Concern" noting that concerns have been raised by third parties alleging manipulation of certain images included in the paper. See "—2024 Non-Product Development Business Developments—Indictment of Hoau-Yan Wang."

Simufilam Drug Development

Unless otherwise noted, all clinical data presented is statistically non-significant at a standard probability level of $p<0.05$.

IND submission to FDA, Drug Safety in Early Clinical Studies

For over a decade, we conducted basic research, in vitro studies and preclinical studies in support of a successful Investigational New Drug (IND) submission to the Food and Drug Administration (FDA) for simufilam, including requisite studies around safety pharmacology, toxicology, genotoxicity and bioanalytical methods. In 2017 we filed an IND with FDA for simufilam for Alzheimer's disease.

Following FDA acceptance of our IND in 2017, we investigated the safety, dosing and pharmacokinetic profile of simufilam in healthy human volunteers. The design of our first-in-human Phase 1 study was based on regulatory feedback, clinical and scientific rationale and observations from previously conducted preclinical and in vitro studies. In this Phase 1 study, simufilam was evaluated in 24 healthy human volunteers (18 simufilam, 6 placebo) in a single site in the U.S. for safety, tolerability and pharmacokinetics. Study subjects were administered a single oral dose of 50, 100 or 200 mg of simufilam or placebo. Drug appeared safe and well-tolerated. Importantly, simufilam showed no treatment-related adverse effects and no dose-limiting safety findings. Pharmacokinetic measurements demonstrated that simufilam, a small molecule, was rapidly absorbed. Dose-proportionality was observed over the full dose range of 50 to 200 mg.

24-Month Clinical Safety Study

In March 2020, we initiated a Phase 2 clinical safety study of simufilam in patients with Alzheimer's disease (NCT04388254). This study was funded in part by a research grant award from NIH. This study was designed to evaluate the long-term clinical safety and tolerability of simufilam in patients with Alzheimer's disease over 24 months. The study included a pre-specified exploratory efficacy endpoint of mean change in ADAS-Cog11 scores, a cognitive scale widely used in Alzheimer's clinical research. This study enrolled over 200 patients with mild-to-moderate Alzheimer's disease (Mini-Mental State Examination (MMSE) 16-26) who were recruited from 16 U.S. clinical sites. Severity of disease was assessed by the MMSE score of enrolled patients, with mild patients having an MMSE score of 21-26 and moderate patients having an MMSE score of 16-20.

We conducted the 24-month safety study in three continuous phases:

- a 12-month, open-label treatment phase, followed by
- a 6-month randomized, placebo-controlled withdrawal phase (previously referred to as the "Cognition Maintenance Study" or CMS), followed by
- 6 additional months of open-label treatment.

Study participants received simufilam oral tablets 100 mg twice-daily in the open-label treatment phases, and simufilam or matching placebo during the randomized withdrawal phase. In an open-label study design, both the health providers and the patients are aware of the drug treatment being given.

All study participants who completed 12 months of open-label simufilam treatment were eligible to participate in the 6-month randomized, placebo-controlled withdrawal phase. Likewise, all study participants who completed the randomized, placebo-controlled withdrawal phase were eligible for 6 additional months of open-label treatment.

Study Results for the 12-month, Open-label Treatment Phase

In January 2023, we announced top-line results for the 12-month, open-label treatment phase of the safety study.

Safety Data - Simufilam 100 mg tablets twice daily appeared safe and well tolerated in this treatment phase of the open-label study. There were no drug-related serious adverse events. Three treatment-emergent adverse events (TEAEs) occurred in 7% or more of study patients: COVID-19 (12%), urinary tract infection (10%) and headache (9%). Reported TEAEs are based on all study patients who received at least one dose of drug.

Exploratory Efficacy Endpoint Data – The table below provides a high-level summary of the pre-specified, exploratory efficacy endpoints data.

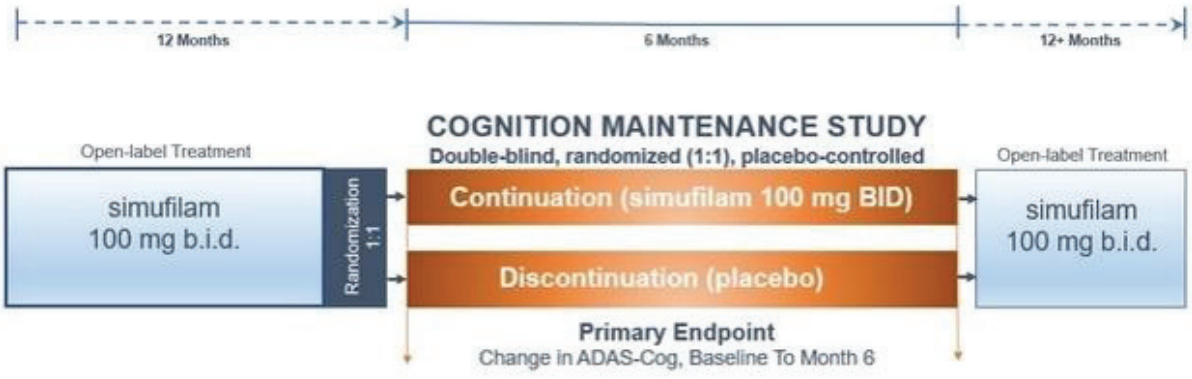
	Simufilam 100 mg BID N= 216	
Exploratory Endpoint Data*	Baseline (Study Entry)	Month 12
ADAS-COG11 (±SD)	19.1 (±9.2)	19.6 (±13.3)
MMSE (±SD)	21.5 (±3.6)	20.2 (±6.4)
NPI10 (±SD)	3.2 (±4.6)	2.9 (±4.6)
GDS (±SD)	1.8 (±1.8)	1.4 (±1.9)
*Full Analysis Set Population (N=216) **BID** = twice daily **ADAS-COG11** = The Alzheimer's Disease Assessment Scale – Cognitive Subscale (a lower number represents less cognitive impairment) **MMSE** = The Mini-Mental State Examination (a higher score indicates better cognitive function) **NPI10** = The Neuropsychiatric Inventory scale, which assesses dementia-related behavior (a lower score indicated higher quality of life) **GDS** = The Geriatric Depression Scale (a lower score signifies lesser severity of depressive symptoms)		

Study Results for the 6-month, Randomized Withdrawal Study Phase ("Cognition Maintenance Study")

In May 2021, we initiated the randomized, withdrawal phase of the 24-month safety study, which has been previously referred to as the 'Cognition Maintenance Study' or CMS. The CMS utilized a randomized, withdrawal study design. The International Council for Harmonization of Technical Requirements for Pharmaceuticals for Human Use (ICH) explains that in a randomized withdrawal study, "*subjects receiving a test treatment for a specified time are randomly assigned to continued treatment with the test treatment or to placebo (i.e., withdrawal of active therapy) … Any difference that emerges between the group receiving continued treatment and the group randomized to placebo would demonstrate the effect of the active treatment*."

The design of the randomized, withdrawal phase of the study was intended to provide an exploratory evaluation of simufilam's effects on cognition and health outcomes in Alzheimer's patients who continue with drug treatment versus patients who discontinue drug treatment. This was a double-blind, randomized, placebo-controlled study of simufilam in patients with mild-to-moderate Alzheimer's disease. Study patients were randomized (1:1) to simufilam or placebo for six months. To enroll in the CMS, patients must have previously completed 12 months or more of open-label treatment with simufilam. Final enrollment was 157 patients.

Design of the Randomized Withdrawal Phase (CMS)



Upon randomization into the withdrawal phase, mean baseline MMSE scores were 20.2 and 19.4 for the simufilam and placebo arms, respectively. Mean baseline ADAS-Cog scores were 19.3 and 21.9 for the simufilam and placebo arms, respectively.

Safety Data – Simufilam 100 mg tablets twice daily appeared safe and well tolerated in the 6-month, randomized withdrawal phase of the 24-month safety study.

Top-line Results – The table below provides a high-level summary of the exploratory efficacy endpoints data for the 6-month, randomized withdrawal phase of the 24-month safety study.

Exploratory Endpoint Data **N=155***	**Simufilam 100 mg BID** **N= 78**	**Placebo BID** **N= 77**
	Not statistically significant	
6-Month Change in (±SE) LS Mean ADAS-COG11 score**	+0.92 (±0.545)	+1.49 (±0.561)
*Full Analysis Set Population **Increase represents decline in cognition **BID** = twice daily **ADAS-COG11** = The Alzheimer's Disease Assessment Scale – Cognitive Subscale		

Study Results for the 24-Month Safety Study

Safety Data – Oral simufilam 100 mg tablets twice daily appeared safe and well tolerated in this study. There were no drug-related serious adverse events. The most common treatment-emergent adverse events (TEAEs) were Covid-19 and urinary tract infection.

Top-line Results – The table below provides a high-level summary of the exploratory efficacy endpoints data for the 24-month safety study.

Exploratory Endpoint Data	**Simufilam 100 mg BID Continuously for 24-Mos. Mild Patients (N= 47) Moderate Patients (N=32)**	**Simufilam 100 mg BID Non-continuously* for 24-Mos. Mild Patients (N= 40) Moderate Patients (N=35)**
	Not statistically significant	
Mild Patients -- Average Change in ADAS-COG11 score, Baseline to Month 24 (±SE)**	+0.07 (±1.51)	+1.04 (±1.65)
Moderate Patients -- Average Change in ADAS-COG11 score, Baseline to Month 24 (±SE)**	+11.05 (±1.91)	+14.26 (±1.79)
BID = twice daily *** Non-continuous treatment** = one year on open-label simufilam, six months on placebo, and six months on open-label simufilam ** Increase represents decline in cognition **ADAS-COG11** = The Alzheimer's Disease Assessment Scale – Cognitive Subscale **Mild Patients =** MMSE 21-26 (N=87), with ten exceptions (MMSE>26) due to prior participation or evidence of Alzheimer's disease pathology **Moderate =** MMSE 16-20 (N=67), with one patient who entered with MMSE 15		

Phase 2b Clinical Study

In September 2020, we reported final results of a 28-day, approximately 60-patient, randomized, double-blind, placebo-controlled, multiple dose Phase 2b clinical trial of simufilam for the treatment of Alzheimer's disease (the "Phase 2b Study"). See "Item 1A. Risk Factors—*The validity of aspects of the Company's Phase 2b Study has been called into question*" in this Annual Report on Form 10-K.

Special Protocol Assessments

In August 2021, we announced we had reached agreement with FDA under a Special Protocol Assessment (SPA) for our two Phase 3 studies. The first clinical study protocol under the SPA is titled "A Phase 3, Randomized, Double-Blind, Placebo-Controlled, Parallel-Group, 52-Week Study Evaluating the Safety and Efficacy of One Dose of Simufilam in Subjects with Mild-to-Moderate Alzheimer's Disease." The second clinical study protocol under the SPA is titled "A Phase 3, Randomized, Double-Blind, Placebo-Controlled, Parallel-Group, 76-Week Study Evaluating the Safety and Efficacy of Two Doses of Simufilam in Subjects with Mild-to-Moderate Alzheimer's Disease."

These SPA agreements document that FDA has reviewed and agreed upon the key design features of our Phase 3 study protocols of simufilam for the treatment of patients with Alzheimer's disease. In particular, an SPA agreement indicates concurrence by the FDA with the adequacy and acceptability of specific critical elements of overall protocol design (e.g., entry criteria, dose selection, endpoints, etc.). SPA agreements provide confidence that based on the applicable protocols, the covered Phase 3 studies of simufilam in Alzheimer's disease could potentially be considered adequate and well-controlled studies in support of a future regulatory submission and marketing application.

With the failure of RETHINK-ALZ to meet its prespecified co-primary endpoints and our decision to terminate REFOCUS-ALZ early, as announced on November 25, 2024, the SPAs for our Phase 3 clinical trials may no longer apply.

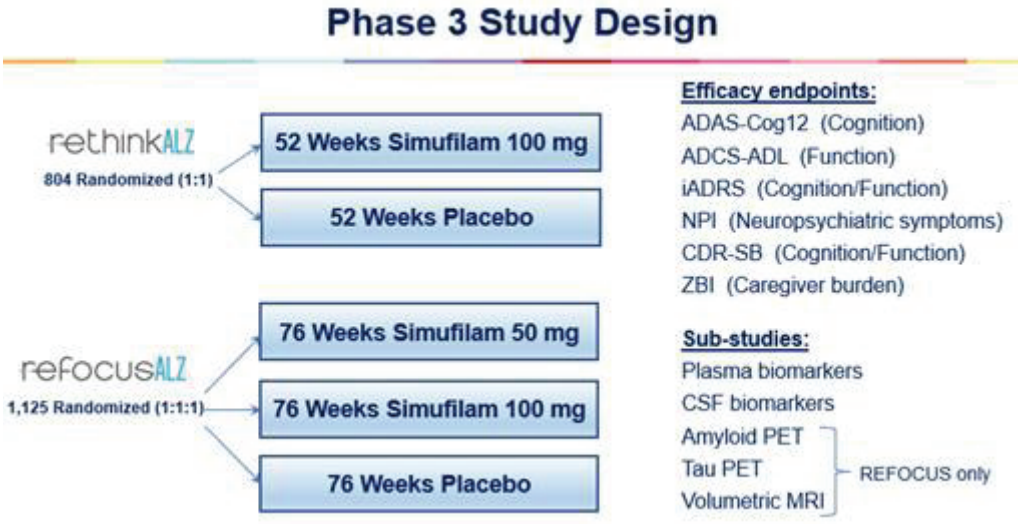
In Fall 2021, we announced initiation of these two Phase 3 studies of simufilam in mild-to-moderate Alzheimer's disease.

Our Phase 3 program consisted of two large, double-blind, randomized, placebo-controlled studies of simufilam in patients with mild-to-moderate Alzheimer's disease. Both studies were designed to measure changes in cognition and function during their treatment period. Key aspects of this clinical program are summarized below.

Premier Research International is the CRO that supported the conduct of our Phase 3 clinical program. Our Phase 3 clinical sites were located in the United States, Canada, Puerto Rico, Australia, and South Korea.

All statistical analyses for the REFOCUS-ALZ Phase 3 study will be performed by independent biostatisticians at Pentara Corporation. Importantly, the unblinded database for each Phase 3 study will be sent directly from the clinical research organization to the biostatisticians at Pentara. Pentara will notify us when their top-line statistical analyses have been completed. Cassava will have no access to the unblinded data until after Pentara has performed its statistical analyses. Similarly, plasma samples are being provided directly to an independent, accredited commercial laboratory, which will perform analyses of these samples under blinded conditions.

Summary of Our Phase 3 Clinical Program (Now Discontinued)



RETHINK-ALZ and REFOCUS-ALZ

In November 2023, we announced the completion of patient enrollment in both Phase 3 studies. A total of approximately 1,900 patients were randomized into these studies. Approximately 70% of randomized patients entered our Phase 3 studies with mild Alzheimer's disease (MMSE 20 to 27).

The first Phase 3 study, called RETHINK-ALZ, was designed to evaluate the safety and efficacy of oral simufilam 100 mg over 52 weeks (NCT04994483). Details of the RETHINK-ALZ Phase 3 study include:

- Approximately 800 patients were randomized into this study.
- Patients were randomized (1:1) to simufilam 100 mg tablets or matching placebo twice daily.
- Patients were treated for 52 weeks.
- Co-primary efficacy endpoints were change from baseline in the ADAS-Cog12, a cognitive scale, and the ADCS-ADL, a functional scale, each of which is a standard psychometric assessment tool in trials of Alzheimer's disease.
- A secondary efficacy endpoint was change from baseline in the iADRS, which is an integrated tool that combines scores from the ADAS-Cog12 and the ADCS-ADL.
- Other secondary endpoints included change from baseline in:
  - the Neuropsychiatric inventory (NPI), a clinical tool that assesses the frequency and severity of common dementia-related symptoms;
  - the Mini-Mental State Exam (MMSE), a screening tool for cognitive impairment that examines orientation, registration, attention and calculation, recall, language, repetition, complex commands, and visuospatial ability;
  - the Dementia Rating Sum of Boxes (CDR-SB), which characterizes 6 domains of cognitive and functional performance applicable to Alzheimer's disease and related dementias; and
  - the Zarit Burden Interview (ZBI), which is a study partner questionnaire designed to assess the stress or burden experienced by caregivers.
- Secondary endpoints also included a plasma biomarker sub-study involving a limited number of patients and research sites, which assesses change from baseline in plasma biomarkers of Alzheimer's Disease pathology, neurodegeneration and neuroinflammation (p-Tau217, neurofilament light chain, known as NfL, glial fibrillary acidic protein, known as GFAP, and Total Tau).
- No interim analyses on efficacy were conducted.

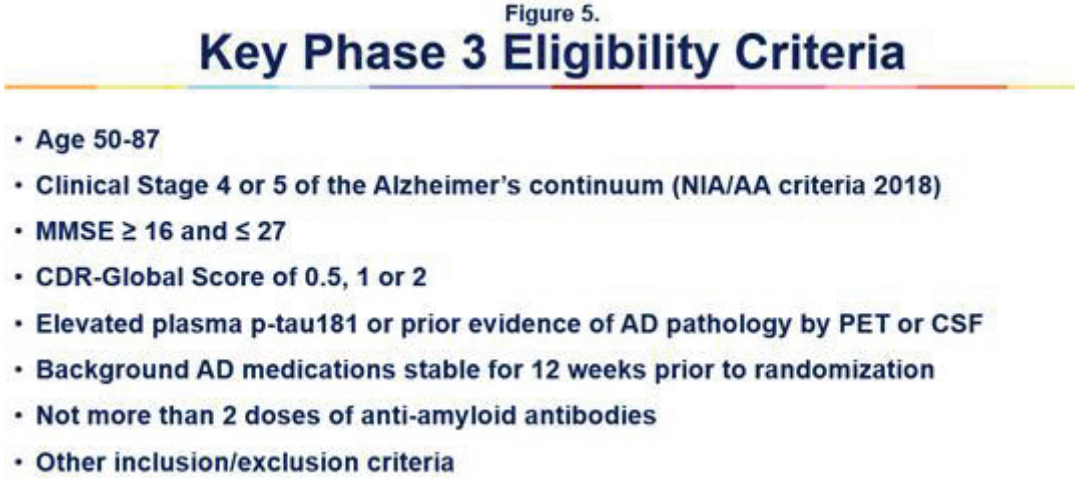
Our second Phase 3 study, called REFOCUS-ALZ, was designed to evaluate the safety and efficacy of oral simufilam 100 mg and 50 mg over 76 weeks (NCT05026177). Details of the REFOCUS-ALZ Phase 3 study include:

- Approximately 1,100 patients were randomized into this study.
- Patients were randomized (1:1:1) to simufilam 100 mg tablets, 50 mg tablets, or matching placebo twice daily.
- Patients that completed the trial prior to its early termination were treated for 76 weeks.
- Co-primary efficacy endpoints are change from baseline in the ADAS-Cog12, a cognitive scale, and the ADCS-ADL, a functional scale, each of which is a standard psychometric assessment tool in trials of Alzheimer's disease.
- A secondary efficacy endpoint is change from baseline in the iADRS, which is an integrated tool that combines scores from the ADAS-Cog12 and the ADCS-ADL.
- As in the RETHINK-ALZ trial, other secondary endpoints include change from baseline in NPI, MMSE, CDR-SB and ZBI.
- Additional secondary endpoints will also include sub-studies involving a limited number of patients and research sites to examine changes in baseline in:
  - plasma biomarkers of Alzheimer's Disease pathology, neurodegeneration and neuroinflammation (P-tau217, neurofilament light chain, known as NfL, glial fibrillary acidic protein, known as GFAP, and Total Tau);
  - cerebrospinal fluid (CSF) biomarkers of Alzheimer's Disease pathology, neurodegeneration and neuroinflammation;
  - brain volume—hippocampus, ventricles and whole brain—via magnetic resonance imaging (MRI); and
  - amyloid and tau deposition in the brain via positron emission topography (PET) imaging
- No interim analyses on efficacy were conducted.

Phase 3 Entry Criteria

For our Phase 3 clinical studies, eligibility criteria were the requirements that patients were required to meet to be included in a study. These requirements help make sure that study participants are substantially and closely matched as a group in terms of specific factors such as age, disease or stage of disease, general health, and other key factors. Eligibility criteria can consist of inclusion criteria, which are required for a person to participate in the study, or exclusion criteria, which prevent a person from participating. Certain eligibility criteria are summarized below.

Figure 5.



Use of Plasma Phosphorylated-tau181 (p-tau181)

We believe plasma p-tau181 is a biomarker qualifier of Alzheimer's neuropathology. RETHINK-ALZ and REFOCUS-ALZ Phase 3 studies used a 'research use only', non-safety related exploratory p-tau181 plasma assay to qualify mild-to-moderate Alzheimer's patients. The plasma assay used did not rely on age, APOE-gene status or complex algorithms to provide a result. P-Tau181 testing was performed by an independent commercial laboratory.

Data and Safety Monitoring Board (DSMB)

In September 2024, we announced that a third routine, scheduled meeting of a DSMB recommended that both of our Phase 3 studies continue as planned, without modification. This was consistent with DSMB meeting findings in March 2024 and September 2023. The DSMB reviewed only patient safety. It did not assess drug efficacy.

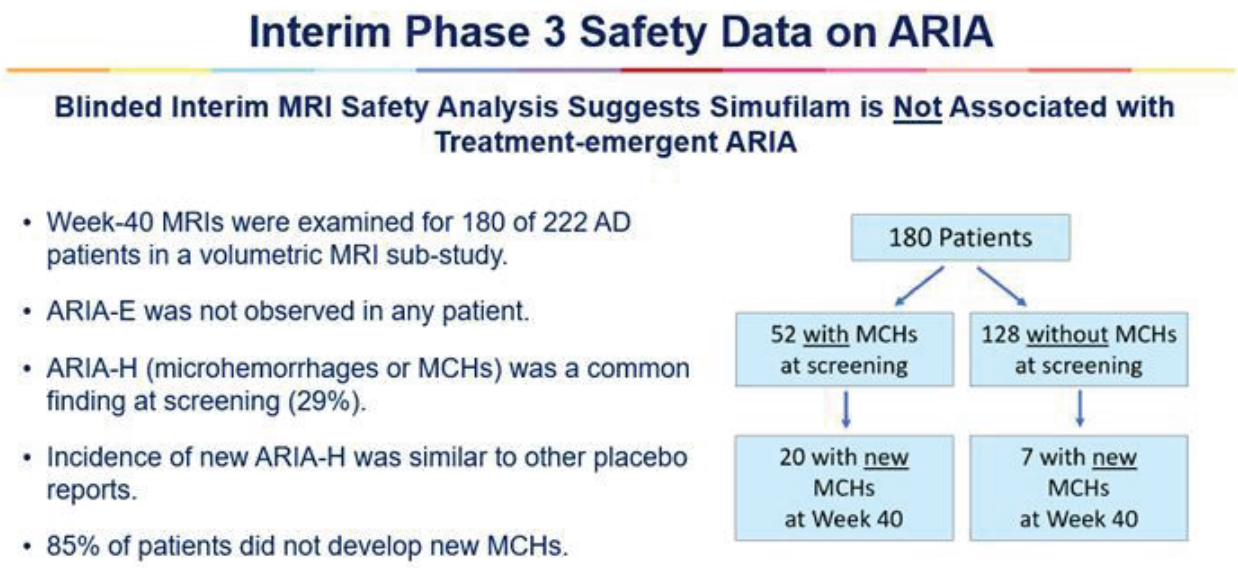
Interim MRI Safety Data

In October 2023, we announced that interim magnetic resonance imaging (MRI) brain data from Alzheimer's patients who were enrolled in REFOCUS-ALZ suggested that simufilam is not associated with treatment-emergent amyloid-related imaging abnormalities, or ARIA.

ARIA describes a spectrum of brain MRI imaging abnormalities, such as brain swelling and brain bleeds. ARIA is a known risk factor for Alzheimer's patients taking the class of drugs known as monoclonal antibodies directed against amyloid. In contrast to that class of drugs, simufilam is a small-molecule (oral) drug candidate.

The safety findings were based on an independent, interim neuroradiological evaluation of brain MRIs taken at week 40 in a blinded sub-study of 180 Alzheimer's patients enrolled in REFOCUS-ALZ. Final MRI data is expected at the conclusion of this Phase 3 study.

Figure 6.



Statistical Analysis Plan for RETHINK-ALZ

A statistical analysis plan (SAP) is a formal document defining the detailed analysis to be undertaken by our independent biostatisticians as to efficacy data collected in the trial. An SAP includes in-depth technical details and descriptions on the clinical trial analyses, the statistical methods and models to be used, the populations to be analyzed, the data variables to be analyzed, how to account for missing data, descriptions of covariates to be included in the statistical model, and other statistical factors, all of which have been prospectively defined, documented and finalized prior to unblinding of any efficacy outcomes.

In July 2024, we submitted to FDA for review an SAP for RETHINK-ALZ. Comments received from the agency were incorporated into the final SAP for RETHINK-ALZ.

RETHINK-ALZ Top-line Clinical Results

On November 25, 2024, we announced that the top-line results from the Phase 3 RETHINK-ALZ study of simufilam in mild-to-moderate Alzheimer's disease did not meet each of the pre-specified co-primary, secondary and exploratory biomarker endpoints. The co-primary endpoints were the change in cognition and function from baseline to the end of the double-blind treatment period at week 52, assessed by the ADAS-COG12 and ADCS-ADL scales, comparing simufilam to placebo. Simufilam continued to demonstrate an overall favorable safety profile.

The table below provides a high-level summary of the co-primary endpoints data. Topline analysis of the mild and moderate sub-groups, likewise, did not demonstrate statistical significance at week 52.

Co-Primary Endpoint Data*	Simufilam 100 mg BID N= 403	Placebo BID N=401	Delta	P-value
Co-Primary Endpoints LS means change from baseline to the end of the double-blind treatment period				
ADAS-COG12 (±SE)	2.8 (± 0.36)	3.2 (± 0.36)	-0.39 (± 0.50)	P=0.43
ADCS-ADL (±SE)	-3.3 (± 0.44)	-3.8 (± 0.44)	0.51 (± 0.61)	P=0.40
*Based on the intent-to-treat population BID = twice daily ADAS-COG12 = The Alzheimer's Disease Assessment Scale – Cognitive Subscale (a lower number represents less cognitive impairment) ADCS-ADL = Alzheimer's Disease Cooperative Study – Activities of Daily Living (a higher number represents less functional impairment)				

The table below provides a high-level summary of the patient demographic and safety data. Simufilam continued to demonstrate an overall favorable safety profile.

Metrics for Simufilam and Placebo	Simufilam 100 mg BID	Placebo BID
Baseline*		
Age, mean (SD), in years	73.7 ± 7.9	74.3± 7.6
Sex, n (%) female	225 (55.8%)	222 (55.4%)
MMSE Score (No.%,)		
21-27	244 (60.5%)	250 (62.3%)
16-20	155 (38.5%)	146 (36.4%)
Race/Ethnicity		
White	366 (90.8%)	376 (93.8%)
Black	20 (5.0%)	18 (4.5%)
Asian	8 (2.0%)	2 (0.5%)
Other	9 (2.2%)	5 (1.0%)
Safety**		
Any Adverse Event (AE)	284 (71.2%)	269 (67.6%)
Serious AEs	52 (13.0%)	36 (9.0%)
Death	1 (0.3%)	3 (0.8%)
AEs leading to discontinuation from the study	26 (6.5%)	17 (4.3%)
Most Frequent AEs		
1: COVID-19	32 (8.0%)	36 (9.0%)
2: Urinary Tract Infection	31 (7.8%)	29 (7.3%)
3: Fall	30 (7.5%)	30 (7.5%)
4: Dizziness	21 (5.3%)	1 (0.3%)
5: Headache	18 (4.5%)	11 (2.8%)
*Based on the intent-to-treat population **Based on the safety population BID = twice daily AD = Alzheimer's disease MMSE = Mini-Mental State Examination		

We will continue to review all of the data from the study and evaluate next steps. We plan to share the detailed results at a future medical meeting.

REFOCUS-ALZ study status

In light of the failure of RETHINNK-ALZ to meet its prespecified co-primary endpoints, we discontinued the Phase 3 REFOCUS-ALZ study. We intend to analyze the complete 52-week dataset from the REFOCUS-ALZ study, along with a large portion of 76-week data. We have finalized the SAP for REFOCUS-ALZ and expect to release top-line REFOCUS-ALZ results late first-quarter/early second-quarter 2025.

Following the release of the topline REFOCUS-ALZ results, the Company intends to evaluate the results and determine the next steps for the future advancement, if any, of its Alzheimer's program.

Discontinuation of Open-Label Extension Studies

In October 2022, we announced the initiation of an open-label extension study for our Phase 3 program. This study was designed to provide no-cost access to oral simufilam for up to one year to Alzheimer's patients who had successfully completed a Phase 3 study of simufilam and who met other entry criteria and to generate additional long-term clinical safety data for oral simufilam 100 mg twice daily over 52 weeks. In July 2024, we announced our intention to extend the Phase 3 open-label extension trial as well as an ongoing open-label extension trial for patients in the Company's Phase 2 clinical programs, in each case by up to an additional 36 months. Following the announcement of RETHINK-ALZ top-line results in November 2024, the Company discontinued the Open Label Extension study and all efforts to initiate additional open-label extension trials.

Simufilam Drug Supply

We have a drug supply agreement with Evonik Industries AG for simufilam. Under the agreement, Evonik supplies and is expected to continue to supply us with clinical-grade quantities of simufilam. Evonik is one of the world's largest contract development and manufacturing organizations for pharmaceutical ingredients. Other vendors supply excipients, the finished dosage form (i.e., simufilam tablets), drug packaging, package labeling and other critical components of the supply chain for drug supply that can be used for clinical studies.

SavaDx

Our investigational diagnostic product candidate, called SavaDx, is an early-stage program focused on detecting the presence of Alzheimer's disease from a small sample of blood. For business, technical and personnel reasons, we continue to prioritize the development of simufilam, our novel drug candidate, over SavaDx, our novel diagnostic candidate. SavaDx is a research-use only, non-safety related exploratory biomarker. Development activity related to SavaDx accounts for less than 1% of our research budget.

Working with third parties, we continue to evaluate the use of mass spectrometry to detect FLNA or other proteins of interest. The data and information generated from these evaluations continues to be under review for potential intellectual property rights.

The regulatory pathway for SavaDx may eventually include formal analytical validation studies and clinical studies that support evidence of sensitivity, specificity and other variables in various healthy and diseased patient populations. We have not conducted such studies and do not expect to conduct such studies in 2025.

SavaDx is an investigational diagnostic product candidate that has not yet been reviewed by FDA. Early clinical testing consisted of collecting blood samples on a limited scale to test and validate SavaDx using antibodies or mass spectrometry. Our ability to test such samples and generate accurate results depends on multiple factors, many of which are beyond our control. For example, optimal sample collection depends on risk of sample degradation, storage requirements to preserve samples, cost of sample storage and actual vs. predicted time of assay validation.

We have conducted four early validation tests using SavaDx. In three blinded studies of test samples, SavaDx detected more than a 10-fold separation between Alzheimer's patients and normal healthy control subjects (N=232 test samples). In these three proof-of-concept studies, SavaDx demonstrated nearly 100% accuracy and specificity. The three studies deployed a research grade antibody manufactured by an outside vendor.

A fourth blinded study of SavaDx failed to generate meaningful diagnostic data. We believe the fourth study may have deployed a faulty research antibody sourced from an outside vendor. Commercially available research antibodies can present certain technical flaws, such as improper validation, significant batch-to-batch variations or inconsistent storage, any of which can jeopardize results of studies and experiments.

We currently have no issued patents in the United States or elsewhere with respect to SavaDx.

Expansion of Our Science to Other Indications

We may leverage our scientific insights in neurodegeneration and neuroinflammation and advanced tools in molecular biology, biochemistry, and imaging to expand our science to other diseases, initially focusing on central nervous system disorders. New indications and new drug development approaches may complement or supersede our initial focus on Alzheimer's disease.

We intend to conduct exploratory preclinical studies in collaboration with the TSCA to better understand simufilam's potential as a treatment for TSC-related seizures. Based on the results of such additional studies, considered together with pre-clinical academic research, the Company will assess whether there is support for an IND application in respect of a proof-of-concept open-label clinical trial for simufilam in TSC-related epilepsy.

We Own Worldwide Rights to Our Neurodegeneration Program

We own intellectual property, including patents, patent applications, technology, trade secrets and know-how in the U.S. and other countries. The protection of patents, designs, trademarks and other proprietary rights that we own or license is critical to our success and competitive position. We consider the overall protection of our patents and other intellectual property rights to be of material value and act to protect these rights from infringement.

We seek to protect our technology by, among other methods, filing and prosecuting U.S. and foreign patents and patent applications with respect to our technology and products and their uses. The focus of our patent strategy is to secure and maintain intellectual property rights to technology for our program in neurodegeneration.

Simufilam was discovered and designed in-house and was characterized by our academic collaborators during research activities that were conducted from approximately 2008 to date. SavaDx is being developed in-house with outside collaborators. We solely own patents covering the composition of matter of our drug simufilam in the United States, Europe, Australia, Israel and Canada. We solely own patents covering certain methods of use of our drug simufilam in the United States, Europe and Japan. We solely own pending patent applications that cover diagnostic assets for simufilam in the United States, Europe, Japan, China, Canada, and Australia. We solely own pending patent applications that cover other diagnostic assets in the United States, Europe, Japan, China and Canada. We have no obligation to pay any royalty to any third party in connection with any of the foregoing described patents and patent applications. In the United States, our patent protection with respect to simufilam, its solid forms, and uses of simufilam for Alzheimer's disease and other neurodegenerative diseases includes nine issued United States patents, with terms expiring on dates ranging from 2029 to 2040, subject to any patent extensions that may be available for such patents. Corresponding foreign filings have been made for each of the United States filings. We may also pursue additional intellectual property protections in other jurisdictions or in connection with any potential expansion into other indications, including other central nervous system disorders, such as TSC-related epilepsy, in each case, in light of the Company's overall strategic development plans.

On February 26, 2025, we entered into the License Agreement with Yale pursuant to which we were granted exclusive worldwide rights, with rights to sublicense, to Yale's interest in certain patent and other intellectual property rights that could be useful or necessary to the development and commercialization of simufilam for the treatment of TSC-related epilepsy and other potential indications.

Our Development Team

Our product development team is led by seasoned professionals with a proven track record of innovation in drug discovery and development, as well as substantial business expertise.

Our Chief Medical Officer, James Kupiec, MD, has participated in research programs that led to two FDA drug approvals prior to Cassava Sciences. He previously served at Pfizer, Inc. as VP, Global Clinical Leader for Parkinson's Disease and Clinical Head of the Neuroscience Research Unit. Dr. Kupiec also held leadership roles at Sanofi and Ciba-Geigy Pharmaceuticals and before that was a practicing neurologist.

Michael Zamloot, SVP of Technology Operations, has participated in research programs that led to four FDA drug approvals prior to Cassava Sciences. He previously worked in drug operations and supply chain management at Boehringer Mannheim (acquired by Roche Diagnostics), Athena Neuroscience (acquired by Elan Pharmaceuticals) and Ciba-Geigy (acquired by Novartis).

Michael Marsman, PharmD, SVP of Regulatory Affairs previously held senior positions at Impax Laboratories, Millennium Pharmaceuticals, and Syntex, where he had shared responsibility for the regulatory approval of several high-profile drugs. He also previously led regulatory affairs for our Company for nearly a decade until 2019.

George (Ben) Thornton, PhD, SVP of Technology, has led research and development teams at Johnson & Johnson as well as translated basic science to the clinical setting at biotechnology start-ups such as GeneMedicine and Apovia.

Our management team is further supported by scientific advisors who are leading experts in the field and share our commitment to advancing new treatments for central nervous system disorders.

Our Strategy

Our goal is to develop product candidates to diagnose and/or treat central nervous system disorders, such as Alzheimer's disease and TSC-related epilepsy. Key elements of our business strategy to achieve this mission include:

- building a lean company that is narrowly focused on developing innovative product candidates for central nervous system disorders such as Alzheimer's disease and TSC-related epilepsy;
- publishing scientific data in peer-reviewed journals;
- applying development capabilities to advance our product candidates through clinical proof-of-concept studies and beyond;
- using our expertise and experience to continue to focus on discovering new indications and product candidates, validated by experimental evidence and leading experts in the field; and
- continuing to outsource preclinical studies, clinical studies and formulation development activities in order to allow more efficient deployment of our resources

We also conduct basic research and development in collaboration with academic and other partners. Our research and development expenses were $69.6 million, $89.4 million and $68.0 million for the year ended December 31, 2024, 2023 and 2022, respectively. See "*Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations*" for additional details regarding our research and development activities.

Competition

The drug discovery and development industry is characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary products. We face potential competition from many different sources, including pharmaceutical and biotechnology companies, academic institutions, governmental agencies, and public and private research institutions. Any product candidates that we successfully develop and commercialize, such as simufilam or SavaDx, may compete with existing therapies and new therapies that may become available in the future.

Many of our competitors have significantly greater financial resources, an established presence in the market, as well as expertise in research and development, manufacturing, preclinical and clinical testing, obtaining regulatory approvals and reimbursement and marketing-approved products. These competitors compete with us in recruiting and retaining qualified scientific and technical personnel, establishing clinical study sites and patient registration for clinical studies, as well as in acquiring or developing technologies complementary to, or necessary for, our programs. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies, significant financial backing from large investors and/or access to intellectual property from large established companies.

The key competitive factors affecting the success of simufilam, and any other product candidates that we develop, if approved, are likely to be efficacy, safety, convenience, price, level of generic competition, patient and physician acceptance and availability of reimbursement from government and other third-party payors. Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are more effective, have fewer or less severe side effects, are more convenient or are less expensive than products that we may develop.

Alzheimer's disease

Our competitors may develop and obtain FDA approval for their products more rapidly than we do. For example,with respect to Alzheimer’s disease, the FDA approved Eli Lilly's Kisunla (donanemab-azbt) in July 2024. The FDA also approved Biogen’s aducanumab (human monoclonal antibody) for the treatment of Alzheimer’s disease using an accelerated approval pathway, although its development and commercialization was subsequently discontinued by Biogen in January 2024. In January 2023, lecanemab (humanized version of a mouse monoclonal antibody, marketed as Leqembi®), which is a proprietary drug of Eisai R&D Management Co., Ltd. and Biogen, Inc., received marketing approval from the FDA for the treatment of Alzheimer’s disease using an accelerated approval pathway and in July 2023, the FDA granted lecanemab full approval for the treatment of Alzheimer’s disease. Each of the foregoing drugs is currently delivered by infusion.

Other currently marketed drugs, called cholinesterase inhibitors, focus solely on treating symptoms mostly in patients with mild-to-moderate Alzheimer's disease. The Alzheimer’s brain has low levels of a neurotransmitter called acetylcholine. Cholinesterase inhibitors prevent an enzyme in the brain, called acetylcholinesterase, from breaking down acetylcholine. Currently marketed cholinesterase inhibitors include donepezil (marketed by Eisai Co., Ltd. and Pfizer, Inc. as Aricept®), rivastigmine (marketed by Novartis AG as Exelon®) and galantamine (marketed by Janssen Pharmaceuticals, Inc. as Razadyne®). Cholinesterase inhibitors may benefit some patients for several months, after which the targeted brain receptors are desensitized, and drug efficacy is lost. Another approved medication for treating the symptoms of Alzheimer’s disease is memantine, a non-competitive antagonist of NMDA receptors (marketed by Lundbeck as Namenda®).

TSC-related seizures

With respect to TSC-related epilepsy, two pharmacological treatment categories are approved for this patient population. The first category is Traditional Anti-seizure Medications (ASMs), which include the standard of care (SOC) Vigabatrin, and options such as Levetiracetam, Valproate, and Clobazam. Most ASMs require patients to enroll in the Risk Evaluation and Mitigation Strategy (REMS) program due to a high rate of safety concerns, raising questions about their overall risk-benefit profile.

The second category is Disease-Specific ASMs, which are treatments indicated specifically for TSC-related epilepsy. Currently, there are two approved treatments for seizures associated with TSC: Afinitor Disperz (everolimus tablets for oral suspension) and Epidiolex (cannabidiol), both of which offer unique advantages and notable challenges. Everolimus, an mTOR inhibitor, is the only FDA-approved treatment that directly targets the underlying pathophysiology of TSC. While clinical trials have demonstrated its efficacy in reducing seizure frequency in patients with TSC-related epilepsy, it is not effective for all patients, underscoring the need for novel therapeutic approaches. Epidiolex has also been an important addition to the treatment landscape for TSC-related epilepsy, with clinical trials showing a significant reduction in seizure frequency. However, approximately one in four patients with hard-to-treat or refractory epilepsy were found to discontinue Epidiolex shortly after starting treatment, primarily due to side effects or lack of efficacy.

According to published research, approximately 60% of TSC patients remain inadequately controlled despite use of multiple ASMs. To date, there is no conclusive evidence that disease-specific ASMs are more effective than traditional ASMs, highlighting the ongoing need for additional therapeutic options to manage refractory TSC patients.

Manufacturing

Simufilam and any future product candidates must be manufactured for clinical trial use in compliance with current good manufacturing practices (cGMP) regulations. These regulations are extensive, stringent and complex, and may include requirements regarding the organization of personnel, buildings and facilities, equipment, control of components and drug product containers and closures, production and process controls, packaging and labeling controls, holding and distribution, laboratory controls, records and reports, and returned or salvaged products. Our manufacturing vendors must have facilities to make our product candidates in strict compliance with cGMP requirements and the FDA's or comparable foreign regulatory authorities' satisfaction. Our third-party vendors may also be subject to periodic and unannounced inspections of their respective facilities for general cGMP compliance by the FDA and other foreign authorities. These inspections may include review of procedures and operations used in the testing and manufacture of simufilam to assess compliance with applicable regulations. Failure to comply with statutory and regulatory requirements subjects a manufacturer to possible legal or regulatory action, including warning letters, the seizure or recall of products, injunctions, consent decrees placing significant restrictions on or suspending manufacturing operations and civil and criminal penalties. Contract manufacturers often encounter difficulties involving production yields, quality control and quality assurance, as well as shortages of qualified personnel. Any of these actions or events could have a material impact on the availability of simufilam. Our suppliers may be forced to stop producing, storing, shipping or testing our drug product candidates if they fall out of compliance with government regulations and standards.

Although we are ultimately responsible for the manufacture of simufilam and any other future product candidates, we have limited or no control over our suppliers' compliance, or lack thereof, with the multitude of regulations and standards that affect our drug products. We cannot control decisions by our suppliers that affect their ability or willingness to continue to supply us on acceptable terms, or at all.

We do not own or lease any manufacturing facilities. We outsource formulation, manufacturing and related activities to third parties. For the foreseeable future, we will continue to rely on third parties to conduct certain quality control and assurance testing, shipping or storage of our product candidates.

We currently rely on one non-affiliated contract development and manufacturing organization (CDMO)—Evonik Corporation—to manufacture simufilam and expect to continue to do so. In 2021, we entered into an agreement with Evonik Corporation to supply clinical-grade quantities of drug substance for simufilam. The goal of our manufacturing strategy is to ensure the integrity of the supply chain for drug substance in compliance with FDA standards. We believe raw materials for our drug product are readily available from reliable sources.

Government Regulation

Our operations are subject to various levels of governmental controls and regulations in the United States and in other countries where we operate or have operated, including Canada, South Korea and Australia. We attempt to comply with all legal requirements in the conduct of our operations and employ business practices that we consider to be prudent under the circumstances in which we operate. Government authorities in the U.S. (federal, state and local), Canada, South Korea, Australia and other countries regulate, among other things, the research, development, testing, manufacture, quality control, approval, labeling, packaging, storage, record-keeping, promotion, advertising, distribution, post-approval monitoring and reporting, marketing and export and import of drug and diagnostic products. Generally, before a new drug or diagnostic can be marketed, considerable data demonstrating its quality, safety and efficacy and/or specificity must be obtained, organized into a format specific for each regulatory authority, submitted for review and approved by each regulatory authority.

U.S. Drug Development

In the U.S., FDA regulates drugs under the Food, Drug, and Cosmetic Act (FDCA). Both drugs and diagnostics also are subject to other federal, state and local statutes and regulations. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations requires the expenditure of substantial time and financial resources. Failure to comply with the applicable U.S. requirements at any time during the product development process, approval process or post-market may subject an applicant to administrative or judicial sanctions. These sanctions could include, among other actions, FDA's refusal to approve pending applications, withdrawal of an approval, a clinical hold, untitled or warning letters, product recalls or market withdrawals, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement and civil or criminal penalties. Any agency or judicial enforcement action could have a material adverse effect on us.

Product candidates must be approved by FDA before they may be commercialized in the U.S. The drug approval process generally includes the following sequence of steps:

- Completion of extensive preclinical studies in accordance with applicable regulations, including studies conducted in accordance with good laboratory practice;
- Submission to FDA of an IND, which must become effective before human clinical studies may begin;
- Approval by an independent institutional review board (IRB) or ethics committee before each study may be initiated;
- Performance of adequate and well-controlled human clinical studies in accordance with applicable IND regulations, code of good clinical practice (cGCP), requirements and other clinical trial-related regulations to establish the safety and efficacy of the investigational product for each proposed indication;
- Submission to FDA of a new drug application (NDA);
- A determination by FDA within 60 days of its receipt of an NDA to accept the filing for review;
- Satisfactory completion of an FDA pre-approval inspection of the manufacturing facility or facilities where the drug will be produced to assess compliance with cGMP, requirements to assure that the facilities, methods and controls are adequate to preserve the drug's identity, strength, quality and purity;
- Potential FDA audit of the preclinical study and/or clinical study sites that generated the data in support of the NDA;
- FDA review and approval of the NDA, including consideration of the views of any FDA advisory committee, prior to any commercial marketing or sale of the drug in the U.S.; and
- Compliance with any post-approval requirements, including the potential requirement to conduct post-approval studies.

The data required to support an NDA are generated in two distinct developmental stages: preclinical and clinical. The preclinical and clinical testing and approval process requires substantial time, effort and financial resources, and we cannot be certain that any approvals for any future product candidates will be granted on a timely basis, or at all.

Preclinical Studies and IND

The preclinical developmental stage generally involves laboratory evaluations of drug chemistry, formulation and stability, as well as studies to evaluate toxicity in animals, which support subsequent clinical testing. As sponsor, we must submit the results of the preclinical studies, together with manufacturing information, analytical data, any available clinical data or literature and a proposed clinical protocol, to FDA as part of the IND. An IND is a request for authorization from FDA to administer an investigational product to humans and must become effective before human clinical studies may begin.

Preclinical studies include laboratory evaluation of product chemistry and formulation, as well as in vitro and animal studies to assess the potential for adverse events and in some cases to establish a rationale for therapeutic use. The conduct of preclinical studies is subject to federal regulations and requirements, including cGCP regulations for safety/toxicology studies. An IND sponsor must submit the results of the preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature and plans for clinical studies, among other things, to FDA as part of an IND. Some long-term preclinical testing, such as long-term toxicity tests, animal tests of reproductive adverse events and carcinogenicity, may continue after the IND is submitted. An IND automatically becomes effective 30 days after receipt by FDA, unless before that time FDA raises concerns or questions about any aspect of the program. In such a case, the IND sponsor and FDA must resolve any outstanding concerns before the clinical study can begin.

Clinical Studies

The clinical stage of development involves the administration of the investigational product to healthy volunteers or patients under the supervision of qualified investigators, generally physicians not employed by or under the study sponsor's control, in accordance with cGCP requirements, which include the requirement that all research subjects provide their informed consent for participation in any clinical trial. Clinical studies are conducted under protocols detailing, among other things, the objectives of the clinical trial, dosing procedures, subject selection and exclusion criteria and the parameters to be used to monitor subject safety and assess efficacy. Each protocol, and any subsequent amendments to the protocol, must be submitted to FDA as part of the IND. Furthermore, each clinical study must be reviewed and approved by an IRB for each institution at which the clinical study will be conducted to ensure that the risks to individuals participating in the clinical studies are minimized and are reasonable in relation to anticipated benefits. The IRB also approves the informed consent form that must be provided to each clinical study subject or his or her legal representative and must monitor the clinical study until completed. There also are requirements governing the reporting of ongoing clinical studies and completed clinical study results to public registries.

A sponsor who wishes to conduct a clinical study outside of the U.S. may, but need not, obtain FDA authorization to conduct the clinical study under an IND. If a foreign clinical study is not conducted under an IND, the sponsor may submit data from the clinical study to FDA in support of an NDA. The FDA may accept a well-designed and well-conducted foreign clinical study not conducted under an IND if the study was conducted in accordance with cGCP requirements and FDA is able to validate the data through an onsite inspection if deemed necessary.

Clinical studies in the U.S. generally are conducted in three sequential phases, known as Phase 1, Phase 2 and Phase 3, and may overlap.

- Phase 1 clinical studies generally involve a small number of healthy volunteers or disease-affected patients who are initially exposed to a single dose and then multiple doses of the product candidate. The primary purpose of these clinical studies is to assess the absorption, metabolism, pharmacologic action, tolerability and safety of a drug candidate.
- Phase 2 clinical studies involve studies in disease-affected patients to determine the proper dose required to produce the desired benefits. At the same time, safety and further pharmacokinetic and pharmacodynamic information is collected, possible adverse effects and safety risks are identified, and a preliminary evaluation of efficacy may be observed.
- Phase 3 clinical studies generally involve enrolling many patients at multiple sites and are designed to provide the data necessary to demonstrate the effectiveness of the product for its intended use, its safety in use and to establish the overall benefit/risk relationship of the product and provide an adequate basis for product approval. These studies may include comparisons with placebo and/or other comparator treatments. The duration of treatment is often extended to mimic the actual use of a product during marketing.

Post-approval studies, sometimes referred to as Phase 4 clinical studies, may be conducted after initial marketing approval. These studies are used to gain additional experience from the treatment of patients in the intended therapeutic indication. In certain instances, FDA may mandate the performance of Phase 4 clinical studies as a condition of approval of an NDA.

Progress reports detailing the results of the clinical studies, among other information, must be submitted at least annually to FDA. Written safety reports and the investigations for serious and unexpected adverse events, or any other findings suggesting a significant risk to humans exposed to the drug must be submitted to FDA.

Phase 1, Phase 2, and Phase 3 clinical studies may not be completed successfully within any specified period, if at all. The FDA or the sponsor may suspend or terminate a clinical study at any time on various grounds, including a finding that the research subjects or patients are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical study at its institution if the clinical study is not being conducted in accordance with the IRB's requirements or if the drug has been associated with unexpected serious harm to patients. Additionally, some clinical studies are overseen by an independent group of qualified experts organized by the clinical study sponsor, known as a Data and Safety Monitoring Board (DSMB). This group provides authorization for whether a study may move forward at designated check-points based on access to certain data from the trial. Concurrent with clinical studies, companies usually complete additional animal studies and must develop additional information about the chemistry and physical characteristics of the drug as well as finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the product and, among other things, companies must develop methods for testing the identity, strength, quality and purity of the final product. Additionally, appropriate packaging must be selected and tested, and stability studies must be conducted to demonstrate that our product candidates do not undergo unacceptable deterioration over their shelf life.

NDA Review Process

Following completion of the clinical studies, data is analyzed to assess whether the investigational product is safe and effective for the proposed indicated use or uses. The results of preclinical studies and clinical studies are then submitted to FDA as part of an NDA, along with proposed labeling, chemistry and manufacturing information to ensure product quality and other relevant data. In short, the NDA is a request for approval to market a drug for one or more specified indication and must contain proof of safety and efficacy for a drug's purity and potency. The application may include both negative and ambiguous results of preclinical studies and clinical studies, as well as positive findings. Data may come from company-sponsored clinical studies intended to test the safety and efficacy of a product's use or from several alternative sources, including studies initiated by investigators. To support marketing approval, the data submitted must be sufficient in quality and quantity to establish the safety and efficacy of the investigational product to the satisfaction of FDA. FDA approval of an NDA must be obtained before a drug may be marketed in the U.S.

Under the Prescription Drug User Fee Act (PDUFA), as amended, each NDA must be accompanied by a user fee. FDA adjusts the PDUFA user fees on an annual basis. According to FDA's fiscal year 2025 fee schedule, effective through September 30, 2025, the user fee for an application requiring clinical data, such as an NDA, is approximately $4.3 million. Fee waivers or reductions are available in certain circumstances, including a waiver of the application fee for the first application filed by a small business. Additionally, no user fees are assessed on NDAs for products designated as orphan drugs, unless the product also includes a non-orphan indication.

The FDA reviews all submitted NDAs before it accepts them for filing and may request additional information rather than accept the NDA for filing. The FDA must decide whether to accept an NDA for filing within 60 days of receipt. Once the submission is accepted for filing, FDA begins an in-depth review of the NDA. Under the goals and policies agreed to by FDA under PDUFA, FDA has 10 months, from the filing date, in which to complete its initial review of a new molecular-entity NDA and respond to the applicant, and six months from the filing date of a new molecular-entity NDA designated for priority review. The FDA does not always meet its PDUFA goal dates for standard and priority NDAs, and the review process is often extended by FDA requests for additional information or clarification.

Before approving an NDA, FDA may conduct a pre-approval inspection of the manufacturing facilities for the new product to determine whether they comply with cGMP requirements. The FDA will not approve the product unless it determines that the manufacturing processes and facilities fully comply with cGMP requirements and are adequate to assure consistent production of the product within required specifications. The FDA also may audit data from clinical studies to ensure compliance with cGCP requirements. Additionally, FDA may refer applications for novel product candidates which present difficult questions of safety or efficacy to an advisory committee, typically a panel that includes clinicians and other experts, for review, evaluation and a recommendation as to whether the application should be approved and under what conditions, if any. The FDA is not bound by recommendations of an advisory committee, but it considers such recommendations when making decisions on approval. The FDA likely will reanalyze the clinical study data, which could result in extensive discussions between FDA and the applicant during the review process. After FDA evaluates an NDA, it will issue either an approval letter or a Complete Response Letter (CRL). An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications. A CRL indicates that FDA's review of the application is complete and the application cannot be approved in its present form. A CRL usually describes the specific deficiencies in the NDA identified by FDA. The CRL may require additional clinical data, additional pivotal Phase 3 clinical trial(s) and/or other significant and time-consuming requirements related to clinical studies, preclinical studies or manufacturing. If a CRL is issued, the applicant may either resubmit the NDA, addressing all the deficiencies identified in the CRL, or withdraw the application. Even if such data and information are submitted, FDA may decide that the NDA does not satisfy the criteria for approval. Data obtained from clinical studies are not always conclusive and FDA may interpret data differently than we interpret the same data.

Commercialization Plan

Our product candidates have not received marketing approval from the FDA, and we do not expect to have any approved product candidates in the near term. We currently have no company experience in marketing drugs and have no personnel, capabilities or infrastructure in sales, marketing, third-party payor programs or commercial product distribution. When and if any of our product candidates are approved for commercialization, we will need to develop a commercialization infrastructure for any such product in the U.S. and potentially in certain other key markets. As a matter of strategy, we may also rely on partnerships or collaborations with larger biopharmaceutical companies to provide commercialization infrastructure, such as sales and marketing and commercial distribution.

Advertising and Promotion

The FDA and other federal regulatory agencies closely regulate the marketing and promotion of drugs through, among other things, standards and regulations for direct-to-consumer advertising, communications regarding unapproved uses, industry-sponsored scientific and educational activities, and promotional activities involving the Internet. None of our product candidates can be commercially promoted before receiving FDA approval. After approval, product promotion can include only those claims relating to safety and effectiveness that are consistent with the labeling approved by FDA. Healthcare providers are permitted to prescribe drugs for "off-label" uses — that is, uses not approved by FDA and therefore not described in the drug's labeling — because FDA does not regulate the practice of medicine. However, FDA regulations impose stringent restrictions on manufacturers' communications regarding off-label uses. Failure to comply with applicable FDA requirements and restrictions in this area may subject us to adverse publicity and enforcement action by FDA, the U.S. Department of Justice, or the Office of the Inspector General of Health and Human Services, as well as state authorities. This could subject us to a range of penalties that could have a significant commercial impact, including civil and criminal fines and agreements that materially restrict the manner in which we promote or distribute our product candidates.

Post-Approval Requirements

After a product candidate receives regulatory approval, it is often subject to pervasive and continuing regulation by FDA, including, among other things, requirements relating to drug listing and registration, recordkeeping, periodic reporting, product sampling and distribution, adverse event reporting and advertising, marketing and promotion restrictions.

Adverse event reporting and submission of periodic reports is required following FDA approval of an NDA. The FDA also may require post-market testing, known as Phase 4 testing, or FDA may place conditions on an approval that could restrict the distribution or use of the product. In addition, quality control, drug manufacture, packaging, and labeling procedures must continue to conform to cGMP after approval. Drug manufacturers and certain of their subcontractors are required to register their establishments with FDA and certain state agencies. Registration may result in periodic announced or unannounced inspections by FDA or these state agencies, during which the agency inspects manufacturing facilities to assess compliance with cGMP. Accordingly, manufacturers must continue to expend time, money, and effort in the areas of production and quality control to maintain compliance with cGMP. Regulatory authorities may withdraw product approvals or request product recalls if a company fails to comply with regulatory standards, if it encounters problems following initial marketing, or if previously unrecognized problems are subsequently discovered. In addition, other regulatory actions may be taken, including, among other things, warning letters, the seizure of products, injunctions, consent decrees placing significant restrictions on or suspending manufacturing operations, refusal to approve pending applications or supplements to approved applications, civil penalties, and criminal prosecution.

The FDA may require post-approval clinical studies to help assure continued safety or effectiveness of the approved drug. The FDA may also require a labeling change if it becomes aware of new safety information that it believes should be included in the labeling of a drug.

In addition to the FDA, manufacturing, sales, promotion and other activities following product approval are also subject to regulation by the Centers for Medicare and Medicaid Services, other divisions of the Department of Health and Human Services, the Department of Justice, the Consumer Product Safety Commission, the Federal Trade Commission, the Occupational Safety & Health Administration, the Environmental Protection Agency, the Affordable Care Act (ACA), other federal agencies and state and local governments.

For example, in the United States, sales, marketing and scientific and educational programs must comply with state and federal fraud and abuse laws. These laws include the federal Anti-Kickback Statute, which makes it illegal for any person, including a prescription drug manufacturer (or a party acting on its behalf), to knowingly and willfully solicit, receive, offer or pay any remuneration that is intended to induce or reward referrals, including the purchase, recommendation, order or prescription of a particular drug, for which payment may be made under a federal healthcare program, such as Medicare or Medicaid. Violations of this law are punishable by prison, criminal fines, administrative civil money penalties and exclusion from participation in federal healthcare programs. Moreover, the ACA provides that the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the False Claims Act.

Pricing and rebate programs must comply with the Medicaid rebate requirements of the U.S. Omnibus Budget Reconciliation Act of 1990 and more recent requirements in the ACA. If products are made available to authorized users of the Federal Supply Schedule of the General Services Administration, additional laws and requirements apply. Products must meet applicable child-resistant packaging requirements under the U.S. Poison Prevention Packaging Act. Manufacturing, sales, promotion and other activities also are potentially subject to federal and state consumer protection and unfair competition laws.

The distribution of pharmaceutical products is subject to additional requirements and regulations, including extensive record-keeping, licensing, storage and security requirements intended to prevent the unauthorized sale of pharmaceutical products.

The failure to comply with any of these laws or regulatory requirements subjects firms to possible legal or regulatory action. Depending on the circumstances, failure to meet applicable regulatory requirements can result in criminal prosecution, fines or other penalties, injunctions, requests for recall, seizure of products, total or partial suspension of production, denial or withdrawal of product approvals or refusal to allow a firm to enter into supply contracts, including government contracts. Any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business. Prohibitions or restrictions on sales or withdrawal of future products marketed by us could materially affect our business in an adverse way.

Changes in regulations, statutes or the interpretation of existing regulations could impact our business in the future by requiring, for example: changes to our manufacturing arrangements; additions or modifications to product labeling, if and when approved; the recall or discontinuation of our products; or additional record-keeping requirements. If any such changes were to be imposed, they could adversely affect the operation of our business.

The Hatch-Waxman Amendments

In seeking approval for our product candidates through an NDA, we will be required to list with FDA each patent whose claims cover the drug product. Upon receiving regulatory approval, each of the patents listed in the application for this drug is then published in FDA's Approved Drug Products with Therapeutic Equivalence Evaluations, commonly known as the "Orange Book." Drugs listed in the Orange Book can, in turn, be cited by potential generic competitors in support of approval of an abbreviated NDA, or ANDA. An ANDA provides for marketing of a drug product that has the same active ingredient in the same strengths and dosage form as the listed drug and has been shown through bioequivalence testing to be therapeutically equivalent to the listed drug. Other than the requirement for bioequivalence testing, ANDA applicants are not required to conduct, or submit results of, preclinical or clinical tests to prove the safety or efficacy of their drug product. Drugs approved in this way are commonly referred to as "generic equivalents" to the listed drug, and may be substituted by pharmacists under prescriptions written for the original listed drug.

The ANDA applicant is required to make certain certifications to FDA concerning any patents listed for the approved product in FDA's Orange Book. Specifically, the applicant must certify that: (i) the required patent information has not been filed; (ii) the listed patent has expired; (iii) the listed patent has not expired but will expire on a particular date and approval is sought after patent expiration; or (iv) the listed patent is invalid or will not be infringed by the new product. The ANDA applicant may also elect to submit a section viii statement certifying that its proposed ANDA label does not contain (or carves out) any language regarding the patented method-of-use rather than make certifications concerning a listed method-of-use patent. If the applicant does not challenge the listed patents, the ANDA application will not be approved until all the listed patents claiming the referenced product have expired.

A certification that the new product will not infringe the already approved product's listed patents, or that such patents are invalid, is called a Paragraph IV certification. If the ANDA applicant has provided a Paragraph IV certification to FDA, the applicant must also send notice of the Paragraph IV certification to the NDA and patent holders once the ANDA has been accepted for filing by FDA. The NDA and patent holders may then initiate a patent infringement lawsuit in response to the notice of the Paragraph IV certification. The filing of a patent infringement lawsuit within 45 days of the receipt of a Paragraph IV certification automatically prevents FDA from approving the ANDA until the earlier of 30 months, expiration of the patent, settlement of the lawsuit, or a decision in the infringement case that is favorable to the ANDA applicant. The ANDA application also will not be approved until any applicable non-patent exclusivity listed in the Orange Book for the referenced product has expired.

Disclosure of Clinical Study Information

Sponsors of clinical studies of FDA-regulated products, including drugs, are required to register and disclose certain clinical study information. Information related to the product, patient population, phase of investigation, clinical study sites and investigators, and other aspects of the clinical study is then made public as part of the registration. Sponsors are also obligated to post certain information regarding the results of their clinical studies after completion. Disclosure of the results of these studies can be delayed until the new product or new indication being studied has been approved. Competitors may use this publicly available information to gain knowledge regarding the progress of development programs.

Other Regulatory Requirements

We may be subject to federal, state and local environmental laws and regulations, including the Environmental Protection Act and the Clean Air Act. Although we believe that our safety procedures for handling and disposing of controlled materials comply with the standards prescribed by state and federal regulations, accidental contamination or injury from these materials may occur. In the event of such an occurrence, we could be held liable for any damages that result, and any such liability could exceed our resources.

We may also be subject to regulations under other federal, state, and local laws, including the Occupational Safety and Health Act, national restrictions on technology transfer, and import, export, and customs regulations. It is possible that any portion of the regulatory framework under which we operate may change and that such change could have a negative impact on our current and anticipated operations. Failure to comply with these requirements could result, among other things, in suspension of regulatory approval, recalls, injunctions or civil or criminal sanctions.

Third-Party Payor Coverage and Reimbursement

The commercial success of our product candidates, if approved, will depend, in part, upon the availability of coverage and adequate reimbursement from third-party payors at the federal, state and private levels. Third-party payors include governmental programs such as Medicare or Medicaid, private insurance plans and managed care plans. These third-party payors may deny coverage or reimbursement for our product candidates in whole or in part if they determine that our product candidates are not medically appropriate or necessary. Also, third-party payors attempt to control costs by limiting coverage through the use of formularies and other cost-containment mechanisms and the amount of reimbursement for particular procedures or drug treatments.

Some third-party payors also require pre-approval of coverage for new or innovative devices or drug therapies before they will reimburse healthcare providers who use such therapies. While we cannot predict whether any proposed cost-containment measures will be adopted or otherwise implemented in the future, these requirements or any announcement or adoption of such proposals could have a material adverse effect on our ability to obtain adequate prices for our approved product candidates to operate profitably.

Human Capital

Our approach to human capital resource management starts with our mission to detect and treat central nervous system disorders , such as Alzheimer's disease or TSC-related epilepsy. Our industry exists in a complex regulatory environment. The unique demands of our industry, together with the challenges of running an enterprise focused on the discovery, development, manufacture and commercialization of innovative medicines, require talent that is highly educated and/or has significant industry experience. Additionally, for certain key functions, we require specific scientific expertise to oversee and conduct research and development activities and the complex manufacturing requirements for biopharmaceutical products.

Our employees are an essential asset, and we consider our ability to recruit, train, retain and motivate our employees to be critical to our success. We are an equal opportunity employer, and we are fundamentally committed to creating and maintaining a work environment in which employees are treated with respect and dignity. All human resources policies, practices and actions related to hiring, promotion, compensation, benefits and termination are administered in accordance with the principal of equal employment opportunity, meaning that they are made on the basis of individual skills, knowledge, abilities, job performance and other legitimate criteria and without regard to race, color, religion, sex, sexual orientation, gender expression or identity, ethnicity, national origin, ancestry, age, mental or physical disability, genetic information, any veteran status, any military status or application for military service, or membership in any other category protected under applicable law. By focusing on employee retention and engagement, we also improve our ability to support our clinical trials, our pipeline, business and operations, and also protect the long-term interests of our stockholders. Our success also depends on our ability to attract, engage and retain a diverse group of employees.

Our base pay program aims to compensate management and staff members relative to the value of the contributions of their role, which takes into account the skills, knowledge and abilities required to perform each position, as well as the experience brought to the job. We also may pay cash bonuses to reward our management team and staff members in alignment with achievement of Company-wide goals that are designed to drive aspects of our strategic priorities that support and advance our strategy across our Company. Our management team and staff members are eligible for the grant of equity awards under our long-term incentive program that are designed to align their long-term interests with that of our stockholders.

Our benefit programs are generally broad-based, promote health and overall well-being and emphasize saving for retirement. All management team and regular staff members are eligible to participate in the same core health and welfare and retirement savings plans. Other employee benefits may include medical plans, dental plans, vacation and sick-pay plans, flexible spending accounts, life and accident insurance and short and long-term disability benefits.

Our Compensation Committee provides oversight of our executive compensation plans, policies and programs.

As of December 31, 2024, we had 30 full-time employees. None of our employees is represented by a labor union or covered under a collective bargaining agreement. We also engage numerous consultants to perform services on retainer, per diem or an hourly basis. We consider our relationship with our employees to be good.

On January 7, 2025, we announced a reduction in our workforce by 10 employees, a reduction of 33% (the "Workforce Reduction"). We communicated the Workforce Reduction to affected employees on January 7, 2025. The Workforce Reduction was intended to align our human capital resources to meet our strategic goals, in light of the discontinuation of our ongoing clinical trials for Alzheimer's disease.

We estimate that we will incur approximately $0.4 million of one-time costs in connection with the Workforce Reduction, primarily related to severance payments. The Company expects the Workforce Reduction to be completed, and the majority of the associated costs to be incurred, during the first quarter of 2025.

Lawsuit Against Perpetrators of "Short and Distort" Campaign

In November 2022, we announced that we had filed a lawsuit in federal district court for the Southern District of New York against certain individuals who executed a "short and distort" campaign against Cassava Sciences. On March 29, 2024, the court dismissed our complaint, but provided leave for the Company to file an amended complaint against certain defendants whom the Court found had published defamatory statements about the Company. The Company filed its Second Amended Complaint against these defendants on April 29, 2024. On August 2, 2024, the Company voluntarily dismissed its claims against the defendants named in the Second Amended Complaint without prejudice.

2024 Non-Product Development Business Developments

Update on Government Investigations

Beginning in August 2021, the Company has received subpoenas, a Civil Investigative Demand ("CID") and other requests for documents and information from the Department of Justice ("DOJ") and document requests from the SEC, each seeking corporate information and documents concerning the research and development of simufilam and/or SavaDx. The Company has been providing documents and information in response to these subpoenas, the CID and requests for information.

On September 26, 2024, the Company announced that it had reached a settlement with the SEC resolving the SEC investigation of the Company's disclosures regarding its Phase 2b Study and related matters. The SEC also agreed to a settlement with two former senior employees of the Company. Pursuant to these settlements, the U.S. District Court for the Western District of Texas entered final consent judgment on October 18, 2024, on a complaint filed by the SEC against the Company and its two former senior employees. The Company has neither admitted nor denied the allegations of the complaint. The SEC's complaint alleged that certain disclosures by the Company regarding the Phase 2b Study violated certain federal securities laws and SEC rules, including negligence-based disclosure violations of Sections 17(a)(2) and 17(a)(3) of the Securities Act of 1933, as amended (the "Securities Act"), as well as recordkeeping and reporting requirements under the Securities Exchange Act of 1934, as amended (the "Exchange Act"). The complaint alleges that the Company's SEC reports and other public statements regarding the Phase 2b Study negligently contained materially misleading statements and omissions. The SEC's allegations with respect to the Company's two former employees relate to these employees' roles in such disclosures. Under its settlement, the Company consented to a permanent injunction against future violations of Section 17(a) of the Securities Act, Section 13(a)(1) of the Exchange Act and Rules 12b-20, 13a-1, 13a-11 and 13a-13 under the Exchange Act. In addition, the Company paid a civil monetary penalty of $40 million in November 2024.

The Company continues to cooperate with the DOJ related to requests for documents and information, including those related to conduct alleged in the indictment of Dr. Hoau-Yan Wang discussed below. The Company cannot predict the outcome or impact of ongoing matters, including whether a government authority may pursue an enforcement action against the Company or others. The Company does not at this time anticipate, however, that DOJ will bring criminal charges against or seek a criminal resolution with the Company.

Indictment of Dr. Hoau-Yan Wang

On June 28, 2024, the DOJ announced that a federal grand jury in the U.S. District Court for the District of Maryland returned an indictment of Dr. Wang. The indictment alleges that Dr. Wang caused Cassava to submit grant applications to the U.S. National Institutes of Health ("NIH") that contained false and fraudulent representations about his research. Among other things, the indictment alleges that Dr. Wang made materially false, fraudulent, and misleading statements to NIH regarding the mechanism by which the Company's therapeutic product candidate, simufilam, was designed to treat Alzheimer's disease and the improvement of certain Alzheimer's disease indicators in patients treated with simufilam, and that Dr. Wang manipulated or otherwise fabricated research results, including Western Blot images that he prepared.

Dr. Wang, who is employed as a professor at the School of Medicine of the City University of New York ("CUNY"), previously served as a scientific collaborator and advisor to Cassava. Dr. Wang's research, including foundational research published together with Dr. Lindsay Burns, Cassava's former SVP, Neuroscience, led to the discovery of simufilam. Among other work for Cassava, Dr. Wang's laboratory at CUNY conducted the final bioanalysis for the Phase 2b study, which the Company reported as part of the final results of that study.

Dr. Wang received compensation from the Company for his consulting and advisory work for Cassava. For over a decade until Cassava's termination of its consulting relationship with him, Dr. Wang was paid a cash stipend of $2,000 per month. He was also awarded stock options pursuant to the Company's equity incentive plans, none of which were exercised. Dr. Wang held 18,571 stock options, all of which were granted between 2015 and 2019 with a weighted average exercise price of $4.22 per share. Dr. Wang's stock options expired unexercised in August 2024. Dr. Wang was previously a participant in the Company's 2020 Cash Incentive Bonus Plan (the CIB Plan). However, Dr. Wang was not in the past allocated and cannot in the future be allocated any cash bonus award pursuant to the CIB Plan. Prior to Dr. Wang's indictment, the Company terminated its consulting relationship with him, and the Board removed him as a participant in the CIB Plan.

Neither Dr. Wang nor his laboratory at CUNY had any involvement at any time in the Company's Phase 3 clinical trials of simufilam.

Leadership Updates

Appointment of Executive Chairman of the Board of Directors

On July 15, 2024, Richard J. Barry, an independent director at the time, was named by the Board as its Executive Chairman. On September 6, 2024, Mr. Barry was appointed President and Chief Executive Officer.

Mr. Barry, 66, has served as a director since June 2021. Since June 2015, Mr. Barry has served as a director of Sarepta Therapeutics, Inc. (Nasdaq: SRPT) and from June 2019 through October 2020, he served as a director of MiMedx Group Inc. (Nasdaq: MDXG). Mr. Barry has extensive experience in the investment management business. He was a founding member of Eastbourne Capital Management LLC, and served as a Managing General Partner and Portfolio Manager from 1999 to its close in 2010. Prior to Eastbourne, Mr. Barry was a Portfolio Manager and Managing Director of Robertson Stephens Investment Management. Mr. Barry holds a Bachelor of Arts from Pennsylvania State University. The Board has concluded that Mr. Barry's experience as founder and managing director of investment funds and as a director to public companies, including service on Audit, Compensation, and Nominating and Governance Committees, qualifies him to serve as President and Chief Executive Officer.

Resignation of Former Executive Officer and Director

On July 15, 2024, Remi Barbier resigned as President and Chief Executive Officer of the Company, effective as of September 13, 2024 (the "Effective Date"). Mr. Barbier was employed by the Company through the Effective Date in a non-executive capacity, without duties or responsibilities. Pursuant to the terms of Mr. Barbier's Employment Agreement, Mr. Barbier is receiving severance compensation equal to $1.23 million over twelve months following the Effective Date. Mr. Barbier continues to participate in the Company's medical plan at Cassava's expense and received a payment sufficient to provide insurance coverage equivalent to existing third-party plans, in each case for a period of twelve months following separation. In addition, on July 15, 2024, the Company's Board accepted Mr. Barbier's resignation as Chairman of the Board and from Board membership, effective on that date.

On September 13, 2024, the Company entered into a non-exclusive Consulting Agreement (the "Consulting Agreement") with Mr. Barbier. Pursuant to the Consulting Agreement, for a period of one year, Mr. Barbier was to furnish consulting services for $100 per hour as, and to the extent, reasonably requested by the Company for purposes of providing information and support for scientific research and/or obtaining governmental approval for the Company's products. Pursuant to the Consulting Agreement, Mr. Barbier also provided confidentiality and other customary covenants, terms and conditions during the Consulting Agreement's term. The Consulting Agreement was terminated effective January 23, 2025. Total consulting fees paid to Mr. Barbier were de minimis through the termination of the consulting agreement.

Other Management Changes

On July 16, 2024, Cassava and Lindsay Burns, Ph.D., SVP, Neuroscience, at the Company, agreed that Dr. Burns would step down from her employment with the Company, effective on that date.

The terms of Dr. Burns' separation are set forth in a Consulting Agreement (the "Burns Agreement"), which includes a Release Agreement, between Dr. Burns and the Company, dated July 16, 2024. Pursuant to the Burns Agreement, following her separation from the Company and for a one-year period, Dr. Burns will furnish consulting services as, and to the extent, reasonably requested by Cassava for purposes of providing information and support for scientific research and/or obtaining governmental approval for the Company's products. During the period of the Burns Agreement, Dr. Burns will be a "service provider" as that term is defined in the 2008 Equity Incentive Plan and 2018 Omnibus Incentive Plan. Cassava may, in its sole discretion, extend the term of the Burns Agreement for up to an additional year. The Company may also terminate the Burns Agreement at any time for cause, including, without limitation, for any actions that discredit Cassava's business reputation. Dr. Burns will be paid $500 per hour for such consulting services, which will constitute continuous service for purposes of outstanding equity awards held by Dr. Burns.

Pursuant to the Burns Agreement, Dr. Burns is receiving severance compensation equal to $0.5 million in quarterly installments over twelve months from July 16, 2024. Dr. Burns continues to participate in the Company's medical plan at Cassava's expense for a period of twelve months following separation, which may be extended to eighteen months in connection with an extension of the term of the Burns Agreement. Dr. Burns remains eligible for applicable indemnification rights under Dr. Burns' existing indemnification agreement, the Company's by-laws and the Company's insurance policies, in each case, subject to the terms and conditions and limitations thereof.

The Burns Agreement provides for Dr. Burns' general release of claims in favor of the Company, subject to certain exceptions. In addition, Dr. Burns is subject to a one-year non-competition covenant, a two-year non-solicitation covenant, and indefinite non-disparagement and confidentiality covenants. Dr. Burns remains subject to her existing assignment of inventions agreement.

Corporate Information

We were incorporated as a Delaware corporation in May 1998 under the name Pain Therapeutics, Inc. In March 2019, we changed our company name to Cassava Sciences, Inc. Our principal offices are located at 6801 N. Capital of Texas Highway, Building 1; Suite 300, Austin, TX, 78731. Our telephone number is 512-501-2444. Our website address is www.CassavaSciences.com. Information contained on our website is not a part of this Annual Report on Form 10-K and the inclusion of our website address in this Annual Report on Form 10-K is an inactive textual reference only.

We use Cassava Sciences, the Cassava Sciences logo, artwork and other marks as trademarks in the United States and other countries. Solely for convenience, trademarks and trade names referred to in this Annual Report, including logos, artwork, and other visual displays, may appear without the ® or TM symbols, but such references are not intended to indicate in any way that we will not assert, to the fullest extent under applicable law, our rights, or the rights of the applicable licensor to these trademarks and trade names. We do not intend our use or display of other entities' trade names, trademarks, or service marks to imply a relationship with, or endorsement or sponsorship of us by, any other entity.

We file electronically with the Securities and Exchange Commission (SEC) our annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. The address of the site is http://www.sec.gov.

You may obtain a free copy of our annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K and amendments to those reports on the day of filing with the SEC on our website at http://www.cassavasciences.com, by contacting our corporate offices by calling 512-501-2450 or by sending an e-mail message to IR@cassavasciences.com. The contents of our website are not incorporated into this filing.

Item 1A. ***Risk Factors***

RISK FACTORS

Investing in our securities involves a high degree of risk. This section includes a discussion of what we believe to be the material factors that make an investment in our Company speculative or risky. The risks described in this section are not the only risks we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial also may impair our business operations and the market price of our securities.

You should carefully consider the risks described below, as well as other information contained in this Annual Report on Form 10-K, including our consolidated financial statements and the related notes and the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations," before deciding whether to invest in our securities. The occurrence of any of the events or developments described below could harm our business, financial condition, results of operations, and growth prospects. In such an event, the market price of our securities could decline, and you may lose all or part of your investment.

Risks Related to the Discovery, Development, and Commercialization of Our Product Candidates

- *We have no approved products. Our product candidates are subject to significant development risks, and we may never achieve regulatory approval or commercial success.*
- *Our product candidates are based on new scientific approaches and novel technology, which makes it difficult to predict the time and cost of product candidate development and likelihood of success.*
- *The drug development process, the clinical trial process and the enrollment and retention of patients in clinical trials could be challenging, expensive and time-consuming for the indications that we are targeting.*
- *We are heavily dependent on the success of simufilam, our lead product candidate which is under development. If this product candidate is unsuccessful in clinical development, or does not receive regulatory approval, we will be unable to generate product revenue and our business will be harmed.*
- *We have a limited operating history in our business targeting Alzheimer's disease and TSC*-related *epilepsy and no history of product approvals for commercial sale, which may make it difficult to evaluate our current business and predict our future success and viability.*
- *We cannot give any assurance that we will file for regulatory approval for any of our product candidates, or that if we file for approval, our product candidates will receive regulatory approval, which is necessary before they can be commercialized.*
- *Results observed in preclinical studies, early stage clinical trials for simufilam are not regulatory evidence of drug safety or efficacy.*
- *We may encounter substantial delays in clinical studies that we conduct or may not be able to conduct or complete clinical studies on the timelines we expect, if at all.*
- *If physicians and patients do not accept and use our drugs, we will not achieve sufficient product revenues and our business will suffer.*
- *We currently have no in-house capabilities to manufacture or commercialize our product candidates, and we rely on a third-party commercial drug manufacturing organization for supplies of simufilam. If we are unable to develop our own manufacturing, sales, marketing and distribution capabilities, or if we are not successful in contracting with third parties for these services on favorable terms, or at all, our product revenues could be adversely impacted.*
- *Clinical studies that we conduct may fail to demonstrate substantial evidence of the safety and efficacy of our product candidates, which would prevent, delay, or limit the scope of regulatory approval and commercialization.*

Risks Related to Government Regulation and Other Legal Compliance Matters

- *Our financial condition and operating results could be adversely impacted by unfavorable results of legal proceedings, government investigations or allegations and other claims.*
- *If we are ultimately unable to file for and obtain regulatory approval for our product candidates, we will be unable to generate product revenue and our business will be substantially harmed.*
- *Our ability to market and promote our product candidates will be determined and limited by FDA-approved labeling.*
- *If we fail to comply or stay in compliance with the complex set of federal, state, local and foreign laws and regulations that apply to our business, we could suffer severe consequences that could materially and adversely affect our operating results and financial condition.*
- *Government agencies may establish and promulgate usage guidelines that could limit the use of our product candidates.*

Risks Related to Our Intellectual Property

- *If we are unable to obtain and maintain sufficient patent protection for any product candidates we develop, our competitors could develop and commercialize products similar or identical to ours, and our ability to successfully commercialize any product candidates we may develop may be adversely affected.*
- *Issued patents covering our product candidates and other technologies could be found invalid or unenforceable if challenged in court or before administrative bodies in the U.S. or abroad.*
- *If we do not obtain patent term extension and data exclusivity for any product candidates we may develop, our business may be materially harmed.*
- *If we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be materially harmed.*

Risks Related to Our Business and Operations

- *The validity of aspects of the Company's Phase 2b Study has been called into question.*
- *We are subject to lawsuits and governmental investigations and inquiries.*
- *Our ability to operate without any significant disruptions will, in part, depend on our ability to source materials and clinical supplies via our product supply chains.*
- *Our reliance on third parties for both the supply and manufacture of materials for our product candidates carries the risk that we will not have sufficient quality or quantities of such materials or product candidates, or that such supply will not be available to us at an acceptable cost, which could delay, prevent, or impair our development or commercialization efforts.*
- *Our Workforce Reduction may result in operational and strategic challenges.*
- *Our internal computer systems, or those used by third parties on whom we rely, may fail or suffer other breakdowns, cyberattacks, or information security breaches that could compromise the confidentiality, integrity, and availability of such systems and data, result in material disruptions of our development programs and business operations, risk disclosure of confidential, financial, or proprietary information, and affect our reputation.*
- *Business disruptions and lack of appropriate levels of commercial insurance could seriously harm our future revenue and financial condition and increase our costs and expenses.*
- *Social media platforms have significantly altered the dynamics of corporate communications and present risks and challenges, some of which are and may continue to be unknown to us.*

Risks Related to Financial Condition and Capital Requirements

- *We have incurred significant net losses in each period since our inception and anticipate that we will continue to incur net losses for the foreseeable future.*
- *We have broad discretion in the use of our capital resources, including the net proceeds from any of our financing transactions and may not use them effectively.*
- *We have no product revenues and may never achieve revenues or profitability based on product revenues.*

Risks Related to the Ownership of Our Common Stock

- *The market price of our common stock has historically been highly volatile and we expect it to continue to be volatile, which could result in substantial losses for investors who purchase our shares.*
- *Changes in our ownership could limit our ability to utilize net operating loss carryforwards.*

Risks Related to the Discovery, Development, and Commercialization of Our Product Candidates

We have no approved products. Our product candidates are subject to significant development risk, and we may never achieve regulatory approval or commercial success

We are developing therapeutic and diagnostic product candidates, but to date have no approved products and have concentrated substantially all of our resources in recent years on research and development efforts on experimental methods for the treatment of Alzheimer's disease. As we explore expansion into other therapeutic indications, we expect that we will continue to expend substantial resources on research and development. All of the product candidates that we seek to develop are subject to significant development risk, as the development of new pharmaceutical treatments is inherently risky.

Developing and, if approved, commercializing a novel treatment for a central nervous system disorder, such as Alzheimer's disease or TSC-related epilepsy, subjects us to many challenges, including obtaining regulatory approval from FDA and other regulatory authorities.

Because of the challenges associated with drug development, we may never achieve regulatory approval or commercial success for any of the product candidates that we develop.

Our product candidates are based on new scientific approaches and novel technology, which makes it difficult to predict the time and cost of product candidate development and likelihood of success.

Our lead drug candidate, simufilam, is based on a new approach of stabilizing—but not removing—a critical protein in the brain. We cannot be certain that our novel technologies will yield clinical results that support the approval of a safe and effective therapeutic product or, if approvable, that such a product will be marketable. In addition, because FDA has limited comparators to evaluate our lead drug candidate, we could experience a longer than expected regulatory review process and increased development costs.

The drug development process, the clinical trial process and the enrollment and retention of patients in clinical trials could be challenging, expensive and time-consuming for the indications that we are targeting.

Identifying and qualifying patients to participate in clinical studies is critical to the success of the relevant product candidate. The timing of clinical studies depends, in part, on the speed of recruitment of patients to participate in testing such product candidates as well as completion of required follow-up periods. We may not be able to identify, recruit and enroll a sufficient number of patients or patients with required or desired characteristics to achieve the objectives of the study. If patients are unable or unwilling to participate in such studies, the timeline for recruiting patients, conducting studies and obtaining regulatory approval of potential products may be delayed. These delays could result in increased costs, delays in advancing our product candidates, delays in testing the effectiveness of our technology, failure to meet study endpoints or objectives or termination of the clinical studies altogether.

Patient enrollment and retention in clinical trials depends on many factors, including the size of the patient population, the nature of the trial protocol, the existing body of safety and efficacy data, the number and nature of competing treatments and ongoing clinical trials of competing therapies for the same indication, the proximity of patients to clinical sites and the eligibility criteria for the trial. Such enrollment issues could cause delays or prevent development and approval of our drug candidate.

Furthermore, our efforts to build relationships with patient communities may not succeed, which could result in delays in patient enrollment in our clinical trials. In addition, any negative results we may report in clinical trials of our drug candidate may make it difficult or impossible to recruit and retain patients in other clinical trials of that same drug candidate. For example, our enrollment efforts for future clinical trials, regardless of indication, may face headwinds as a result of the failure of our RETHINK-ALZ clinical trial to achieve its primary endpoints.

To the extent that we pursue an indication for simufilam for TSC-related epilepsy, we may face particular challenges. Because TSC is a rare neurological disorder, there are limited patient pools from which to draw in order to complete clinical trials in a timely and cost-effective manner. Identifying and qualifying patients to participate in our clinical trials would be critical to our success in pursuing an indication in TSC for simufilam. The number of patients suffering from TSC is small and has not been established with precision. If the actual number of patients with TSC is smaller than we anticipate, we may encounter difficulties in enrolling patients in our clinical trials, thereby delaying or preventing development and approval of a drug candidate. Even once enrolled we may be unable to retain a sufficient number of patients to complete trials for TSC-related epilepsy.

Delays or failures in planned patient enrollment or retention may result in increased costs, program delays or both, which could have a harmful effect on our ability to develop our drug candidates or could render further development impossible.

We are heavily dependent on the success of simufilam, our lead product candidate, which is under development. If this product candidate is unsuccessful in clinical development or does not receive regulatory approval, we will be unable to generate product revenue and our business will be harmed.

Our business is substantially dependent on our ability to successfully complete clinical development and obtain regulatory approval for simufilam, which may never occur. In recent years, we have invested a significant portion of our efforts and financial resources in the development of simufilam and, to a much lesser extent, SavaDx, for the treatment and detection of Alzheimer's disease, respectively. We also intend to conduct exploratory preclinical studies to better understand simufilam's potential as a treatment for TSC-related seizures.

The results of clinical studies are subject to a variety of factors, and there can be no assurance for any indication that simufilam will achieve clinical success, advance to regulatory approval, be approved by applicable regulatory agencies, or be successfully commercialized.

An unfavorable outcome in one or more of the clinical trials that we conduct would be a major setback for our product candidates and for us and may require us to delay, reduce or re-define the scope of, or eliminate one or more product candidate development programs, any of which could have a material adverse effect on our business, financial condition and prospects. For example, on November 25, 2024, we announced that the topline results from our Phase 3 RETHINK-ALZ study of simufilam in Alzheimer's disease did not meet each of the pre-specified co-primary, secondary and exploratory biomarker endpoints. Following the failure of REITHINK-ALZ, we discontinued our Phase 3 REFOCUS-ALZ study as well as all of our open-label extension studies in Alzheimer's disease. Following the release of the topline REFOCUS-ALZ results, we intend to evaluate the results and determine the next steps for the future advancement, if any, of its Alzheimer's program.

We have a limited operating history in our business targeting Alzheimer's disease and TSC-related ***epilepsy and no history of product approvals for commercial sale, which may make it difficult to evaluate our current business and predict our future success and viability.***

We are a clinical-stage biopharmaceutical company with a limited operating history in our business initially targeting Alzheimer's disease and now evaluating TSC-related epilepsy as a target. Since we commenced operations in 1998, we have had no product candidates approved for commercial sale and have not generated any revenue from product sales. Drug development is a highly uncertain undertaking and involves a substantial degree of risk. To date, we have not completed a successful pivotal Phase 3 clinical study in Alzheimer's disease or TSC-related epilepsy, obtained marketing approval for any product candidates, or conducted sales and marketing activities necessary for successful product commercialization. Our long operating history as a company without product revenue makes any assessment of our future success and viability subject to significant uncertainty.

We will continue to encounter risks and difficulties frequently experienced by clinical-stage biopharmaceutical companies in rapidly evolving fields. We have not yet demonstrated an ability to successfully overcome such risks and difficulties. If we do not successfully address these risks and difficulties, our business, results of operations and financial condition will suffer materially.

We cannot give any assurance that we will file for regulatory approval for any of our product candidates or that, if we file for approval, our product candidates will receive regulatory approval, which is necessary before they can be commercialized.

To date, we have invested substantial effort and financial resources to identify, procure intellectual property for, and develop our programs in neurodegeneration and other central nervous system disorders, including conducting preclinical and clinical studies for our product candidates, simufilam and SavaDx, and providing general and administrative support for these operations. 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 studies, as recently occurred with our RETHINK-ALZ Phase 3 clinical study;
- a product candidate may, on further study, be shown to have harmful side effects or other characteristics that indicate it is unlikely to be safe or effective or otherwise does not meet applicable regulatory criteria;
- our competitors may develop products or therapies that render our product candidates obsolete or less attractive;
- the product candidates that we develop may not be sufficiently covered by intellectual property;
- the product candidates that we develop may be challenged by third parties' patents or other intellectual property or exclusive rights;
- the market for our product candidates may change so that the continued development of a product candidate is no longer reasonable or commercially attractive;
- our product candidates 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, to gain market acceptance; and
- a product candidate may not be accepted as safe, effective or useful by patients, the medical community or third-party payors, if applicable.

If any of these events occur, we may be forced to abandon our development efforts for a program or programs, which would have a material adverse effect on our business and could potentially cause us to cease operations.

We may not be successful in our efforts to further develop our product candidates. We are not permitted to market or promote any of our product candidates before we receive regulatory approval from FDA or comparable foreign regulatory authorities, and we may never receive such regulatory approval for any of our product candidates. SavaDx is in the early stages of development. Simufilam, our lead product candidate, will require successful completion of a Phase 3 program, 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.

We have never completed a product development program in neurodegeneration or other central nervous system disorders. Further, we cannot be certain that any of our product candidates will be successful in clinical studies, and we may terminate existing or future clinical studies prior to their completion, as occurred with our REFOCUS-ALZ Phase 3 clinical trial and open-label extension trials for Alzheimer's disease following the failure of our RETHINK-ALZ Phase 3 clinical trial to achieve its pre-specified endpoints.

If any of our product candidates successfully complete clinical studies, we may seek regulatory approval to market our product candidates in the U.S., Japan, Canada, the United Kingdom or the European Union, and in additional foreign countries where we believe there is a viable commercial opportunity. We may never receive regulatory approval to market any product candidates anywhere even if such product candidates successfully complete clinical studies, which would adversely affect our viability. To obtain regulatory approval in countries outside the U.S., we would need to comply with numerous and varying regulatory requirements of such other countries regarding safety, efficacy, manufacturing and controls, clinical studies, commercial sales, pricing, and distribution of our product candidates. Even if we 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 business, financial condition, results of operations, and our growth prospects could be negatively affected.

Even if we receive regulatory approval to market any of our product candidates, whether for the treatment or diagnosis of neurodegenerative diseases or other diseases, we cannot provide assurance that any such product candidate will be successfully commercialized, widely accepted in the marketplace or more effective than other commercially available alternatives.

Investment in biopharmaceutical product development involves significant risk that any product candidate will fail to demonstrate adequate efficacy or an acceptable safety profile, gain regulatory approval, and become commercially viable. We cannot provide any assurance that we will be able to successfully advance any of our product candidates through the development process or, if approved, successfully commercialize any of our product candidates.

There can be no assurance that promising results of preclinical studies or Phase 1 or Phase 2 clinical trials with simufilam will be reproduced in later stage studies, including Phase 3 studies.

Results of any of our preclinical studies or Phase 1 or Phase 2 clinical trials with simufilam are not predictive of the future results of any other trial, including any later-stage Phase 3 clinical trials. Notwithstanding promising results in earlier stage trials, our first Phase 3 trial in Alzheimer's disease did not meet each of the pre-specified co-primary, secondary and exploratory biomarker endpoints. Simufilam may fail to show the desired safety and efficacy in additional Phase 3 clinical trials despite having progressed successfully through preclinical studies and initial clinical trials in the applicable indication. Many biopharmaceutical companies have suffered significant setbacks in Phase 3 clinical trials due to lack of efficacy or adverse safety profiles, notwithstanding promising results in earlier trials. We cannot be certain that our product candidates will not continue to face similar setbacks.

In addition, preliminary conclusions based on data from analyses of Phase 1 and Phase 2 clinical studies and open-label results may not be reproduced when implemented in large, well-controlled, randomized clinical trials. Particular caution should be exercised when interpreting preliminary data, data relating to a small number of patients and data from open-label uncontrolled studies, which are generally not capable of providing interpretable evidence of efficacy. Phase 1 studies are designed to assess the initial safety characteristics of simufilam and such studies are not designed to, and do not, evaluate safety, tolerability and efficacy of simufilam in patients. Similarly, Phase 2 clinical studies with simufilam that we conduct are designed to assess the safety characteristics of simufilam in patients. Such Phase 2 programs are not designed to, and do not, evaluate large-scale or long-term safety, tolerability and efficacy of simufilam in patients. There can be no assurance that future large, well-controlled, multi-dose studies will demonstrate the safety, tolerability or efficacy of simufilam to treat patients with any indication, including Alzheimer's disease or TSC-related epilepsy.

Even if clinical trials for simufilam are completed, we cannot be certain that their results will support the substantial evidence of safety and efficacy needed to obtain regulatory approval. The failure of simufilam to show safety, tolerability or efficacy in any future clinical studies would significantly harm our business.

Results observed preclinical studies and early-stage clinical trials for simufilam are not regulatory evidence of drug safety or efficacy.

Data results from any preclinical and non-Phase 3 studies that we conduct do not constitute, and should not be interpreted as, regulatory evidence of safety or efficacy for simufilam in the applicable indication, including Alzheimer's disease or TSC-related epilepsy. Rigorous evidence for drug safety and efficacy is derived only from one or more large, randomized, placebo-controlled studies. The size and open-label design of portions of our non-Phase 3 studies may introduce clinical or statistical bias or may generate results that may not fully distinguish between drug effects and random variation. Different methods of statistical analysis on clinical data from the same study may lead to objectively different numerical results. These and other statistical and clinical features of our non-Phase 3 studies add complexity or limitations to the scope of data interpretation.

We may encounter substantial delays in the clinical studies that we conduct or may not be able to conduct or complete our clinical studies on the timelines we expect, if at all.

Clinical testing is expensive, time consuming, and subject to uncertainty. We cannot guarantee that any clinical studies will be conducted as planned, enroll patients as planned or be completed on schedule, if at all. Moreover, even after our studies begin, safety or other issues may arise that could suspend or terminate such clinical studies. A failure of one or more clinical studies can occur at any stage of testing, and our ongoing or future clinical studies may not be successful. Events that may prevent successful or timely initiation or completion of clinical studies include:

- inability to generate sufficient or necessary preclinical, toxicology, or other in vivo or in vitro data to support the initiation or continuation of clinical studies or to support the filing of a New Drug Application for simufilam;
- delays in confirming target engagement, patient selection, or other relevant biomarkers to be utilized in preclinical and clinical product candidate development;
- delays in reaching a consensus with regulatory agencies on study design;
- delays in reaching an agreement on acceptable terms with prospective clinical study sites, the terms of which can be subject to extensive negotiation and may vary significantly among different clinical study sites;
- delays in identifying and recruiting suitable clinical investigators;
- delays in obtaining required IRB approval for each clinical study site or adverse action by one or more IRBs;
- a new safety finding that presents unreasonable risk to clinical study participants;
- a negative finding from an inspection of our clinical research organization (CRO), clinical study operations or study sites;
- the finding that the investigational protocol or plan is deficient to meet its stated objectives;
- delays in identifying, recruiting, and enrolling suitable patients to participate in our clinical studies, and delays caused by patients withdrawing from clinical studies, or failing to return for post-treatment follow-up;
- delays caused by disease epidemics, pandemics, or other health crises;
- difficulty collaborating with patient groups and investigators;
- failure by our CRO or other third parties, or us to adhere to clinical study requirements;
- failure to perform in accordance with FDA's or any other regulatory authority's Code of Good Clinical Practice (GCP) requirements, or other regulatory guidelines in other countries;
- occurrence of adverse events associated with the product candidate that are viewed to outweigh its potential benefits;
- changes in regulatory requirements and guidance that require amending or submitting new clinical protocols;
- changes in the standard of care on which a clinical development plan was based, which may require new or additional studies;
- the cost of clinical studies of our product candidates being greater than we anticipate;
- clinical studies of our product candidates producing negative or inconclusive results, which may result in our deciding, or regulators requiring us, to conduct additional clinical studies or abandon product development programs; and
- delays in manufacturing, testing, releasing, validating, or importing/exporting sufficient stable quantities of our product candidates for use in clinical studies or the inability to do any of the foregoing.

Any inability to successfully initiate or complete clinical studies could result in additional costs to us or impair our ability to generate revenue. In addition, if we make manufacturing or formulation changes to our product candidates, we may be required to, or we may elect, to conduct additional studies to bridge our modified product candidates to earlier versions. Clinical study delays could also shorten any periods during which our products have patent protection and may allow our competitors to bring products to market before we do, which could impair our ability to successfully commercialize our product candidates and may harm our business and results of operations.

Delays in the completion of any clinical study of our product candidates will increase our costs, slow down our product candidate development and approval process and delay, or potentially jeopardize our ability to commence product sales and generate revenue. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical studies may also ultimately lead to the denial of regulatory approval of our product candidates or the termination of such clinical studies prior to their completion, either of which could adversely affect our business.

The FDA may not accept data from Phase 3 clinical trials conducted in foreign locations.

We have conducted and may in the future conduct portions of our Phase 3 clinical trials outside the United States. For example, the clinical trial must be conducted and performed by qualified investigators in accordance with ethical principles. The trial population must also adequately represent the U.S. population, and the data must be applicable to the U.S. population and U.S. medical practice in ways that the FDA deems clinically meaningful. In general, the patient population for any clinical trials we conduct outside the United States must be representative of the population for which we intend to label the product in the United States. In addition, while Phase 3 clinical trials conducted outside the United States are subject to the applicable local laws, FDA acceptance of the data will be dependent upon its determination that the trials also complied with all applicable U.S. laws and regulations. We cannot assure you that the FDA will accept data from portions of our Phase 3 trials conducted outside the United States. If the FDA does not accept such data from such clinical trials, we would likely need to conduct additional trials, which would be costly and time-consuming and delay or permanently halt our development of simufilam, our lead investigational product.

The FDA or other regulatory agencies may put a clinical hold on our clinical studies, which would cause our business to suffer.

A clinical hold is an order issued by FDA or another regulatory agency to suspend an ongoing clinical trial, typically due to newly identified deficiencies with, or the need for additional information regarding, the subject study or drug candidate. The grounds for imposition of a clinical hold are complex, variable and fact specific. If FDA imposes a clinical hold on any of our future clinical studies, no new patients may be enrolled in the subject study and study patients already in such study may be taken off our drug candidate unless treatment is specifically permitted by FDA in the interest of patient safety. If we are issued a clinical hold, FDA would expect us to address the cited deficiencies or provide the requested additional information, in each case, through the submission of a detailed, written response. A clinical hold would require us to spend significant resources, potentially over an extended period of time, to address the root causes of FDA's concerns, even if we disagreed with the FDA's assessment of asserted deficiencies. If we were unable to find and successfully address such root causes or if our response were deemed inadequate to lift the clinical hold, this could adversely affect our business. If we were subjected to a clinical hold that remained in effect for one year or longer, the FDA may consider the IND for the affected product candidate to fall into Inactive Status, which may result in termination of the corresponding clinical program. To the extent we are not successful in lifting any clinical hold that the FDA might impose, our results of operations and business will be materially adversely affected.

If physicians and patients do not accept and use our drugs, we will not achieve sufficient product revenues and our business will suffer.

Even if FDA approves our drugs, physicians and patients may not accept and use them. Acceptance and use of our drugs will depend on a number of factors including:

- when the drug is launched into the market and related competition;
- approved label claims;
- perceptions by members of the healthcare community, including physicians, about the safety, side effects and effectiveness of our drugs;
- perceptions by physicians regarding the cost-benefit of our product candidates;
- published studies demonstrating the cost effectiveness of our drugs relative to competing products;
- availability of reimbursement for our products from government or healthcare payers;
- effectiveness of marketing and distribution efforts by us and other licensees and distributors.

Because we expect to rely on sales generated by our current lead product candidates for substantially all of our revenues for the foreseeable future, the failure of any of these drugs to find market acceptance would harm our business and could require us to seek additional financing.

We may not be successful in developing our product candidates in neurodegeneration or other forms of central nervous system disorders .

All of the product candidates in our pipeline are still in development. Such product candidates will take several years to develop and must undergo extensive clinical and scientific validations. Even if we are successful in developing any of our product candidates through clinical and scientific validation, we may not be able to develop a drug or a diagnostic that:

- meets applicable regulatory standards, in a timely manner or at all;
- successfully competes with other technologies and tests;
- avoids infringing the proprietary rights of others;
- is adequately reimbursed by third-party payors;
- can be performed at commercial levels or at reasonable cost; or
- can be successfully marketed.

To the extent we are not successful in developing product candidates, our results of operations and business will be materially adversely affected.

Interim,* "*top-line*" *and preliminary data from our clinical trials that we announce or publish from time to time are likely to change as more patient data become available and are subject to audit and verification procedures that could result in material changes in the final dataset.

From time to time, we may publish "top-line" or preliminary data from our clinical trials. 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 at the time of its initial release. 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. Such data from clinical trials may materially change as more study data become available. 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, preliminary top-line data should be viewed with caution until the final data is available. Differences between preliminary or top-line data and final data could significantly harm our business prospects and may cause the trading price of our securities to fluctuate significantly.

Furthermore, other parties, 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 than us, which could impact the value of the particular program, the approvability or commercialization of the particular product candidate and our company in general. In addition, the information we choose to publicly disclose regarding a particular study or clinical trial is typically selected from a more extensive amount of available information. You or others may not agree with what we determine is the material or otherwise appropriate information to include in our disclosure, and any information we determine not to disclose may ultimately be deemed significant with respect to future decisions, conclusions, views, activities or otherwise regarding a particular product candidate or our business. If the preliminary or top-line data that we report differ from later, final or actual results, or if others, including regulatory authorities, disagree with the conclusions reached, our ability to obtain approval for, and commercialize our product candidates may be harmed, which could harm our business, financial condition, results of operations and prospects.

We currently have no in-house capabilities to manufacture or commercialize our product candidates, and we rely on third-party commercial drug manufacturers for supplies of simufilam. If we are unable to develop our own manufacturing, sales, marketing and distribution capabilities, or if we are not successful in contracting with third parties for these services on favorable terms, or at all, our product revenues could be adversely impacted.

We rely on various third parties to manufacture, fill, label, store, test and ship our product candidates. We plan to continue to outsource formulation, manufacturing and related activities. These suppliers must comply with cGMP regulations enforced by FDA and other government agencies, and are subject to ongoing periodic unannounced inspection, including preapproval inspections by FDA and corresponding state and foreign government agencies to ensure strict compliance with cGMP and other standards. These manufacturers may subsequently be stopped from producing, manufacturing, filling, labeling, storing, testing and shipping our product candidates due to their non-compliance with federal, state or local regulations. We do not have control over our suppliers' compliance with these regulations and standards and we cannot control decisions by our suppliers that affect their ability or willingness to continue to supply us on acceptable terms, or at all.

Disputes may arise with third party service providers, which may lead to termination of an agreement. If an agreement is terminated, we would not be able to commercialize our product candidates until another manufacturer is identified and we have entered into a manufacturing agreement with such manufacturer. We may not be able to replace a commercial supplier on commercially reasonable terms, or at all. Replacing any of our commercial suppliers would be expensive and time consuming. Failure by any of our suppliers to perform as expected could delay or prevent the commercialization or potential regulatory approval of our product candidates for an extended period of time, result in shortages, cost overruns or other problems and would materially harm our business.

We currently have no sales, marketing or distribution capabilities. We have not established commercial strategies regarding any of our product candidates. In order to commercialize our products, if any are approved by FDA, we will either have to develop such capabilities internally or collaborate with third parties who can perform these services for us.

If we decide to commercialize any of our drugs ourselves, we may not be able to

- hire and retain the necessary experienced personnel;
- build sales, marketing and distribution operations in a cost-effective manner which are capable of successfully launching new drugs;
- obtain access to adequate numbers of physicians to prescribe our products; or
- generate sufficient product revenues.

In addition, establishing such operations on our own will take time and involve significant expense. If our commercial operations lack complementary products, we may not be able to compete in a cost-effective manner with competitors with more products to sell. If we engage third-party collaborators to perform any commercial operations, our future revenues may depend significantly upon the performance of those collaborators. If we decide to enter into new co-promotion or other licensing arrangements with third parties, we may be unable to locate acceptable collaborators because the number of potential collaborators is limited and because of competition from others for similar alliances. Even if we are able to identify one or more acceptable new collaborators, we may not be able to enter into any collaborative arrangements on favorable terms, or at all.

In addition, due to the nature of the market for our product candidates, it may be necessary for us to license all or substantially all of our product candidates to a single collaborator, thereby eliminating our opportunity to commercialize these other products independently. If we enter into any such new collaborative arrangements, our revenues are likely to be lower than if we marketed and sold our products ourselves.

In addition, any revenues we receive would depend upon our collaborators' efforts which may not be adequate due to lack of attention or resource commitments, management turnover, change of strategic focus, business combinations or other factors outside of our control. Depending upon the terms of our collaboration, the remedies we have against an under-performing collaborator may be limited. If we were to terminate the relationship, it may be difficult or impossible to find a replacement collaborator on acceptable terms, or at all.

We rely on third parties to conduct our studies and some aspects of our research, and such third parties may not perform satisfactorily, which could delay or harm our studies, research, and testing.

We substantially rely and expect to continue to rely on third parties, such as contract research organizations (CROs), clinical data management organizations, medical institutions, and clinical investigators, to conduct some aspects of our research and preclinical testing and our clinical studies. For example, Pentara Corporation, an independent consulting firm that specializes in complex statistical analysis of clinical trials, has conducted statistical analysis relating to cognition endpoints in our clinical studies. Any of these third parties may terminate their engagements with us or be unable to fulfill their contractual obligations. If we need to enter into alternative arrangements, it will delay our product development activities.

Our reliance on these third parties for research and development activities reduces our control over these activities but does not relieve us of our responsibilities. For example, we remain responsible for ensuring that all of our clinical studies are conducted in accordance with the general investigational plan and protocols for the trial. Moreover, FDA requires us to comply with the norms of Good Clinical Practice (GCPs) for conducting, recording, and reporting the results of clinical studies to assure that data and reported results are credible, reproducible, and accurate and that the rights, integrity, and confidentiality of study participants are protected. We also are required to register ongoing clinical studies and post the results of completed clinical studies on a government-sponsored database within certain timeframes. Failure to do so can result in fines, adverse publicity, and civil and criminal sanctions.

If our third-party vendors do not successfully carry out their contractual duties, meet expected deadlines, or conduct studies in accordance with regulatory requirements or our stated protocols, we will not be able to obtain, or may be delayed in obtaining, marketing approvals for any product candidates we may develop and will not be able to, or may be delayed in our efforts to, successfully commercialize our product candidates. For example, one of our vendors failed to fully comply with certain Good Laboratory Practice (GLP) norms in its research facility, which required us to repeat a lab study at a different research site.

We also rely on other third parties to label, store and distribute drug supplies for our clinical studies. Any performance failure on the part of our distributors, including with the shipment of any drug supplies, could delay clinical development or marketing approval of any product candidates we may develop or commercialization of our product candidates, producing additional losses and depriving us of potential product revenue.

We may not be successful in our efforts to expand our technology or product candidates in other indications.

Our drug development strategy has been focused on clinically testing our product candidates in Alzheimer's disease, our primary indication. We may expand our research efforts outside of this primary indication and into other areas of clinical medicine based on a variety of factors. For example, we plan to conduct exploratory preclinical studies in collaboration with the TSCA to better understand simufilam's potential as a treatment for seizures in TSC. Conducting clinical studies for additional indications for our product candidates will require substantial technical, financial and human resources and is prone to the inherent risks of failure in drug development. We cannot provide any assurance that we will be successful in our effort to expand our technology or our product candidates in additional indications.

If we fail to successfully identify and develop additional product candidates, our commercial opportunity will be limited.

Identifying, developing, obtaining regulatory approval for, and commercializing additional product candidates requires substantial expertise and funding and is prone to the risks of failure inherent in drug development. We cannot provide any assurance that we will be able to successfully identify or acquire additional product candidates, advance any additional product candidates through the development process, or assemble sufficient resources to identify, acquire, or develop additional product candidates. If we are unable to successfully identify, acquire, develop, and commercialize additional product candidates, our commercial opportunity may be limited.

We have never obtained FDA approval for a diagnostic test and we may not be able to secure such approval in a timely manner or at all.

We are developing an investigational blood-based diagnostic test for Alzheimer's disease, called SavaDx, which will require FDA approval prior to commercialization. Our diagnostic product candidate, marketing, sales and development activities and manufacturing processes are subject to extensive and rigorous regulation by FDA pursuant to the FDCA, by comparable agencies in foreign countries, and by other regulatory agencies and governing bodies. Under the FDCA, a diagnostic must receive FDA clearance or approval before it can be commercially marketed in the United States. The process of obtaining marketing approval or clearance from FDA or by comparable agencies in foreign countries for new products could:

- take a significant period of time;
- require the expenditure of substantial resources;
- involve rigorous preclinical testing, as well as increased post-market surveillance;
- require changes to products; and
- result in limitations on the indicated uses of products.

If we do not compete effectively with scientific and commercial competitors, we may not be able to successfully develop our diagnostic test for Alzheimer's disease.

The field of clinical laboratory testing is highly competitive. Diagnostic tests are characterized by rapid technological change. Our competitors in the United States and abroad are numerous and include, among others, major diagnostic companies, reference laboratories, molecular diagnostic firms, universities and other research institutions. Most of our potential competitors have considerably greater financial, technical, marketing and other resources than we do, which may allow these competitors to discover important biological markers and determine their function before we do. We could be adversely affected if we do not discover proteins or biomarkers and characterize their function, develop diagnostic and pharmaceutical and clinical services based on these discoveries, obtain required regulatory and other approvals and launch these tests and their related services before our competitors. We also expect to encounter significant competition with respect to any diagnostic tests that we may develop or commercialize. Those companies that bring to market new diagnostic tests before we do may achieve a significant competitive advantage in marketing and commercializing their tests. We may not be able to develop additional diagnostic tests successfully and we may not obtain or enforce patents, if any, covering these tests that provide protection against our competitors. Moreover, our competitors may succeed in developing diagnostic tests that circumvent our technologies or tests. Furthermore, our competitors may succeed in developing technologies or tests that are more effective or less costly than those developed by us or that would render our technologies or tests less competitive or obsolete. We expect competition to intensify in the fields in which we are involved as technical advances in these fields occur and become more widely known and changes in intellectual property laws generate challenges to our intellectual property position.

We will need to find alternative approaches that do not involve antibodies to advance our SavaDx and our diagnostic program.

To date, most of our tests with SavaDx have relied on the use of commercially available antibodies, which are complex molecules that can recognize and bind to an intended protein. Commercially available antibodies can present technical challenges, such as improper validation, significant batch-to-batch variations or inconsistent storage, any of which can jeopardize our studies and experiments. Hence, we are evaluating an alternative approach to detect Alzheimer's disease using mass spectrometry to detect FLNA, i.e., without the use of antibodies. The complexity of such an alternative approach also gives rise to many technical issues that are challenging to solve. We cannot be certain that we will be able to successfully complete the development of a detection system for Alzheimer's disease that does or does not involve antibodies.

Our Phase 2 clinical studies with simufilam are generally not designed to show a statistically meaningful difference in cognition or other health functions between those patients who receive placebo and those who receive drug.

Clinical research data is often analyzed with statistical probability (p-value) to address the question of whether a clinical observation is related to a treatment effect, a random effect or something else. This, in turn, requires a clinical study to incorporate a sufficiently large sample patient population to infer the appropriate statistical analysis. By design, our Phase 2 clinical studies with simufilam generally do not include a sufficiently large patient population to generate statistical probability on measures of cognition or other health functions. This feature may make it difficult for investors to properly interpret whether clinical observations in those Phase 2 studies with simufilam are important or meaningful. Conversely, our clinical studies may generate statistically significant data (i.e., $p<0.05$) on exploratory biomarkers, or other endpoints, that have unknown or no clinical importance. In general, the distinction between statistically significant data and clinically meaningful data is a complex area of research that continues to evolve and may be subject to differences of opinion among scientists, clinicians, biostatisticians and other professionals, as well as among government regulators.

To the extent that our open-label study suggested differences in treatment effects by stage of disease, such observations may or may not replicate in any of our subsequent clinical studies.

Alzheimer's dementia is a progressive, degenerate disease. Severity of disease is typically assessed by stage of disease progression, a continuum that ranges from, approximately, mild cognitive impairment (MCI), to early stage, to mild, to moderate and finally to severe disease. Over time, cognition progressively worsens in the mild-to-moderate stages of Alzheimer's as the disease takes its toll. However, we do not have a clear understanding of how our drug candidate simufilam may impact patients by stage of disease, if at all. For example, to the extent that our open-label and small placebo-controlled studies suggested apparent differences in treatment effects by stage of disease, such observations may not replicate in any of our subsequent clinical studies.

Our clinical studies may fail to demonstrate substantial evidence of the safety and efficacy of our product candidates and may suffer from improper or inadequate study design or enrollment criteria, which would prevent, delay, or limit the scope of regulatory approval and commercialization.

Before obtaining regulatory approvals for any of our product candidates, we must demonstrate through lengthy, complex, and expensive preclinical experiments and clinical studies that our product candidates are both safe and effective for use in an intended population. Each product candidate must demonstrate an adequate risk versus benefit profile in its intended patient population and for its intended use, as determined by the FDA in the United States.

New drug discovery, development and commercialization involves a high degree of risk. The process is expensive and complex and can take many years to complete, and its outcome is inherently uncertain. It can take over 10 to 15 years and cost over $1 to $2 billion for each new drug candidate to achieve regulatory approval. Only a small number of research and development programs achieve regulatory approval and subsequent commercialization of a drug product. We believe that in recent decades about 90 to 95% of novel drug candidates under development by the biopharmaceutical industry have failed to achieve regulatory approval and subsequent commercialization. Failure can occur at any time during the drug discovery and development process and such failures may be due to lack of clinical efficacy, adverse safety profile, regulatory hurdles, excessive costs, lack of perceived market opportunity, lack of resources, insufficient reimbursement from insurers, inability to compete or for other reasons. Many biopharmaceutical companies have suffered significant setbacks in Phase 3 clinical trials due to lack of efficacy or adverse safety profiles, notwithstanding promising results in earlier trials. Seasoned professionals with a prior track record of innovation in drug discovery and development, as well as substantial business expertise, routinely fail to achieve regulatory approval of new product candidates.

The results of our preclinical studies with our product candidates may not be predictive of the results of early-stage or later-stage clinical studies, and results of early clinical studies of our product candidates may not be predictive of the results of later-stage clinical studies. The results of clinical studies in one set of patients or disease indications may not be predictive of those obtained in another. In some instances, there can be significant variability in safety or efficacy results between different clinical studies of the same product candidate due to numerous factors, including changes in study procedures set forth in protocols, differences in the size and type of the patient populations, changes in and adherence to the dosing regimen, and other clinical study protocols and the rate of dropout among clinical study participants. Product candidates in later stages of clinical studies may fail to show the desired safety and efficacy profile despite having progressed through preclinical studies and initial clinical studies.

We may suffer significant setbacks in Phase 3 clinical studies due to lack of efficacy or unacceptable safety issues, notwithstanding promising results in earlier studies. For example, our first Phase 3 trial in Alzheimer's disease did not meet each of the pre-specified co-primary, secondary and exploratory biomarker endpoints. Clinical trials in central nervous system disorders, including Alzheimer's disease, have much higher historically failure rates than in many other disease areas. Most new product candidates for central nervous system disorders that begin clinical studies are never approved by regulatory authorities for commercialization.

Our clinical trials may suffer from improper or inadequate study design or enrollment criteria. We have limited experience in designing clinical studies in neurodegeneration and may be unable to design and execute a clinical study to support marketing approval. We cannot be certain that our current clinical studies or any other future clinical studies will be successful. Additionally, any safety concerns observed in any one of our clinical studies in our targeted indications could limit the prospects for regulatory approval of our product candidates in those and other indications, which could have a material adverse effect on our business, financial condition, and results of operations.

In addition, even if such clinical studies are successfully completed, we cannot guarantee that FDA or foreign regulatory authorities will interpret the results as we do, and more studies could be required before we submit our product candidates for approval. To the extent that the results of the studies are not satisfactory to FDA or foreign regulatory authorities for support of a marketing application, we may be required to expend significant resources, which may not be available to us, to conduct additional studies in support of potential approval of our product candidates. Even if regulatory approval is secured for any of our product candidates, the terms of such approval may limit the scope and use of our product candidates, which may also limit its commercial potential.

The market opportunities for simufilam, if approved, may be smaller than we anticipate.

If our clinical development programs succeed with respect to simufilam for a particular indication, we would expect to seek regulatory approval of simufilam for such indication. Projections that we calculate as to the number of patients with the indications that we are studying are based on our beliefs and estimates, derived from a variety of outside sources, including scientific literature, patient foundations and market research. Our projections may prove to be incorrect. The actual number of patients for a particular indication may turn out to be lower than expected. Additionally, the potential patient population for our current programs or future product candidates may be limited. Even if we obtain regulatory approval and capture significant market share for any product candidate, the potential target populations may be smaller than anticipated, and we may never achieve profitability without obtaining marketing approval for additional indications.

We face significant competition in an environment of rapid technological and scientific change, and there is a possibility that additional competitors may achieve regulatory approval before us or develop therapies that are safer, more advanced, or more effective than ours, any of which may harm our business operations.

Drug discovery and development is highly competitive. Moreover, the central nervous system disorders field is characterized by intense 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.

Several pharmaceutical and biotechnology companies are currently pursuing the development of products for the treatment of central nervous system disorders, including Alzheimer's disease and TSC-related epilepsy. Many of these 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 studies, obtaining regulatory approvals, and marketing approved products than we do.

Our commercial opportunity could be reduced or eliminated if other competitors develop and commercialize products that are safer, are more effective, have fewer or less severe side effects, are more convenient, achieve greater acceptance among physicians and patients, or are less expensive than any products that we may develop. Furthermore, currently approved products could be discovered to have application for treatment of neurodegenerative disease indications, which could give such products significant advantages over any of our product candidates. Competitors may also obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market. 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.

Risks Related to Government Regulation and Other Legal Compliance Matters

Our financial condition and operating results could be adversely impacted by unfavorable results of legal proceedings, government investigations or allegations and other claims.

We are, and may in the future be, subject to various investigations and legal proceedings.

In recent years, there has been a trend of increasing government investigations, legal proceedings and law enforcement activities against companies, executives and others operating in our industry, including those arising from whistleblower programs operated by the SEC and DOJ and the *qui tam* provisions of the False Claims Act.

We are currently managing inquiries from U.S. government agencies, as well as civil claims under federal and state laws, relating to and/or arising out of research and development of our product candidates, including grant applications, securities disclosures and other aspects of our business. For additional information regarding legal proceedings, see "Notes to Consolidated Financial Statements—Contingencies". New claims or inquiries may arise in the future.

In response to government document requests and other claims asserted against us, we established a comprehensive document retention policy that strictly governs how we handle, store and protect our documents and data. Failure to comply with our document retention policy would expose us to risk of enforcement actions and penalties under applicable laws.

Legal proceedings are inherently unpredictable, and large judgments or penalties sometimes occur. As a consequence, we may in the future incur judgments or penalties that could involve large cash payments, including the potential repayment of amounts allegedly obtained improperly and other penalties, including enhanced damages. For example, the Company paid a civil monetary penalty of $40 million in November 2024 as part of a settlement with the SEC resolving the SEC investigation of the Company's disclosures regarding its Phase 2b Study and related matters. While we maintain insurance coverage for certain types of claims, such insurance coverage may be insufficient to cover all losses or all types of claims that may arise.

In addition, such proceedings against us or against third parties with whom we collaborate or otherwise do business may affect our reputation, inhibit our ability to raise fund in the capital markets, create a risk of potential exclusion from government reimbursement or grant programs and may lead to additional civil litigation. Even meritless claims could subject us to adverse publicity, hinder us from securing insurance coverage in the future or require us to incur significant legal costs. As a result, having taken into account all relevant factors, we may in the future enter into settlements of such claims without bringing them to final legal adjudication by courts or other such bodies, despite having potentially significant defenses against them, in order to limit the risks they pose to our business and reputation. Such settlements may require us to pay significant sums of money and to enter into corporate integrity or similar agreements intended to regulate company behavior for a period of years, which can be costly to operate under.

As a result, significant claims or legal proceedings to which we are a party, any judgments or settlements against us or involving third parties associated with us relating to such claims or proceedings, and any accruals that we may take with respect to potential judgments or settlements, could have a material adverse impact on our business, financial condition or results of operations, as well as on our reputation.

Additional future litigation involving us could be costly and time-consuming to defend.

Innovative drug development is highly litigious, and we may, from time to time, become subject to or involved in additional legal proceedings, claims and allegations that arise in the ordinary course of business or pursuant to governmental or regulatory enforcement activity. Regardless of merit, any lawsuits against or involving us, individually or in the aggregate, may have a material adverse effect on our business, financial condition, results of operations or cash flows. In addition, any litigation to which we subsequently become a party might result in substantial costs and divert management's attention, time and resources, which might seriously harm our business, financial condition, results of operations and cash flows. Our insurance policies might not cover such claims, might not provide sufficient payments to cover all of the costs to resolve one or more such claims, and might not continue to be available on terms acceptable to us. In particular, any claim could result in potential liability for us if the claim is outside the scope of the indemnification agreement we have with our third-party partners, or our third-party partners do not abide by the indemnification agreement as required, or the liability exceeds the amount of any applicable indemnification limits or available insurance coverage. A claim brought against us that is uninsured or underinsured could result in unanticipated costs and could have a material adverse effect on our financial condition, results of operations, cash flows or reputation.

If we are ultimately unable to file for and obtain regulatory approval for our product candidates, we will be unable to generate product revenue, and our business will be substantially harmed.

The time required to obtain approval by FDA and comparable foreign regulatory authorities is unpredictable, typically takes many years following the commencement of clinical studies, and depends upon numerous factors, including the type, complexity, and novelty of the product candidates involved. In addition, approval policies, regulations, or the type and amount of clinical data necessary to gain approval may change during the course of a product candidate’s clinical development and may vary among jurisdictions, which may cause delays in the approval or the decision not to approve an application. Regulatory authorities have substantial discretion in the approval process and may refuse to accept any application or may decide that our data are insufficient for approval and require additional preclinical, clinical, or other studies. We have not obtained regulatory approval for any product candidate and it is possible that none of our existing product candidates or any product candidates we may seek to develop in the future will ever obtain regulatory approval.

Applications for our product candidates could fail to receive regulatory approval in an initial or subsequent indication for many reasons, including but not limited to the following:

- FDA or comparable foreign regulatory authorities may disagree with the design, implementation, or results of our clinical studies;
- FDA or comparable foreign regulatory authorities may determine that our product candidates are not safe and effective, only moderately effective or have undesirable or unintended side effects, toxicities, or other characteristics that preclude our obtaining marketing approval or prevent or limit commercial use;
- the population studied in the clinical program may not be sufficiently broad or representative to assure efficacy and safety in the full population for which we seek approval;
- we may be unable to demonstrate to FDA or comparable foreign regulatory authorities that a product candidate’s risk-benefit ratio when compared to the standard of care is acceptable;
- FDA or comparable foreign regulatory authorities may disagree with our interpretation of data from preclinical studies or clinical studies;
- the data collected from clinical studies of our product candidates may not be sufficient to support the submission of a new drug application (NDA), or other submission or to obtain regulatory approval in the United States or elsewhere;
- FDA or comparable foreign regulatory authorities may fail to approve the manufacturing processes, test procedures, and specifications, or facilities of third-party manufacturers with which we contract for clinical and commercial supplies; and
- the approval policies or regulations of FDA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval.

This lengthy approval process, as well as the unpredictability of the results of clinical studies, may result in our failing to obtain regulatory approval to market any of our product candidates, which would significantly harm our business, results of operations, and growth prospects.

Our ability to market and promote our product candidates will be determined and limited by FDA-approved labeling.

The commercial success of our product candidates will depend upon our ability to obtain FDA-approved labeling effectively describing their features. If a product receives regulatory approval, the approval may be significantly limited to specific disease stages, patient populations and dosages, or the indications for use may otherwise be limited, which could restrict the availability of the product. Further, the FDA may require that certain contraindications, warnings or precautions be included in the product labeling or may condition the approval of the NDA on other changes to the proposed labeling or a commitment to conduct one or more post-market studies or clinical trials. For example, the FDA may require Phase 4 testing which involves clinical trials designed to further assess a drug's safety and effectiveness.

Our failure to achieve FDA approval of product labeling containing appropriate information will prevent us from advertising and promoting the key features of our product candidates in order to differentiate them from other similar products. On the other hand, limitations required by the FDA for the product labeling of our product candidates may restrict the patient populations to which our product candidate is available. Either of these results would make our products less competitive in the market the commercial value of the product.

Our employees, independent contractors, consultants, commercial partners, and vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements.

We are exposed to the risk of fraud, misconduct, or other illegal activity by our employees, independent contractors, consultants, commercial partners, and vendors. Misconduct by these parties could include intentional, reckless, and negligent conduct that fails to:

- comply with the laws of FDA and other comparable foreign regulatory authorities;
- provide true, complete, and accurate information to FDA and other comparable foreign regulatory authorities;
- comply with manufacturing standards we have established;
- comply with healthcare fraud and abuse laws in the U.S. and similar foreign fraudulent misconduct laws;
- report financial or clinical information or data accurately or to disclose unauthorized activities to us; or
- otherwise comply with applicable criminal, civil or regulatory laws governing their conduct.

For example, on June 28, 2024, the DOJ announced that a federal grand jury in the U.S. District Court for the District of Maryland returned an indictment of Dr. Hoau-Yan Wang, a former scientific collaborator and advisor to Cassava. The indictment alleges that Dr. Wang caused Cassava to submit grant applications to NIH that contained false and fraudulent representations about his research. See "—2024 Non-Product Development Business Developments—Indictment of Hoau-Yan Wang."

Activities subject to laws also involve the improper use of information obtained in the course of patient recruitment for clinical studies, which could result in regulatory sanctions and cause serious harm to our reputation. Further, it is not always possible to identify and deter misconduct by employees and 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. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant fines or other sanctions.

If we fail to comply or stay in compliance with the complex set of federal, state, local and foreign laws and regulations that apply to our business, we could suffer severe consequences that could materially and adversely affect our operating results and financial condition.

We are obligated to comply with the laws of all countries and jurisdictions in which we operate. These laws cover an extremely wide and growing range of activities. Such legal requirements can vary from country to country, and new requirements may be imposed on us from time to time as government and public expectations regarding acceptable corporate behavior change, and enforcement authorities modify interpretations of legal and regulatory provisions and change enforcement priorities. In addition, we rely on numerous associates, independent contractors, consultants, commercial partners and vendors who may put our reputation, business and operations at risk of material impairment if they engage, or are alleged to engage, in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, in violation of such laws and public expectations.

The laws and regulations that govern our operations include, among others:

- the Clinical Laboratory Improvement Amendments (CLIA) of 1988, which are United States federal regulatory standards that apply to all clinical laboratory testing performed on humans in the United States, requires that laboratories obtain certification from the federal government, and state licensure laws;
- FDA laws and regulations , including those relating to off-label marketing;
- the Health Insurance Portability and Accountability Act (HIPAA), which imposes comprehensive federal standards with respect to the privacy and security of protected health information and requirements for the use of certain standardized electronic transactions, including penalties for violators, enforcement authority to state attorneys general and requirements for breach notification;
- state laws regulating testing and protecting the privacy of test results, as well as state laws protecting the privacy and security of health information and personal data and mandating reporting of breaches to affected individuals and state regulators;
- the federal anti-kickback law, or the Anti-Kickback Statute, which prohibits knowingly and willfully offering, paying, soliciting, receiving, or providing remuneration, directly or indirectly, in exchange for or to induce either the referral of an individual, or the furnishing, arranging for, or recommending of an item or service that is reimbursable, in whole or in part, by a federal health care program;
- the federal False Claims Act (FCA), which imposes liability on any person or entity that, among other things, knowingly presents, or causes to be presented, a false or fraudulent claim for payment to the federal government and which, under its *qui tam* provisions, allows private litigants (relators) to file claims under seal on behalf of the government and to receive a percentage of recoveries obtained as a result;
- the federal Civil Monetary Penalties Law, which prohibits, among other things, the offering or transfer of remuneration to a Medicare or state health care program beneficiary if the person knows or should know it is likely to influence the beneficiary's selection of a particular provider, practitioner, or supplier of services reimbursable by Medicare or a state health care program, unless an exception applies;
- other federal and state fraud and abuse laws, such as anti-kickback laws, prohibitions on self-referral, and false claims acts, which may extend to services reimbursable by any third-party payor, including private insurers;
- the Foreign Corrupt Practices Act (FCPA) and other worldwide anti-bribery laws, including those that prohibit companies and their intermediaries from making improper payments to government officials or other third parties for the purpose of obtaining or retaining business, and laws that prohibit commercial bribery;
- import, export control and economic sanctions laws and regulations in the U.S. and elsewhere;
- Federal securities laws, including provisions of the Exchange Act and Dodd-Frank Act under which whistleblowers that report alleged violations of wrongdoing can obtain up to 30% of related recoveries;
- the federal Physician Payments Sunshine Act, which requires manufacturers to track and report to the federal government certain payments and other transfers of value made to physicians and teaching hospitals and ownership or investment interests held by physicians and their immediate family members;
- section 216 of the federal Protecting Access to Medicare Act of 2014 (PAMA), which requires applicable laboratories to report private payer data in a timely and accurate manner every three years (and in some cases annually);
- state laws that impose reporting and other compliance-related requirements; and
- similar foreign laws and regulations that will apply to us in foreign countries in which we may choose to operate in the future.

Government agencies may establish and promulgate usage guidelines that could limit the use of our product candidates.

Government agencies, professional and medical societies, and other groups may establish usage guidelines that apply to our product candidates. These guidelines could address such matters as usage and dose, among other factors. Application of such guidelines could limit the clinical use or commercial appeal of our product candidates.

Our product candidates may cause undesirable side effects or have other properties that could halt their clinical development, prevent their regulatory approval, limit their commercial potential, or result in significant negative consequences.

During the conduct of clinical trials, study participants report changes in their health to their doctor, including illnesses, injuries and discomforts. Often, it is not possible to determine whether our product candidate caused these conditions. Regulatory authorities may draw different conclusions and may require us to pause our clinical trials or require additional testing to confirm these determinations, if they occur. In addition, we have not yet completed long-term safety studies with simufilam to determine if this product candidate is safe for humans. Adverse events or other undesirable side effects caused by simufilam could cause us or regulatory authorities to interrupt, delay, or halt clinical studies and could result in a more restrictive label or the delay or denial of regulatory approval by FDA or other comparable foreign regulatory authorities. Drug-related side effects could affect patient recruitment, the ability of enrolled patients to complete the study, and/or result in potential claims.

We may be subject to legal liability associated with clinical trials.

Our business requires us to engage in the conduct of clinical studies in human volunteers and in patients in the United States and abroad. There are circumstances under which a participant in one of our clinical trials could impose liability on us. For example, a clinical investigator who is a participant in one of our studies may intentionally or unintentionally deviate from a clinical protocol and cause harm to a clinical trial participant, or a clinical trial participant may seek to compel us to continue to supply drug to them after the completion of a study but prior to FDA approval.

Claims may be brought against us for negligence, breach of contract, harm, injury or death, or other legal theories based on the nature of a study. Clinical trial liability is a complex and somewhat unsettled area of law and may vary by state and by country where we conduct clinical studies. Furthermore, claims may be brought against us by a clinical investigator, a clinical trial participant, or another party associated with a clinical study, long after the completion of a clinical study. Defense of such actions is a fact-intensive process that could be costly and involve significant time and attention of our management and other resources, may result in monetary liabilities or penalties, and may require us to change our business in an adverse manner.

Our insurance policies may be inadequate and potentially expose us to unrecoverable risks.

Although we maintain product liability insurance coverage, such insurance may not be adequate to cover all liabilities that we may incur. We anticipate that we may need to increase our insurance coverage each time we commence a clinical trial and if we successfully commercialize any product candidate. Insurance availability, coverage terms and pricing continue to vary with market conditions. We endeavor to obtain appropriate insurance coverage for insurable risks that we identify; however, we may fail to correctly anticipate or quantify insurable risks, we may not be able to obtain appropriate insurance coverage and insurers may not respond as we intend to cover insurable events that may occur. Conditions in the insurance markets relating to nearly all areas of traditional corporate insurance change rapidly and may result in higher premium costs, higher policy deductibles and lower coverage limits. For some risks, we may not have or maintain insurance coverage because of cost or availability.

We are and will be required to maintain product liability insurance pursuant to certain of our development and commercialization agreements. We may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses due to liability. A successful product liability claim or series of claims brought against us could adversely affect our results of operations, business, and reputation. In addition, regardless of merit or eventual outcome, product liability claims may result in impairment of our business reputation, withdrawal of clinical study participants, costs due to related litigation, distraction of management's attention from our primary business, initiation of investigations by regulators, substantial monetary awards to patients or other claimants, the inability to commercialize our product candidates, and decreased demand for our product candidates, if approved for commercial sale.

If our product candidates receive regulatory approval, we and our collaborators will be subject to ongoing FDA obligations and continued regulatory review, such as continued safety reporting requirements, and we and our collaborators may also be subject to additional FDA post-marketing obligations or new regulations, all of which may result in significant expense and limit our and our collaborators' ability to commercialize our potential drugs.

Any regulatory approvals that our product candidates receive may also be subject to limitations on the indicated uses for which the drug may be marketed or contain requirements for potentially costly post-marketing follow-up studies. In addition, if FDA approves any of our product candidates, the labeling, packaging, adverse event reporting, storage, advertising, promotion and record keeping for the drug will be subject to extensive regulatory requirements. The subsequent discovery of previously unknown problems with the drug, including but not limited to adverse events of unanticipated severity or frequency, or the discovery that adverse events previously observed in preclinical research or clinical studies that were believed to be minor actually constitute much more serious problems, may result in restrictions on the marketing of the drug, and could include withdrawal of the drug from the market.

The FDA's policies may change, and additional government regulations may be enacted that could prevent or delay regulatory approval of our product candidates. We cannot predict the likelihood, nature or extent of adverse government regulation that may arise from future legislation or administrative action, either in the U.S. or abroad. If we are not able to maintain regulatory compliance, we may be subject to fines, suspension or withdrawal of regulatory approvals, product recalls, seizure of products, operating restrictions and criminal prosecution. Any of these events could prevent us from marketing our products and our business could suffer.

Enacted and future legislation may increase the difficulty and cost for us to commercialize our product candidates and may reduce the prices we are able to obtain for our product candidates.

Legislative and regulatory changes and future changes regarding the healthcare system could prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities or affect our ability to profitably sell any product candidates for which we obtain marketing approval.

In the U.S., the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (the Medicare Modernization Act) established the Medicare Part D program and provided authority for limiting the number of drugs that will be covered in any therapeutic class thereunder. The Medicare Modernization Act, including its cost reduction initiatives, could limit the coverage and reimbursement rate that we receive for any of our approved products. Private payors may follow Medicare coverage policies and payment limitations in setting their own reimbursement rates resulting in similar limits in payments from private payors.

The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively, the Affordable Care Act, among other things, imposes a significant annual fee on companies that manufacture or import branded prescription product candidates. It also contains substantial provisions intended to, among other things, broaden access to health insurance, reduce or constrain the growth of health care spending, enhance remedies against healthcare fraud and abuse, add new transparency requirements for the healthcare and health insurance industries, and impose additional health policy reforms, any of which could have a material adverse effect on our business. A significant number of provisions are not yet, or have only recently become, effective, but the Affordable Care Act may result in downward pressure on pharmaceutical pricing, especially under the Medicare program, and may also increase our regulatory burdens and operating costs.

The Affordable Care Act, as well as other healthcare reform measures that have been and may be adopted in the future, may result in more rigorous coverage criteria and in additional downward pressure on the price that we receive for any approved product, and could seriously harm our future revenues. Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare reforms may compromise our ability to generate revenue, attain profitability or commercialize our products. The Affordable Care Act is a highly complex piece of legislation that continues to evolve. We do not and cannot understand or anticipate the full impact and potential implications of the Affordable Care Act on our business or on our drugs.

The purported goal of the Inflation Reduction Act (IRA) of 2022 is to lower healthcare costs for Americans, and includes several provisions aimed at reducing drug spending and increasing access to pharmaceuticals. Specifically, the IRA introduces drug-price negotiations by requiring the federal government to negotiate "maximum fair prices" with drug manufacturers for certain brand-name, single-source drugs covered under Medicare Part B and Part D. In addition, the IRA penalizes price increases and expands required discounts on branded, single-source drugs. The IRA is a highly complex piece of legislation that continues to evolve. We do not and cannot understand or anticipate the full impact and potential implications of the IRA on our business or on our drugs, however, we currently believe the IRA may reduce the prices we are able to obtain for our product candidates, if approved in the United States.

Our relationships with customers and payors will be subject to applicable anti-kickback, fraud and abuse, transparency, and other healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, exclusion from government healthcare programs, contractual damages, reputational harm, administrative burdens, and diminished profits and future earnings.

Healthcare providers, physicians and payors play a primary role in the recommendation and prescription of any product candidates for which we may obtain marketing approval. Our current or future arrangements with payors and customers may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we market, sell and distribute any product candidates for which we may obtain marketing approval. Even though we do not and will not control referrals of healthcare services or bill directly to Medicare, Medicaid or other third-party payors, federal and state healthcare laws and regulations pertaining to fraud and abuse and patients' rights are and will be applicable to our business. Restrictions under applicable federal, state and foreign healthcare laws and regulations may affect our ability to operate and expose us to areas of risk, including:

- the federal Anti-Kickback Statute, which prohibits, among other things, knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made under federal and state 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 FCA, which imposes criminal and civil penalties, including through civil whistleblower or qui tam actions, against individuals or entities for knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government. In addition, the government may assert that a claim including items and services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the FCA;
- HIPAA, which imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters. Similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute to defraud any healthcare benefit program or specific intent to violate it in order to have committed a violation;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 and its implementing regulations, which also imposes obligations on certain covered entity healthcare providers, health plans, and healthcare clearinghouses as well as their business associates that perform certain services involving the use or disclosure of individually identifiable health information, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;
- federal laws requiring drug manufacturers to report information related to payments and other transfers of value made to physicians and other healthcare providers, as well as ownership or investment interests held by physicians and their immediate family members, including under the federal Open Payments program, commonly known as the Sunshine Act, as well as other state and foreign laws regulating marketing activities; and
- state and foreign equivalents of each of the above laws, including state anti-kickback and false claims laws, which may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental payors, including private insurers; state laws which require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government or otherwise restricting payments that may be made to healthcare providers; and state and foreign laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs. Nonetheless, it is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, imprisonment, exclusion from participation in government funded healthcare programs, such as Medicare and Medicaid, and the curtailment or restructuring of our operations.

Risks Related to Our Intellectual Property

If we are unable to obtain and maintain sufficient patent protection for any product candidates, our competitors could develop and commercialize products similar or identical to ours, and our ability to successfully commercialize any product candidates we may develop may be adversely affected.

Our success depends in large part on our ability to obtain and maintain patent protection in the U.S. and other countries with respect to our proprietary product candidates and other technologies we may develop. We seek to protect our proprietary position by filing patent applications in the U.S. and abroad relating to our core programs and product candidates, as well as other technologies that are important to our business. Given that our product candidates are in early or clinical stages of development, our intellectual property portfolio with respect to certain aspects of our product candidates is also at an early stage. We have filed or intend to file patent applications on aspects of our technology and core product candidates; however, there can be no assurance that any such patent applications will issue as granted patents. Furthermore, in some cases, we intend to file only provisional patent applications on certain aspects of our technology and product candidates and each of these provisional patent applications is not eligible to become an issued patent until, among other things, we file a non-provisional patent application within 12 months of the filing date of the applicable provisional patent application. Any failure to file a non-provisional patent application within this timeline could cause us to lose the ability to obtain patent protection for the inventions disclosed in the associated provisional patent applications.

Furthermore, in some cases, we may not be able to obtain issued claims covering compositions relating to our core programs and product candidates, as well as other technologies that are important to our business, and instead may need to rely on filing patent applications with claims covering a method of use and/or method of manufacture for protection of such core programs, product candidates, and other technologies. There can be no assurance that any such patent applications will issue as granted patents, and even if they do issue, such patent claims may be insufficient to prevent third parties, such as our competitors, from utilizing our technology. Any failure to obtain or maintain patent protection with respect to our core programs and product candidates could have a material adverse effect on our business, financial condition, results of operations, and growth prospects.

U.S. intellectual property rights around diagnostic methods is a complex, evolving area of law and effective patent claims may not be available to us for our investigational diagnostic product candidate, SavaDx, in the United States.

The legal system for intellectual property around diagnostic methods is highly complex, remains uncertain and continues to evolve. In the U.S., patent courts have struggled to define a clear means of patent eligibility for modern age diagnostics. Case law interpretations from the U.S. Supreme Court have left certain important scientific advances in the area of diagnostics without effective patent claims. In 2012, the Supreme Court held that a simple process involving correlations between blood test results and patient health is not eligible for patent claims because such processes incorporate “laws of nature”. Since then, different outcomes from different courts, including Federal Circuit, District Court and Patent Trial and Appeal Board decisions, have continued to create a sometimes vague or conflicting legal framework for determining the eligibility of patent claims for diagnostic methods. As a result, we cannot be certain how SavaDx fits into the current U.S. legal framework for obtaining effective patent protection. We currently have no U.S. patents with respect to SavaDx, and we believe it may be protected in the United States only by trade secrets, know-how and other proprietary rights technology. Furthermore, claims for diagnostic methods can be complicated to enforce. For patent infringement to occur with a protected diagnostic, the patented method must generally either be performed by one person in its entirety or performed by multiple parties all under the control or direction of a single party. Accordingly, even if effective patent claims are issued for SavaDx, it may be impractical, impossible or even undesirable to enforce potential infringement claims.

Issued patents covering our product candidates and other technologies could be found invalid or unenforceable if challenged in court or before administrative bodies in the U.S. or abroad.

If we initiated legal proceedings against a third party to enforce a patent covering our product candidates or other technologies, the defendant could counterclaim that the asserted patent is invalid or unenforceable. In patent litigation in the U.S. and in other jurisdictions, 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, or non-enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO, or made a misleading statement, during prosecution. Third parties may raise claims challenging the validity or enforceability of our patents before administrative bodies in the U.S. or abroad, even outside the context of litigation. Such mechanisms include re-examination, post-grant review, *inter partes* review, interference proceedings, derivation proceedings, and equivalent proceedings in foreign jurisdictions (e.g., opposition proceedings). Such proceedings could result in the revocation of, cancellation of, or amendment to our patents in such a way that they no longer cover our product candidates or other technologies. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art, of which we or our licensing partners and the patent examiner were unaware during prosecution. If a third party were to prevail on a legal assertion of invalidity or unenforceability, we would lose at least part, and perhaps all, of the patent protection on our product candidates or other technologies. Such a loss of patent protection would have a material adverse impact on our business, financial condition, results of operations, and growth prospects.

If we do not obtain patent term extension and data exclusivity for any product candidates we may develop, our business may be materially harmed.

Depending upon the timing, duration, and specifics of any FDA marketing approval of any product candidates we may develop, one or more of our U.S. patents may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984 (Hatch-Waxman Act). The Hatch-Waxman Act permits a patent term extension of up to five years as compensation for patent term lost during FDA regulatory review process. A patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval, only one patent may be extended and only those claims covering the approved drug, a method for using it, or a method for manufacturing it may be extended. Similar extensions as compensation for patent term lost during regulatory review processes are also available in certain foreign countries and territories, such as in Europe under a Supplementary Patent Certificate. However, we may not be granted an extension in the U.S. and/or foreign countries and territories because of, for example, failing to exercise due diligence during the testing phase or regulatory review process, 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. If we are unable to obtain a patent term extension or the term of any such extension is shorter than what we request, our competitors may obtain approval of competing products following our patent expiration, and our business, financial condition, results of operations, and growth prospects could be materially harmed.

If we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be harmed.

In addition to seeking patents for our product candidates and other technologies, we also rely on trade secrets and confidentiality agreements to protect our unpatented know-how, technology, and other proprietary information and to maintain our competitive position. We consider trade secrets and know-how to be one of our primary sources of intellectual property. Trade secrets and know-how can be difficult to protect. We expect our trade secrets and know-how to over time be disseminated within the industry through independent development, the publication of journal articles describing the methodology, and the movement of personnel from academic to industry scientific positions.

We seek to protect these trade secrets and other proprietary technology, 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, CROs, CDMOs, consultants, advisors, and other third parties. We also enter into confidentiality and invention or patent assignment agreements with our employees and consultants as well as train our employees not to bring or use proprietary information or technology from former employers to us or in their work, and remind former employees when they leave their employment of their confidentiality obligations. We cannot guarantee that we have entered into such agreements with each party that may have or have had access to our trade secrets or proprietary technology and processes. Despite our 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. 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 U.S. are less willing or unwilling to protect trade secrets. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor or other third party, we would have no right to prevent them from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to or independently developed by a competitor or other third party, our competitive position would be materially and adversely harmed.

If any of our patent applications do not issue as patents in any jurisdiction, we may not be able to compete effectively.

Changes in either the patent laws or their interpretation in the U.S. and other countries may diminish our ability to protect our inventions, obtain, maintain, and enforce our intellectual property rights and, more generally, could affect the value of our intellectual property or narrow the scope of our patents with respect to our product candidates. With respect to our intellectual property related to our product candidates, we cannot predict whether the patent applications we are currently pursuing will issue as patents in any particular jurisdiction or whether the claims of any issued patents will provide sufficient protection from competitors or other third parties.

The patent prosecution process is expensive, time-consuming, and complex, and we may not be able to file, prosecute, maintain, or enforce 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 in time to obtain patent protection. Although we enter into nondisclosure and confidentiality agreements with parties who have access to confidential or patentable aspects of our research and development output, such as our employees, outside scientific collaborators, CROs, CDMOs, consultants, advisors, and other third parties, any of these parties may breach the agreements and disclose such output before a patent application is filed, thereby jeopardizing our ability to seek patent protection. In addition, our ability to obtain and maintain valid and enforceable patents depends on whether the differences between our inventions and the prior art allow our inventions to be patentable. Furthermore, publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the U.S. and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we cannot be certain that we were the first to make the inventions claimed in any of our patents or pending patent applications, or that we were the first to file for patent protection of such inventions.

If the scope of any patent protection we obtain is not sufficiently broad, or if we lose any of our patent protection, our ability to prevent our competitors from commercializing similar or identical technology and product candidates would be adversely affected.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain, involves complex legal and factual questions, and has been the subject of much litigation in recent years. 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 product candidates or other technologies or which effectively prevent others from commercializing competitive technologies and product candidates.

Moreover, the coverage claimed in a patent application can be significantly reduced before the patent is issued, and its scope can be reinterpreted after issuance. Even if patent applications we own currently or in the future issue as patents, they may not issue in a form that will provide us with any meaningful protection, prevent competitors or other third parties from competing with us, or otherwise provide us with any competitive advantage. Any patents to which we have rights may be challenged, narrowed, circumvented, or invalidated by third parties. Consequently, we do not know whether product candidates or other technologies will be protectable or remain protected by valid and enforceable patents. Our competitors or other third parties may be able to circumvent our patents by developing similar or alternative technologies or products in a non-infringing manner which could materially adversely affect our business, financial condition, results of operations and growth prospects.

The 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 U.S. and abroad. We may be subject to a third-party pre-issuance submission of prior art to the United States Patent and Trademark Office (USPTO) or become involved in opposition, derivation, revocation, reexamination, post-grant and *inter partes* review, or interference proceedings or other similar proceedings challenging our patent rights. An adverse determination in any such submission, proceeding, or litigation could reduce the scope of, or invalidate or render unenforceable, such patent rights, allow third parties to commercialize our product candidates or other technologies 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. Moreover, we may have to participate in interference proceedings declared by the USPTO to determine priority of invention or in post-grant challenge proceedings, such as oppositions in a foreign patent office, that challenge our priority of invention or other features of patentability with respect to our patents and patent applications. Such challenges may result in loss of patent rights, loss of exclusivity, or in patent claims being narrowed, invalidated, or held unenforceable, which could limit our ability to stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our product candidates and other technologies. Such proceedings also may result in substantial cost and require significant time from our scientists and management, even if the eventual outcome is favorable to us. If we are unsuccessful in any such proceeding or other priority or inventorship dispute, we may be required to obtain and maintain licenses from third parties, including parties involved in any such interference proceedings or other priority or inventorship disputes. Such licenses may not be available on commercially reasonable terms or at all or may be non-exclusive. If we are unable to obtain and maintain such licenses, we may need to cease the development, manufacture, and commercialization of one or more of the product candidates we may develop. The loss of exclusivity or the narrowing of our owned and licensed patent claims could limit our ability to stop others from using or commercializing similar or identical technology and products.

In addition, given the amount of time required for the development, testing, and regulatory review of new product candidates, patents protecting such product candidates might expire before or shortly after such product candidates are commercialized. As a result, our intellectual property may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours.

We may not be able to protect our intellectual property and proprietary rights throughout the world.

Filing, prosecuting, and defending patents on our product candidates and other technologies in all countries throughout the world would be prohibitively expensive, and the laws of foreign countries may not protect our rights to the same extent as the laws of the U.S.

Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the U.S., or from selling or importing products made using our inventions in and into the U.S. or other jurisdictions. 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 have patent protection, but enforcement is not as strong as that in the U.S. 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.

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 intellectual property and proprietary rights generally. Proceedings to enforce our intellectual property and proprietary 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, could put 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 and proprietary rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

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

Periodic maintenance fees, renewal fees, annuity fees, and various other government fees on patents and applications will be due to be paid to the USPTO and various government patent agencies outside of the U.S. over the lifetime of our owned or licensed patents and applications. The USPTO and various non-U.S. government agencies require compliance with several procedural, documentary, fee payment, and other similar provisions during the patent application process. In some cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with the applicable rules. There are situations, however, in which non-compliance can result in abandonment or lapse of the patent or patent application, resulting in a partial or complete loss of patent rights in the relevant jurisdiction. In such an event, potential competitors might be able to enter the market with similar or identical products or technology, which could have a material adverse effect on our business, financial condition, results of operations, and growth prospects.

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

Changes in either the patent laws or interpretation of the patent laws in the U.S. could increase the uncertainties and costs surrounding the prosecution of patent applications and the enforcement or defense of issued patents. Assuming that other requirements for patentability are met, prior to March 2013, in the U.S., the first to invent the claimed invention was entitled to the patent, while outside the U.S., the first to file a patent application was entitled to the patent. After March 2013, under the Leahy-Smith America Invents Act (the America Invents Act) enacted in September 2011, the U.S. transitioned to a first inventor to file system in which, assuming that other requirements for patentability 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. A third party that files a patent application in the USPTO after March 2013, but before us could therefore be awarded a patent covering an invention of ours even if we had made the invention before it was made by such third party. This requires us to be cognizant of the time from invention to filing of a patent application. Since patent applications in the U.S. and most other countries are confidential for a period of time after filing or until issuance, we cannot be certain that we were the first to either (i) file any patent application related to our product candidates or other technologies or (ii) invent any of the inventions claimed in our patents or patent applications.

The America Invents Act also significantly affects the way patent applications are prosecuted and as well as patent litigation. This includes 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. Because of a lower evidentiary standard in USPTO proceedings as compared to the evidentiary standard in U.S. federal courts necessary to invalidate a patent claim, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a district court action. Accordingly, a third party may attempt to use the USPTO procedures to invalidate our patent claims that would not have been invalidated if first challenged by the third party as a defendant in a district court action. Therefore, the America Invents Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business, financial condition, results of operations, and growth prospects.

In addition, the patent positions of companies in the development and commercialization of pharmaceuticals are particularly uncertain. Various U.S. Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. This combination of events has created uncertainty with respect to the validity and enforceability of patents, once obtained. Depending on future actions by the U.S. Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that could have a material adverse effect on our existing patent portfolio and our ability to protect and enforce our intellectual property in the future.

We may be subject to claims challenging the inventorship of our patents and other intellectual property.

We may be subject to claims that former employees, scientific 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 or other technologies. Litigation may be necessary to defend against these and other claims challenging inventorship or ownership of our patents, trade secrets, or other intellectual property. If the defense of any such claims fails, 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 and other technologies. 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 have a material adverse effect on our business, financial condition, results of operations, and growth prospects.

We may not be successful in obtaining necessary rights to our product candidates or other technologies.

Many pharmaceutical companies, biotechnology companies, and academic institutions that compete with us in the field of neurodegeneration therapy may have patents filed and are likely filing patent applications potentially relevant to our business. In order to avoid infringing these third-party patents, we may find it necessary or prudent to obtain licenses to such patents from such third-party intellectual property holders. We may also require licenses from third parties for certain technologies for use with future product candidates. In addition, with respect to any patents we co-own with third parties, we may wish to obtain licenses to such co-owner's interest to such patents. However, we may be unable to secure such licenses or otherwise acquire any compositions, methods of use, processes, or other intellectual property rights from third parties that we identify as necessary for our future product candidates. The licensing or acquisition of third-party intellectual property rights is a competitive area, and several more established companies may pursue strategies to license or acquire third-party intellectual property rights that we may consider attractive or necessary. These established companies may have a competitive advantage over us due to their size, capital resources, and greater clinical development and commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. We also may be unable to license or acquire third-party intellectual property rights on terms that would allow us to make an appropriate return on our investment or at all. If we are unable to successfully obtain rights to required third-party intellectual property rights or maintain the existing intellectual property rights we have, we may have to abandon development of the relevant program or product candidate, which could have a material adverse effect on our business, financial condition, results of operations, and growth prospects.

Our expansion into additional indications beyond Alzheimer's disease may face challenges if we are unable to obtain additional intellectual property rights that may be necessary or desirable.

We may leverage our scientific insights in neurodegeneration and neuroinflammation and advanced tools in molecular biology, biochemistry, and imaging to expand our science to other diseases, initially focusing on other central nervous system disorders. New indications and new drug development approaches may complement or supersede our initial focus on Alzheimer's disease.

While we expect certain of our existing intellectual property, such as our patents covering the composition of matter of our drug simufilam, to be important for any such expansion, in order to expand our science to other diseases, for some indications, it may be necessary or desirable that we procure additional intellectual property to support new development programs, including for central nervous system disorders beyond Alzheimer's disease. In the absence of such additional intellectual property rights, product candidates that we may develop for such additional indications may not be sufficiently covered by intellectual property or such product candidates may be challenged by third parties possessing other intellectual property or exclusive rights in respect thereof.

For example, we intend to conduct exploratory preclinical studies in collaboration with the TSCA to better understand simufilam's potential as a treatment for TSC-related seizures. Based on the results of such additional studies, considered together with academic research conducted at Yale, we will assess whether there is support for an IND application in respect of a proof-of-concept open-label clinical trial for simufilam in TSC-related epilepsy. On February 26, 2025, we entered into the License Agreement with Yale in connection with our development and commercialization of simufilam for the treatment of TSC-related epilepsy. If we fail to comply with our obligations under the License Agreement, Yale may have the right to terminate the License Agreement, in which event we may not be able to advance our development and commercialization plans for simufilam for the treatment of TSC-related epilepsy. In addition, disagreements with Yale, including over the scope of the License Agreement, contract interpretation, or the implementation of our development plan, may cause delays or termination of development or commercialization of simufilam for the treatment of TSC-related epilepsy, or may result in time-consuming and expensive legal proceedings.

If we are unable to identify and procure intellectual property necessary or desirable for programs in other indications that we may decide to pursue in the future, it may be more challenging or, in some cases, impracticable to expand into such other indications. There can be no assurance that we will be able to obtain such intellectual property on commercially reasonable terms, or at all, which could have a material adverse effect on our business.

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

The field of developing innovations for neurodegenerative diseases is highly competitive and dynamic. Due to the focused research and development that is taking place by several companies, including us and our competitors, the intellectual property landscape in this field is in flux, and it may remain uncertain in the future. Additionally, no products utilizing our underlying science and technology have yet reached the market. As such, there may be significant intellectual property related litigation and proceedings relating to our, and other third party, intellectual property and proprietary rights in the future.

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

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

Our commercial success depends in part on our ability to develop, manufacture, market, and sell any product candidates that we develop and to use our proprietary technologies without infringing, misappropriating, and otherwise violating the patents and other intellectual property rights of third parties. There is a substantial amount of complex litigation involving patents and other intellectual property rights in the biotechnology and pharmaceutical industries, as well as administrative proceedings for challenging patents, including interference, derivation, and reexamination proceedings before the USPTO or oppositions and other comparable proceedings in foreign jurisdictions. We may become party to, or threatened with, such actions in the future, regardless of their merit. As discussed above, recently, due to changes in U.S. law referred to as patent reform, new procedures including *inter partes* review and post-grant review have been implemented. As stated above, this reform adds uncertainty to the possibility of challenge to our patents in the future.

Numerous U.S. and foreign issued patents and pending patent applications owned by third parties exist in the fields in which we are developing our product candidates. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our product candidates and other technologies may give rise to claims of infringement of the patent rights of others. Although we believe that we do not infringe on any third parties' patents or other intellectual property, we cannot assure you that our product candidates and other technologies that we have developed, are developing or may develop in the future will not infringe existing or future patents owned by third parties. We may not be aware of patents that have already been issued to a third party, such as a competitor in the fields in which we are developing product candidates, who might assert infringement of patents it may hold by our current or future product candidates or other technologies, including claims to compositions, formulations, methods of manufacture or methods of use or treatment that cover our product candidates or other technologies. It is also possible that patents owned by third parties of which we are aware, but which we do not believe are relevant to our product candidates or other technologies, could be found to be infringed by our product candidates or other technologies. In addition, 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 or other technologies may infringe.

Engaging in litigation to defend against third parties alleging that we have infringed, misappropriated, or otherwise violated their patents or other intellectual property rights is very expensive, particularly for a company of our size, and time-consuming. Some of our competitors may be able to sustain the costs of litigation or administrative proceedings more effectively than we can because of greater financial resources. Patent litigation and other proceedings may also absorb significant management time. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings against us could impair our ability to compete in the marketplace. The occurrence of any of the foregoing could have a material adverse effect on our business, financial condition, results of operations, and growth prospects.

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

Competitors may infringe on our patents or the patents of our licensing partners, or we may be required to defend against claims of infringement. In addition, our patents or the patents of our licensing partners also may become involved in inventorship, priority, or validity disputes. To counter or defend against such claims can be expensive and time consuming. In an infringement proceeding, a court may decide that a patent in which we have an interest is invalid or unenforceable, the other party's use of our patented technology falls under the safe harbor to patent infringement, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation proceeding could put one or more of our patents at risk of being invalidated or interpreted narrowly. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation.

Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses and could distract our personnel from their normal responsibilities. In addition, there could be public announcements of the results of hearings, motions, or other interim proceedings or developments, and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing, or distribution activities. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. 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 and more mature and developed intellectual property portfolios. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace.

Intellectual property rights do not necessarily address all potential threats.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations and may not adequately protect our business or permit us to maintain our competitive advantage. For example:

- others may be able to make products that are similar to our product candidates or utilize similar technology but that are not covered by the claims of the patents that we may own;
- we might not have been the first to make the inventions covered by the issued patent or pending patent application that we own now or in the future;
- we might not have been the first to file patent applications covering certain of our inventions;
- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our owned intellectual property rights;
- it is possible that our current or future pending patent applications will not lead to issued patents;
- issued patents that we hold rights to may be held invalid or unenforceable, including as a result of legal challenges by our competitors or other third parties;
- our competitors or other third parties might conduct research and development activities in countries where we do not have patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets;
- we may not develop additional proprietary technologies that are patentable;
- the patents of others may harm our business; and
- we may choose not to file a patent in order to maintain certain trade secrets or know-how, and a third party may subsequently file a patent covering such intellectual property.

Should any of these events occur, they could have a material adverse effect on our business, financial condition, results of operations, and growth prospects.

Risks Related to Our Business and Operations

The validity of aspects of the Company's Phase 2b Study has been called into question.

The Company's Phase 2b Study was designed as a 28-day, approximately 60-patient, randomized, double-blind, placebo-controlled, multiple dose study. A primary objective of the Phase 2b Study was to measure changes in levels of cerebral spinal fluid (CSF) biomarkers in study participants from baseline value to Day 28. CSF biomarker assays and related bioanalysis for the Phase 2b Study (the CUNY Bioanalysis) were conducted by the laboratory at CUNY of Dr. Hoau-Yan Wang, formerly a paid scientific collaborator, consultant and advisor to Cassava. Based on the CUNY Bioanalysis, Cassava reported statistically significant improvements in CSF biomarkers in treatment groups as compared to the placebo group for the Phase 2b Study.

On June 28, 2024, the DOJ announced that a federal grand jury in the U.S. District Court for the District of Maryland returned an indictment of Dr. Wang alleging that he caused Cassava to submit grant applications to NIH that contained false and fraudulent representations about his research. Among other things, the indictment alleges that Dr. Wang made materially false, fraudulent, and misleading statements to NIH regarding the mechanism by which simufilam was designed to treat Alzheimer's disease and the improvement of certain Alzheimer's disease indicators in patients treated with simufilam, and that Dr. Wang manipulated or otherwise fabricated research results, including Western Blot images that he prepared.

The Company's Board empowered an *Ad Hoc* Investigation Committee (the Committee), comprising independent directors, to direct an investigation (the Internal Investigation) of supplemental information provided by the SEC. As part of an Internal Investigation conducted by the Committee, the Committee evaluated information contained in the DOJ indictment of Dr. Wang as well as information from the Company's discussions with the SEC. The Internal Investigation determined that certain statistical information contained in an attachment to an email sent by a former senior employee of Cassava to Dr. Wang before the CUNY Bioanalysis of CSF biomarkers was conducted could have been used to unblind him as to some number of Phase 2b Study participants. Unblinded information, if accessed in connection with bioanalysis, could be improperly utilized to manipulate underlying samples or data to skew reported results.

The Internal Investigation did not determine, and may never be able to determine with any reasonable degree of certainty, whether Dr. Wang unblinded himself as to some number of Phase 2b Study participants. Nevertheless, the fact that Dr. Wang possessed information that could have been used to so unblind himself, together with the allegations in the DOJ indictment, undermine the blinded study design and create substantial uncertainty about the validity of the CUNY Bioanalysis of CSF biomarkers.

In addition, another objective of the Phase 2b Study was to measure changes in cognitive outcome measures using the Cambridge Neuropsychological Test Automated Battery, or CANTAB, over the 28-day study period. In connection with our settlement with the SEC, the SEC's complaint alleged, among other things, that disclosures relating to the Phase 2b Study's cognition results (the Cognition Disclosures), which reported results from a *post hoc* sensitivity analysis, were inadequate and misleading.

Accordingly, in light of the foregoing uncertainties and allegations, you should not rely on the CUNY Bioanalysis of CSF biomarkers reported by the Company in connection with the Phase 2b Study or the Cognition Disclosures from the Phase 2b Study. There can be no assurance that such uncertainties and allegations will not adversely impact any FDA review with respect to simufilam following completion of our Phase 3 clinical studies or cause the FDA to request additional information regarding simufilam.

We are subject to lawsuits and governmental investigations and inquiries.

We are defending ourselves in a number of lawsuits, including securities class action and shareholder derivative actions, and the Company, as well as two former senior employees of the Company, have been and may continue to be subject to governmental investigations and inquiries. Defending litigation and responding to governmental investigations is expensive and time consuming and may divert the time and attention of our management away from the conduct of our primary business. Moreover, the allegations underlying such litigation and governmental investigations have damaged our business reputation, which may make it difficult to, among other things: raise capital or engage in a strategic transaction on acceptable terms or at all; hire and retain third-party consultants and collaborators; recruit and retain patients for our studies; and attract and retain qualified executive officers, other employees and directors.

As a result of current or future lawsuits, we may have to pay significant damages or amounts in settlement above insurance coverage, including amounts in respect of indemnification obligations of the Company to former officers and senior employees. An unfavorable outcome or prolonged litigation could materially and adversely impact our business, operating results, and financial condition, including our cash runway. In addition, current or future government investigations and inquiries could subject us to various sanctions, including significant penalties, our being prevented from receiving government grants, and other punitive measures. For example, the Company paid a civil monetary penalty of $40 million in November 2024 as part of a settlement with the SEC resolving the SEC investigation of the Company's disclosures regarding its Phase 2b Study and related matters. Such payments or settlement arrangements in current or future litigation and government investigations and inquiries could significantly and adversely impact our reputation and divert management's attention and resources, which could have a material adverse effect on our business, operating results and financial condition.

While we cannot estimate our potential exposure to future litigation, regulatory claims, investigations or proceedings at this time, we have already incurred significant expense related to litigation, government investigations and the Internal Investigation and expect to continue to incur significant expense.

Our current dependence on single source suppliers for our drug substance and drug product could materially adversely affect our ability to manufacture our product candidates and materially increase our costs.

We rely on single source suppliers for materials that are critical to the manufacturing of simufilam, our lead product candidate. This reliance subjects us to risks related to our potential inability to obtain an adequate supply of required materials. If these third parties do not successfully carry out their contractual duties, meet expected deadlines or conduct their activities in accordance with regulatory requirements, or if there are disagreements between us and these third parties, we may not be able to complete, or may be delayed in completing, the clinical studies required to support future regulatory submissions and approval of the product candidates we develop. Our operating results could be materially adversely affected if we were unable to obtain adequate supplies of simufilam in a timely manner or if their cost increased significantly due to inflation or other factors.

Further, under certain circumstances, service providers that have contracted with us may be entitled to terminate their engagements with us. In such circumstances, product development activities could be delayed while we seek to identify, validate, and negotiate an agreement with a replacement service provider. In some such cases an appropriate replacement may not be readily available or available on acceptable terms, which could cause additional delays to our development process. It would likely result in production and delivery delays if we needed to find alternative suppliers for simufilam, which could lead to delays in our clinical trials and have a material adverse effect on our business, results of operations and financial condition

Inadequate Congressional funding for the FDA, the SEC and other U.S. government agencies or comparable foreign regulatory authorities, including from government shut downs, or other disruptions to these agencies' operations, could hinder these agencies' ability to hire and retain key leadership and other personnel, prevent new products and services from being developed or commercialized in a timely manner or otherwise prevent government agencies from performing normal business functions on which the operation of our business may rely, which could negatively impact our business.

The ability of the FDA or comparable foreign regulatory authorities to review and approve new products can be affected by a variety of factors, including government budget and funding levels, ability to hire and retain key personnel and accept the payment of user fees, and enact statutory, regulatory and policy changes. Disruptions at the FDA and other agencies may also slow the time necessary for new product candidates to be reviewed and/or approved by necessary government agencies, which would adversely affect our business.

In addition, government funding of the SEC and other government agencies on which our operations may rely, including those that fund research and development activities, is subject to the political process, which is inherently fluid, unpredictable and entirely beyond our control.

Disruptions at the FDA and other agencies may also slow the time necessary for us and the FDA to communicate and discuss key aspects of our clinical program, or for new product candidates to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, in prior years the U.S. government has shut down several times and certain regulatory agencies, such as the FDA and the SEC, have had to furlough critical employees and stop critical activities. If a prolonged government shutdown occurs, it could significantly impact the ability of the FDA or SEC to timely review and process our regulatory submissions, which could have a material adverse effect on our business. Further, future government shutdowns could impact our ability to access the public markets and obtain necessary capital in order to properly capitalize and continue our operations.

The FDA may change the statutory requirements for drug approval.

FDA Guidances for Industry are non-binding policy documents that are issued by FDA from time to time to assist sponsors, such as our Company, with the clinical development of drug candidates. Even though such guidance documents do not set legal standards or impose binding requirements they are nonetheless broadly followed by sponsors, including us. In addition, sponsors who adhere in good faith with earlier guidance documents have no assurance or recourse against enforcement actions if the guidance documents are later replaced with conflicting guidance. We have relied heavily on current FDA guidance and meetings with the FDA to advance simufilam through the drug development process. Any future changes to existing FDA Guidance for Industry for indications that we are pursuing may have a material adverse effect on our business, may add significant time, cost or complexity to our drug development program for simufilam, or could cause us to cease or delay development of some or all our product candidates.

In addition, changes in FDA regulations, statutes or the interpretation of existing regulations and statutes could impact our business by requiring, for example: (i) changes to our manufacturing arrangements for simufilam; (ii) additions or modifications to product labeling, if and when our product candidates are approved for sale; (iii) the recall or discontinuation of our product candidates from investigational clinical sites; or (iv) additional record-keeping requirements. If any such changes were to be imposed, they may have a material adverse effect on our business, may add significant time, cost or complexity to our drug development program for simufilam, or could cause us to cease or delay development of some or all our product candidates.

Our reliance on third parties for both the supply and manufacture of materials for our product candidates carries the risk that we will not have sufficient quality or quantities of such materials or product candidates, or that such supply will not be available to us at an acceptable cost, which could delay, prevent, or impair our development or commercialization efforts.

We do not have any manufacturing facilities. We currently expect to rely on CDMOs for all of the manufacture of our materials for preclinical studies and clinical studies, clinical studies, and for commercial supply of any product candidates that we may develop. We currently have established relationships with several CDMOs for the manufacturing of our product candidates. We may be unable to establish any further agreements with CDMOs or to do so on acceptable terms. Even if we are able to establish agreements with third-party manufacturers, reliance on CDMOs entails additional risks, including:

- the possible breach of the manufacturing agreement by the third party;
- the possible termination or nonrenewal of the agreement by the third party at a time that is costly or inconvenient for us;
- reliance on the third party for regulatory compliance, quality assurance, safety, and pharmacovigilance and related reporting; and
- the inability to produce required volume in a timely manner and to quality standards.

Third-party manufacturers may not be able to comply with cGMP regulations or similar regulatory requirements outside the U.S. Our failure, or the failure of our CDMOs, to comply with applicable regulations could result in clinical holds on our studies, sanctions being imposed on us, including fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, seizures, or recalls of product candidates or product candidates, operating restrictions, and criminal prosecutions, any of which could significantly and adversely affect supplies of our product candidates and harm our business, financial condition, results of operations, and growth prospects.

Any product candidates that we may develop may compete with other product candidates and products for access to manufacturing facilities. There are a limited number of manufacturers that operate under cGMP regulations and that might be capable of manufacturing for us.

Any performance failure on the part of our existing or future third-party manufacturers could delay clinical development or marketing approval. If any one of our current contract manufacturers cannot perform as agreed, we may be required to replace that manufacturer and may incur added costs and delays in identifying and qualifying any such replacement. Furthermore, securing and reserving production capacity with contract manufacturers may result in significant costs.

We also rely on third-parties for the supply of the raw materials required for the production of our product candidates, and we expect to continue to rely on third party manufacturers for the commercial supply of any of our product candidates for which we obtain marketing approval. Our current and anticipated future dependence upon others for the manufacture of any product candidates we may develop may adversely affect our future profit margins and our ability to commercialize any medicines that receive marketing approval on a timely and competitive basis.

Our employees, principal investigators, consultants and vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements and insider trading.

We are exposed to the risk of fraud or other misconduct by our employees, principal investigators, consultants and vendors. Misconduct by these parties could include intentional failures, reckless and/or negligent conduct or unauthorized activities that violate (i) the laws and regulations of FDA and other regulatory authorities, including those laws requiring the reporting of true, complete and accurate information to such authorities, (ii) manufacturing standards, (iii) federal and state data privacy, security, fraud and abuse and other healthcare laws and regulations in the United States and abroad and (iv) laws that require the true, complete and accurate reporting of financial information or data. In particular, clinical and business arrangements in the biotechnology and healthcare industries are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations restrict or prohibit a wide range of financial arrangements, incentive programs and other business arrangements. Such misconduct also could involve the improper use of individually identifiable information, including, without limitation, information obtained in the conduct of clinical trials, creating fraudulent data in our preclinical studies or clinical trials or illegal misappropriation of drug 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 government investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations.

Additionally, 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 result in significant civil, criminal and administrative penalties, damages, fines, disgorgement, imprisonment, exclusion from participating in government-funded healthcare programs, such as Medicare and Medicaid, additional reporting requirements and oversight if we become subject to a corporate integrity agreement or similar agreement to resolve allegations of noncompliance with these laws, contractual damages, reputational harm and the curtailment or restructuring of our operations, any of which could have a negative impact on our business, financial condition, results of operations and prospects.

Our Workforce Reduction may result in operational and strategic challenges.

On January 7, 2025, we announced a reduction in our workforce by 10 employees, a reduction of 33%. The Workforce Reduction was intended to align our human capital resources to meet our strategic goals, in light of the discontinuation of our ongoing clinical trials for Alzheimer's disease. Headcount reductions, which may result in the loss of institutional knowledge and expertise, may adversely affect operations and yield unintended consequences, such as attrition beyond our intended reductions and reduced employee morale. Our ability to successfully execute on our strategy depends on retaining key remaining personnel, and unanticipated attrition, which may occur on short notice, could potentially harm our business and operations. As a result of the Workforce Reduction, our management may need to divert attention away from day-to-day strategic and operational activities and devote additional time to managing organizational changes.

Our disclosure controls and procedures may not prevent or detect all errors or acts of fraud.

We are subject to the periodic reporting requirements of the Exchange Act. We designed our disclosure controls and procedures to reasonably assure that information we must disclose in reports we file or furnish under the Exchange Act is accumulated and communicated to management, and recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. We believe that any disclosure controls and procedures or internal controls and procedures, no matter how well-conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met.

These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple mistake or human error. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in our control system, misstatements due to error or fraud may occur and not be detected.

Failure to comply with laws regarding data privacy could expose us to risk of enforcement actions and penalties under such laws.

We may be subject to privacy and security laws in the various jurisdictions in which we operate, obtain or store personally identifiable information. The legislative and regulatory landscape for privacy and data protection continues to evolve, and there has been an increasing focus on privacy and data protection issues with the potential to affect our business. Our ongoing efforts to comply with evolving laws and regulations may be costly and require ongoing modifications to our policies, procedures and systems. Failure to comply with laws regarding data protection by us or our partners or service providers would expose us to risk of enforcement actions and penalties under such laws. Even if we are not determined to have violated these laws, government investigations into these issues typically require the expenditure of significant resources and generate negative publicity, which could harm our business, financial condition, results of operations or prospects.

Within the U.S., there are numerous federal and state laws and regulations related to the privacy and security of personal information. For example, at the federal level, the Health Insurance Portability and Accountability Act of 1996, as amended ("HIPAA"), and its implementing regulations establish privacy and security standards that limit the use and disclosure of personally identifiable health information, or protected health information, and require the implementation of administrative, physical and technological safeguards to protect the privacy of protected health information. While we have determined that we are neither a "covered entity" nor a "business associate" directly subject to HIPAA, many of the U.S. health care providers with which we interact are subject to HIPAA, and we may have assumed obligations related to protecting the privacy of personal information. States are increasingly regulating the privacy and security of personal information. For example, the California Consumer Privacy Act (CCPA), which took effect in 2020, gives California consumers (defined to include all California residents) certain rights, including the right to ask covered companies to disclose the types of personal information collected, the categories of sources from which such information was collected, the business purpose for collecting or selling the consumer's personal information, the categories of third parties with whom a covered company shares personal information, and specific pieces of information collected by a covered company. The CCPA imposes several obligations on covered companies to provide notice to California consumers regarding their data processing activities. The CCPA also gives California consumers the right to ask covered companies to delete a consumer's personal information and it places limitations on a covered company's ability to sell personal information, including providing consumers a right to opt out of sales of their personal information. Additionally, the California Privacy Rights Act (CPRA), which became operational in 2023, significantly modifies the CCPA, including expanding consumers' rights with respect to certain sensitive personal information, and creates a new state agency vested with authority to implement and enforce the CCPA and CPRA. The Virginia Consumer Data Protection Act (CDPA) went into effect on January 1, 2023. The CDPA provides consumers with new rights to access, correct, delete and obtain a copy of the personal information a covered business holds about them, and to opt out of certain data processing activities.

Ownership of our corporate headquarters and property leasing are subject to numerous risks and uncertainties.

In 2021, we made an all-cash purchase of an office complex in Austin, Texas, a portion of which serves as our corporate headquarters. Title to this property is held by Austin Innovation Park, LLC, a Texas limited liability company wholly owned by Cassava Sciences. The purchase required a substantial upfront cash investment and may require further commitments of our resources in the future. We have assumed or entered into lessor commitments with independent third parties for portions of our office complex and expect to continue to do so in the future. Commercial property ownership and related leasing activity are subject to many factors that pose substantial financial risks and uncertainties, including tenant default or non-payment of lease obligations by tenants. Macro-economic or other factors outside of our control could have an adverse effect on the demand for leased office space in our locale or may cause a decline in the market value of our corporate headquarters.

At December 31, 2024, we occupied approximately 25% of the property with the remainder either leased or available for lease to third parties. Most tenant leases expired in 2024. We expect to record a net loss on leasing activities in 2025 as the higher vacancy rates are expected to significantly lower rental income. If we fail to lease unoccupied office space at favorable rates, or if we incur excessive expenses in this effort or incur excessive leasehold improvements or property ownership expenses, our business, operations, future prospects, cash flows, and financial position may be adversely affected. In addition, our property is located in a semi-rural, wooded area of Austin, Texas that is subject to natural disasters such as extreme weather conditions, including but not limited to floods, tornadoes, wildfires, winter storms, lighting, heat waves and drought. Such natural disasters could damage, destroy or impair the value of our property or reduce the number of tenants who are willing or able to continue to lease office space in our property. We may incur substantial expenses as a result of our property's exposure to natural disasters, which could have a material adverse effect on our business and prospects.

Our internal computer systems, or those used by third parties on whom we rely, may fail or suffer other breakdowns, cyberattacks, or information security breaches that could compromise the confidentiality, integrity, and availability of such systems and data, result in material disruptions of our development programs and business operations, risk disclosure of confidential, financial, or proprietary information, and affect our reputation.

In the ordinary course of our business, we collect and store sensitive data, including legally protected patient health information, personally identifiable information about our employees, intellectual property, and proprietary business information. We manage and maintain our applications and data utilizing on-site systems, as well as extensive cloud-based applications and data storage. These applications and data encompass a wide variety of business-critical information including research and development information, commercial information and business and financial information. Despite the implementation of security measures, our internal computer systems and those of our current or future CROs and other contractors and consultants may be vulnerable to damage from computer viruses and unauthorized access. As the cyber-threat landscape evolves, these cyberattacks are growing in frequency, sophistication, and intensity, and are becoming increasingly difficult to detect. Such attacks could include the use of key loggers or other harmful and virulent malware, including ransomware or other denials of service, and can be deployed through malicious websites, the use of social engineering, and/or other means. If a breakdown, cyberattack, or other information security breach were to occur and cause interruptions in our operations, it could result in a misappropriation of confidential information, including our intellectual property or financial information, and a material disruption of our development programs and our business operations. For example, the loss of clinical study data from completed, ongoing, or future clinical studies could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. Likewise, we rely on our third-party research institution collaborators for research and development of our product candidates and other third parties for the manufacture of our product candidates, to conduct clinical studies, and to analyze our clinical study data and similar events relating to their computer systems could also have a material adverse effect on our business. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or systems, or inappropriate disclosure of confidential, financial, or proprietary information, including data related to our personnel, we could incur liability or risk disclosure of confidential, financial, or proprietary information, and the further development and commercialization of our product candidates could be delayed. There can be no assurance that we and our business counterparties will be successful in efforts to detect, prevent, or fully recover systems or data from all breakdowns, service interruptions, attacks, or breaches of systems that could adversely affect our business and operations and/or result in the loss of critical or sensitive data, which could result in financial, legal, business, or reputational harm to us.

We are in the early stages of exploring potential AI capabilities and related data analytics. As an emerging and rapidly evolving technology, our use of AI presents risks that could adversely affect our operations, information security and reputation. AI systems may produce inaccurate or flawed outputs due to flawed algorithms, or insufficient and/or erroneous training data. Reliance on flawed outputs could result in lower quality decision-making or prevent us from effectively utilizing AI in our business. We may also become vulnerable to operational disruptions if the AI technologies we use experience downtimes or are compromised by cyberattacks. If we do not effectively implement guardrails and train our staff on the safe and proper use of AI, or if our staff fail to effectively adhere to our established guardrails and training on the use of AI, we may experience adverse effects on our business, including data breaches, the loss of confidential information (including our intellectual property), unintentional disclosure of personal data, or other misuse of our proprietary information, any of which could result in significant reputational harm and could have a material adverse effect on our business and results of operations.

Our reliance on third parties requires us to share our proprietary information, which increases the possibility that a competitor will discover this information or that our proprietary information will be misappropriated or inadvertently disclosed.

Our reliance on third-party vendors requires us to disclose our proprietary information to these parties, which could increase the risk that a competitor will discover this information or that our proprietary information will be misappropriated or disclosed without our intent to do so. If any of these events were to occur, then our ability to obtain patent protection or other intellectual property rights could be irrevocably jeopardized, and costly, distracting litigation could ensue. Furthermore, if these third-party vendors cease to continue operations and we are not able to quickly find a replacement provider or we lose information or items associated with our products or product candidates, our development programs may be delayed. Although we carefully manage our relationships with our third-party collaborators and CROs, there can be no assurance that we will not encounter challenges or delays in the future or that these delays or challenges will not have a material adverse impact on our business, clinical operations, financial condition and prospects.

Our business involves environmental risks that may result in liability for us.

In connection with our research and development activities, we, and our collaborators and vendors, are subject to federal, state and local laws, rules, regulations and policies governing the use, generation, manufacture, storage, air emission, effluent discharge, handling and disposal of certain materials, biological specimens, chemicals and wastes. Although we believe that we comply with such applicable laws, regulations and policies in all material respects and have not been required to correct any material noncompliance, we may incur significant costs to comply with environmental and health and safety regulations in the future. Although we believe that our safety procedures for handling and disposing of controlled materials comply with the standards prescribed by state and federal regulations, accidental contamination or injury from these materials may occur. In the event of such an occurrence, we could be held liable for any damages that result and any such liability could exceed our resources.

Business disruptions and lack of appropriate levels of commercial insurance could seriously harm our future revenue and financial condition and increase our costs and expenses.

Our operations, and those of our third-party research institution collaborators, CROs, CDMOs, suppliers, and other contractors and consultants, could be subject to earthquakes, power shortages, telecommunications failures, water shortages, floods, hurricanes, typhoons, fires, extreme weather conditions, disease epidemics or pandemics, and other natural or man-made disasters or business interruptions, for which we are partly or entirely uninsured. In addition, we rely on third parties for conducting certain research and development activities relating to our product candidates, and they may be affected by government shutdowns or withdrawn funding. The occurrence of any such business disruptions could seriously harm our operations and financial condition and increase our costs and expenses. We rely on third party manufacturers to produce and process our product candidates. Our ability to obtain clinical supplies of our product candidates could be disrupted if the operations of these suppliers are affected by a man-made or natural disaster or other business interruption.

Our day-to-day operations are located in a single office facility in Austin, Texas. Damage or extended periods of interruption to our corporate, development, or research facilities could cause us to cease or delay development of some or all our product candidates. Our insurance might not cover losses under such circumstances and our business may be seriously harmed by such delays and interruption.

Social media platforms have significantly altered the dynamics of corporate communications and present risks and challenges, some of which are and may continue to be unknown to us.

As social media continues to expand, it also presents us with new challenges. The inappropriate or unauthorized use of our confidential information on media platforms could cause brand damage or information leakage, which would cause legal or regulatory issues for us. In addition, negative, inappropriate or inaccurate posts or comments about us or our product candidates on social media internet sites could quickly and irreversibly damage our reputation, image and goodwill. Further, the accidental or intentional disclosure of non-public sensitive information by our workforce or others through media channels could lead to information loss or could lead to legal or regulatory issues for us. In addition, there is a risk of a fraudulent third-party hijacking our information technology systems without our knowledge to access our confidential documents or to use our company name, logo or brand without authorization. If any of these events were to occur or we otherwise fail to comply with applicable regulations, we could incur liability, face restrictive regulatory actions or incur other harm and costs to our business.

We are a small company with a limited number of employees. We are highly dependent on our key personnel, and if we are not successful in attracting, motivating, and retaining highly qualified personnel, we may not be able to successfully implement our business strategy.

Our ability to compete in the highly competitive biotechnology and pharmaceutical industries depends upon our ability to attract, motivate, and retain highly qualified managerial, scientific, and medical personnel. We are highly dependent on our management and our scientific and technical personnel. The loss of the services provided by any of our executive officers, other key employees, and other scientific and medical advisors, and our inability to find suitable replacements, could result in delays in the development of our product candidates and harm our business.

To induce valuable employees to remain at our company, in addition to salary and cash incentives, we have provided equity option grants that vest over time and/or a cash bonus plan. The value to employees of these equity grants that vest over time or cash bonus plans may be significantly affected by movements in our stock price that are beyond our control and may at any time be insufficient to counteract more lucrative offers from other companies. Although we have employment agreements with our key employees, these employment agreements provide for at-will employment, which means that any of our employees could leave our employment at any time, with or without notice. If we are unable to attract and incentivize quality personnel on acceptable terms, or at all, it may cause our business and operating results to suffer.

We may need to cease our operations if we are unable to attract and retain key personnel.

We are engaged in developing early- and clinical-stage technologies and will continue to do so for the foreseeable future. Unlike larger organizations, we rely on a very small number of highly skilled, and highly sought after, employees to continue the advancement of our development stage technologies. The knowledge and skills contributed by our key employees may be irreplaceable and the loss of a key employee may cause substantial negative financial, operational and scientific consequences for our business. As an example, the intellectual property that is intended to protect our development stage technologies is still evolving and its evolution remains highly dependent on a small number of employees with specific expertise. The loss of a key employee may jeopardize our existing or pending intellectual property or may prevent us from accessing the technical information and knowledge necessary to extend our portfolio of intellectual property. Furthermore, we believe the adverse effects that may result from losing a key employee's participation cannot be compensated with any specific insurance policies, such as "key person" or "business life" insurance. If we are not successful in retaining key employees, our business and financial condition will suffer, and we may need to cease our operations.

If our current research collaborators or scientific advisors terminate their relationships with us or develop relationships with a competitor, our ability to continue our business operations could be adversely affected.

We have relationships with unaffiliated research collaborators at academic and other institutions who conduct research at our request. These research collaborators are not our employees. As a result, we have limited control over their activities and, except as otherwise required by our collaboration agreements, can expect only limited amounts of their time to be dedicated to our activities. Our ability to discover drugs and biomarkers involved in human disease and validate and commercialize diagnostic tests may depend in part on the continuation of these collaborations. If any of these collaborations are terminated, we may not be able to enter into other acceptable collaborations. In addition, our existing collaborations may not be successful. Our research collaborators and scientific advisors may have relationships with other commercial entities, some of which could compete with us. Our research collaborators and scientific advisors sign agreements which provide for the confidentiality of our proprietary information and the results of studies conducted at our request. We may not, however, be able to maintain the confidentiality of our technology and other confidential information related to all collaborations. The dissemination of our confidential information could have a material adverse effect on our business.

Our business may be impacted by political events, war, terrorism, business interruptions and other geopolitical events and uncertainties beyond our control.

War, terrorism, geopolitical uncertainties and other business interruptions could cause damage to, disrupt or cancel the conduct of our clinical studies on a global or regional basis, which could have a material adverse effect on our business, clinical sites or vendors with which we do business. Such events could also decrease patient demand to enroll in our clinical studies or make it difficult or impossible for us to deliver products and services to our clinical investigational sites. In addition, territorial invasions can lead to cybersecurity attacks on technology companies, such as ours, located far outside of the conflict zone. In the event of prolonged business interruptions due to geopolitical events, we could incur significant losses, require substantial recovery time and experience significant expenditures in order to resume our business or clinical operations. We have no operations in Israel, Russia or the Ukraine, but we do not and cannot know if the current uncertainties in these geopolitical areas may escalate and result in broad economic and security conditions or rationing of medical supplies, which could limit our ability to conduct clinical trials outside the U.S. or result in material implications for our business. In addition, our insurance policies typically contain a war exclusion of some description and we do not know how our insurers are likely to respond in the event of a loss alleged to have been caused by geopolitical uncertainties.

Our efforts to minimize the likelihood and impact of a cybersecurity incident may not be successful and our business could be negatively affected by a data breach or other cybersecurity threat or other disruption to our operations, which could result in legal claims against us or could give rise to substantial financial costs to redress any such cybersecurity incident and could harm our relationship with vendors, clinical study participants or regulators.

Our business operation is data-intensive and relies extensively on the use of information technology. In addition, biopharmaceutical firms have been subject to an increasing number of cyberattacks in recent years, particularly cyberattacks targeting the theft of intellectual property and unauthorized access to proprietary clinical research data or sensitive patient information. Given the nature of our business, we are subject to a variety of evolving cybersecurity threats to our information technology infrastructure, including ransomware, unauthorized attempts to gain access to our operations or to sensitive patient information, denial-of-service attacks or various other methods of attacks. As discussed below, similar security threats may be faced by our vendors, consultants, suppliers, subcontractors, clinical investigational sites and non-clinical research labs.

Such cybersecurity threats are prevalent and continue to rise, are increasingly difficult to detect, and come from a variety of sources, including traditional computer "hackers," threat actors, nation states and rogue nation-state actors. We could also be impacted by the improper cyber conduct of our employees or others working on behalf of us who have access to our proprietary information or sensitive patient information, which could adversely affect our business and reputation. The occurrence of any material cybersecurity incident could cause substantial disruptions to our business operations. In addition to cyber threats, we may face threats to the security of our facilities or executives, which could materially disrupt our business if carried out.

We also work cooperatively with numerous vendors, consultants, suppliers, subcontractors, clinical investigational sites and non-clinical research labs, which have access to our proprietary or sensitive information. These third parties, which are typically outside our control, may have varying levels of cybersecurity expertise and safeguards and our ability to monitor their cybersecurity practices is limited. These third parties may not have adequate cybersecurity measures in place, and incidents or other interruptions suffered by them could cause us to experience adverse consequences. In particular, cybersecurity incidents in our drug supply chain could have an adverse impact on our ability to timely deliver product candidates to patients and physicians participating in our clinical studies, which could cause us to delay or cancel the completion of our ongoing clinical and non-clinical studies.

If cybersecurity threats materialize and we or third-parties that we rely upon are unable to defend against them or to protect sensitive information, including through complying with evolving information security and data protection/privacy regulations, this could cause vendors, clinical study participants, clinical study investigation sites, patients, or governmental authorities to question the adequacy of the threat mitigation and detection processes and procedures that we and our vendors employ. Moreover, depending on the severity of an incident, our proprietary clinical research data, sensitive patient information, intellectual property, including trade secrets and research, development and technical know-how, could be compromised.

Nearly all of our operations carry cybersecurity risks, including risks that they could be breached or that we could fail to detect, prevent or combat attacks, which could result in financial losses and claims against us, and could harm our relationships with our vendors or clinical study participants. The costs and expenses to respond to a material cybersecurity incident or other security threat or disruption may be substantial for a company of our size. Further, our cybersecurity commercial insurance policy covering potential financial losses that may occur in the event we experience a cybersecurity incident may not be sufficient to cover any related damages or losses.

Risks Related to Financial Condition and Capital Requirements

We have incurred significant net losses in each period since our inception and anticipate that we will continue to incur net losses for the foreseeable future.

We have incurred net losses in each reporting period since our inception, including a net loss of $24.3 million for the year ended December 31, 2024. As of December 31, 2024, we had an accumulated deficit of $405.1 million.

We have invested significant financial resources in research and development activities for product candidates. We do not expect to generate revenue from product sales for several years, if at all. The amount of our future net losses will depend, in part, on the level of our future expenditures and revenue. Moreover, our net losses may fluctuate significantly from quarter to quarter and year to year, such that a period-to-period comparison of our results of operations may not be a good indicator of our future performance.

We expect to continue to incur operating expenses and losses for the foreseeable future. We anticipate our expenses will remain substantial as we:

- continue our research and discovery activities;
- advance our current and any future product candidates through preclinical and clinical development;
- initiate and conduct additional preclinical, clinical, or other studies for our product candidates;
- work with our CDMO's for the manufacture of our product candidates;
- seek regulatory approvals and marketing authorizations for our product candidates;
- obtain, maintain, protect, defend and enforce our intellectual property portfolio;
- attract, hire, and retain qualified personnel;
- provide additional internal infrastructure to support our continued research and development operations and any planned commercialization efforts in the future;
- experience any delays or encounter other issues related to our operations;
- meet the requirements and demands of being a public company; and
- defend against litigation, claims or other uncertainties that may arise from allegations made against us or our collaborators.

Our prior losses and expected future losses have had and will continue to have an adverse effect on our stockholders' equity and working capital. In any quarter, our operating results could be below the expectations of securities analysts or investors, which could cause our stock price to decline.

We have broad discretion in the use of our capital resources, including the net proceeds from any of our financing transactions, and we may not use them effectively.

We have broad discretion in the application of our capital resources, including the net proceeds from our financing transactions, and investors will not have the opportunity to opine on whether such resources are being used appropriately. We could spend such capital resources in ways that vary substantially from their initially communicated intended use, do not improve our results of operations or enhance the value of our common stock. Our failure to apply these funds effectively could result in financial losses that could have a material adverse effect on our business, cause the price of our common stock to decline and delay the development of our product candidates. Pending their use, we may invest available capital resources, including net proceeds from our financing transactions, in a manner that does not produce income or that loses value.

We have no product revenues and may never achieve revenues or profitability based on product revenues.

We have no products approved for commercial sale. To obtain revenues from the sales of our product candidates that are significant or large enough to achieve profitability, we must succeed, either alone or with third parties, in developing, obtaining regulatory approval for, manufacturing, and marketing product candidates with significant commercial value. This is a significant endeavor that few early-stage biopharmaceutical companies can successfully achieve. Our ability to generate revenue and achieve profitability depends on many factors, including:

- completing research and preclinical and clinical development of our product candidates;
- obtaining regulatory approvals and marketing authorizations for product candidates for which we successfully complete clinical development;
- developing a sustainable and scalable manufacturing process for our product candidates, as well as establishing and maintaining commercially viable supply relationships with third parties that can provide adequate products and services to support clinical activities and commercial demand for our product candidates;
- identifying, assessing, acquiring, and/or developing new product candidates;
- negotiating favorable terms in any collaboration, licensing, or other arrangements into which we may enter;
- addressing any competing technological and market developments;
- maintaining, protecting, expanding, and enforcing our portfolio of intellectual property rights, including patents, trade secrets, and know-how; and
- attracting, hiring, and retaining qualified personnel.

Because of the numerous risks and uncertainties associated with drug development, we are unable to predict the timing or amount of our expenses, or when we will be able to generate any meaningful revenue or achieve or maintain profitability, if ever. In addition, our expenses could increase beyond our current expectations if we are required by FDA or foreign regulatory agencies to perform studies in addition to those that we currently anticipate, or if there are any delays in any of our clinical studies or the development of any of our product candidates.

We may require additional capital to fund our operations and to complete the development of our product candidates. A failure to obtain this necessary capital on acceptable terms, or at all, could force us to delay, limit, reduce, or terminate our commercialization efforts, product development, or other operations.

Our operations have required substantial amounts of cash since inception, and we expect our expenses to remain substantial for the foreseeable future. To date, we have financed our operations primarily through the sale of equity securities, research grants and payments received from prior third-party collaborations. Developing our product candidates and conducting clinical studies for the treatment of neurodegenerative diseases, including Alzheimer's disease, will require substantial amounts of capital. We will also require a significant amount of capital to commercialize any approved products.

As of December 31, 2024, we had cash and cash equivalents of $128.6 million. Based on our current operating plan, we believe that our existing cash and cash equivalents will be sufficient to fund our projected operations for at least the next 12 months. Our estimate as to how long we expect our existing cash and cash equivalents to be available to fund our operations is a forward-looking statement, based on assumptions that may prove inaccurate, and we could use our available capital resources sooner than we currently expect. In addition, changing circumstances may cause us to increase our spending significantly faster than we currently anticipate, and we may need to spend more money than currently expected because of currently unanticipated circumstances, which may be beyond our control. We may need to raise additional funds sooner than we anticipate if we choose to expand more rapidly than we presently anticipate.

We may require additional capital for the further development of our product candidates. Additional capital may not be available when we need it, or on terms acceptable to us or at all. We have no committed source of additional capital. If adequate capital is not available to us on a timely basis, we may be required to significantly delay, limit, reduce or terminate our research and development programs or the commercialization of product candidates, if approved, or be unable to continue or expand our operations, or otherwise capitalize on our business opportunities, as desired, which could materially affect our business, financial condition, results of operations, and growth prospects and cause the price of our common stock to decline.

To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a common stockholder. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures, or declaring dividends. If we raise additional funds through collaborations, strategic alliances, or licensing arrangements with pharmaceutical partners, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs, or product candidates, or grant licenses on terms that may not be favorable to us.

Global credit and financial market conditions could negatively impact the value of our portfolio of cash equivalents and our ability to meet our financing objectives.

Our cash and cash equivalents are generally maintained in highly liquid investments with original maturities of three months or less at the time of purchase. While, as of the date of this filing, we are not aware of any downgrades, material losses, or other significant deterioration in the fair value of our cash equivalents since December 31, 2024, no assurance can be given that deterioration in conditions of the global credit and financial markets would not negatively impact our current portfolio of cash equivalents or our ability to meet our financing objectives.

Risks Related to the Ownership of Our Common Stock

We do not know whether a sufficient market will continue to develop for our securities or what the market price of our securities will be, and, as a result, it may be difficult for investors to sell shares of our common stock.

If a market for our common stock is not sustained, it may be difficult to sell shares of our common stock at an attractive price or at all. We cannot predict the prices at which our common stock will trade. It is possible that in one or more future periods our results of operations and progression of our product pipeline may not meet the expectations of public market analysts and investors, and, as a result of these and other factors, the price of our common stock may fall.

The market price of our common stock has historically been highly volatile, and we expect it to continue to be volatile, which could result in substantial losses for investors who purchase our shares.

The market price of our common stock has historically been highly volatile. For example, the closing price of our common stock has fluctuated from a low of $2.27 to a high of $35.08 over the 12 months preceding the filing date of this Annual Report on Form 10-K. Some of the factors that may cause the market price of our common stock to fluctuate include:

- the success of existing or new competitive products or technologies;
- the timing and results of clinical studies for our current product candidates and any future product candidates that we may develop;
- failure or discontinuation of any of our product development and research programs;
- results of preclinical studies, clinical studies, or regulatory approvals of product candidates of our competitors, or announcements about new research programs or product candidates of our competitors;
- regulatory or legal developments in the United States and other countries;
- developments or disputes concerning patent applications, issued patents, or other proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to any of our research programs, clinical development programs, or product candidates that we may develop;
- the results of our efforts to develop additional product candidates or products;
- actual or anticipated changes in estimates as to financial results or development timelines;
- announcement or expectation of additional financing efforts;
- sales of our common stock by us, our insiders, or other stockholders;
- Short selling of our stock, in which a seller sells shares of our stock that the seller has borrowed from a third party, which often occurs when a short seller expects the price of our common stock to decline;
- variations in our financial results or those of companies that are perceived to be similar to us;
- changes in estimates or recommendations by securities analysts, if any, that cover our stock;
- market conditions in the pharmaceutical and biotechnology sectors;
- general economic, industry, and market conditions; and
- securities litigation, regardless of merit.

In recent years, the stock market in general, Nasdaq, and the markets for early-stage companies and pharmaceutical and biotechnology companies have experienced significant price and volume fluctuations that have often been unrelated or disproportionate to changes in the operating performance of the companies whose stock is experiencing those price and volume fluctuations. Broad market and industry factors may seriously affect the market price of our common stock, regardless of our actual operating performance. Following periods of such volatility in the market price of a company's securities, securities class action litigation has often been brought against that company. Because of the potential volatility of our stock price, we are currently and may become the target of securities litigation in the future. Securities litigation could result in substantial costs and divert management's attention and resources from our business.

If securities analysts do not publish research or reports about our business, or we are the subject of negative publicity, the price of our stock could decline.

The trading market for our securities depends, in part, on the research and reports that securities or industry analysts publish about us or our business. We do not control these analysts. If one or more of the analysts who cover us downgrade our stock or publish inaccurate or unfavorable evaluations of our company or our stock, the price of our securities could decline. If one or more of these analysts cease coverage of our company or fail to publish reports covering our company regularly, our stock may lose visibility in the market, which in turn could cause the price of our securities to decline. In addition, if we are the subject of negative publicity, whether from an analyst, academic, social media, industry group or the general or financial press, the price of our securities may decline.

General Risk Factors

If we are unable to maintain effective internal controls, our business, financial position, and results of operations could be adversely affected.

As a smaller reporting company, our independent registered public accounting firm is not required to conduct, and has not conducted, an audit of our internal control over financial reporting. It is possible that, had our independent registered public accounting firm conducted an audit of our internal control over financial reporting, such firm might have identified material weaknesses and deficiencies that we have not identified. If we or our independent auditors discover a material weakness, the disclosure of that fact, even if quickly remedied, could adversely affect the market price and trading liquidity of our common stock, cause investors to lose confidence in our financial reporting and generally materially adversely impact our business and financial condition.

The rules governing the standards that must be met for management to assess our internal control over financial reporting are complex and require significant documentation, testing and possible remediation to meet the detailed standards under the rules. During testing, our management may identify material weaknesses or deficiencies which may not be remedied in time to meet the deadline imposed by SOX. These reporting and other obligations place significant demands on our management and administrative and operational resources, including accounting resources.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with accounting principles generally accepted in the U.S. Any failure to maintain effective internal controls, or if our independent registered public accounting firm is unable to attest to the effectiveness of our internal control over financial reporting, could have an adverse effect on our business, financial position, and results of operations.

Anti-takeover provisions in our charter documents and Delaware law may prevent or delay removal of incumbent management or a change of control.

Anti-takeover provisions of our amended and restated certificate of incorporation and amended and restated bylaws and Delaware law may have the effect of deterring or delaying attempts by our stockholders to remove or replace management, engage in proxy contests and effect changes in control.

Key provisions of our current charter documents include:

- a classified board so that only one of the three classes of directors on our Board of Directors (the "Board") is elected each year;
- elimination of cumulative voting in the election of directors;
- procedures for advance notification of stockholder nominations and proposals;
- the ability of the Board to amend our bylaws without stockholder approval; and
- the ability of the Board to issue up to 10,000,000 shares of preferred stock without stockholder approval upon the terms and conditions and with the rights, privileges and preferences as the Board may determine.

In addition, as a Delaware corporation, we are subject to Delaware law, including Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years following the date that the stockholder became an interested stockholder unless certain specific requirements are met as set forth in Section 203.

These provisions, alone or together, could have the effect of deterring or delaying changes in incumbent management, proxy contests or changes in control.

Our amended and restated bylaws provide that the federal district courts of the United States of America shall be the exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Laws of 1933, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our amended and restated bylaws provide that the federal district courts of the United States of America shall be the exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act of 1933.

While the Delaware courts have determined that such choice of forum provisions are valid, a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive forum provisions. In such instance, we would expect to vigorously assert the validity and enforceability of the exclusive forum provisions of our amended and restated bylaws. This may require significant additional costs associated with resolving such action in other jurisdictions and there can be no assurance that the provisions will be enforced by a court in those other jurisdictions.

These exclusive-forum provisions may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage these types of lawsuits. Furthermore, the enforceability of similar choice of forum provisions in other companies' certificates of incorporation or bylaws has been challenged in legal proceedings, and it is possible that a court could find these types of provisions to be inapplicable or unenforceable. If a court were to find the exclusive-forum provision contained in our amended and restated bylaws to be inapplicable or unenforceable in an action, we may incur further significant additional costs associated with resolving such action in other jurisdictions, all of which could harm our business.

Changes in our ownership could limit our ability to utilize net operating loss carryforwards.

As of December 31, 2024, we had aggregate federal net operating loss carryforwards of approximately $205.5 million, which begin to expire in 2029. Under Section 382 of the Internal Revenue Code of 1986, as amended, changes in our ownership may limit the amount of our net operating loss carryforwards that could be utilized annually to offset our future taxable income, if any. This limitation would generally apply in the event of a cumulative change in ownership of our company of more than 50% within a rolling three-year period. Any such limitation may significantly reduce our ability to utilize our net operating loss carryforwards and tax credit carryforwards. Any such limitation, whether as the result of past offerings, sales of our common stock by our existing stockholders, the issuance of shares of common stock as a result of the exercise of warrants or additional sales of our common stock by us in the future could have a material adverse effect on our results of operations in future years. We have not completed a study to assess whether an ownership change for purposes of Section 382 has occurred.

We may sell additional equity or debt securities to fund our operations, and have outstanding securities exercisable for our common stock, which may result in dilution to our stockholders and impose restrictions on our business.

In order to raise additional capital to support our operations, we may sell additional shares of our common stock or other securities convertible into or exchangeable for our common stock which could result in dilution our stockholders.

We cannot assure you that we will be able to sell shares or other securities in any other offering at a price per share that is equal to or greater than the price per share paid by investors in prior offerings, and investors purchasing our shares or other securities in the future could have rights superior to existing shareholders. The price per share at which we sell additional shares of our common stock or securities convertible into or exchangeable for our common stock in future transactions may be higher or lower than the price per share in prior offerings. You may also be diluted upon the exercise of outstanding stock options as of December 31, 2024 to purchase approximately 4.5 million shares of our common stock at a weighted average price of $20.15 per share and the future issuance of up to approximately 1.0 million compensatory equity awards authorized under our 2018 Omnibus Incentive Plan. The issuance of such additional shares of common stock or the perception that issuances could occur, could result in significant downward pressure on our stock price.

The estimates and judgments we make, or the assumptions on which we rely, in preparing our consolidated financial statements could prove inaccurate.

Our consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the U.S. The preparation of these consolidated financial statements requires us to make estimates and judgments that affect the reported amounts of our assets, liabilities and expenses, the amounts of charges accrued by us and related disclosure of contingent assets and liabilities. Such estimates and judgments include development expenses, valuation of stock-based awards and income tax. We base our estimates on historical experience, facts and circumstances known to us and on various other assumptions that we believe to be reasonable under the circumstances. We cannot provide assurances, however, that our estimates, or the assumptions underlying them, will not change over time or otherwise prove inaccurate. If this is the case, we may be required to restate our consolidated financial statements, which could, in turn, subject us to securities class action litigation. Defending against such potential litigation relating to a restatement of our consolidated financial statements would be expensive and would require significant attention and resources of our management. Moreover, our insurance to cover our obligations with respect to the ultimate resolution of any such litigation may be inadequate. As a result of these factors, any such potential litigation could have a material adverse effect on our financial results and cause our stock price to decline, which could in turn subject us to securities class action litigation.

Item 1B. ***Unresolved Staff Comments***

None.

Item 1C. ***Cybersecurity***

Risk Management and Strategy

In the normal course of business, we collect and store sensitive information, including proprietary and confidential business information, intellectual property, information regarding clinical and non-clinical trials, sensitive third-party information and employee information.

We have processes designed to protect our information systems, data, assets, infrastructure, and computing environments from cybersecurity threats and risks. Our cybersecurity strategy includes the use of managed detection and response services to monitor our network infrastructure and associated endpoints for possible cybersecurity threats. In addition, we use multi-factor authentication, perform periodical penetration testing and other logical, physical and technical controls designed to deter, prevent, mitigate and respond to cybersecurity threats. Further, our information systems include continuous alert plans, and we provide periodical cybersecurity reminders to our employees to emphasizes the importance of adherence to our security policies.

We conduct organizational risk assessment, which help management in identifying data assets and recognizing and assessing potential threats, and investigating potential vulnerabilities. We are in the process of reviewing and implementing incremental information technology strategies to mitigate cybersecurity risks and their possible impacts. Risk assessments enable management to make risk management decisions and assign resources to mitigate risk. We also periodically engage third parties to assess the effectiveness of our cybersecurity practices.

As of the date of this Annual Report, we do not believe that any past cybersecurity incidents that have been detected have materially affected, or are reasonably likely to materially affect, our business strategy, results of operations, or financial condition.

See "Risk Factors - Risks Related to Our Business and Operations" for additional information about the risks to our business associated with cybersecurity or a breach or compromise to our information security systems.

Governance

Our Director of Information Technology has responsibilities which include preventing and monitoring cybersecurity threats and utilizes the assistance of external vendors in this effort. Our Director of Information Technology regularly reports to senior management regarding the status of our cybersecurity program, emerging cybersecurity threats, long-term cybersecurity investments and strategies, and oversight of our cybersecurity profile.

Our full Board of Directors oversees the risk management process for the Company, which includes identifying, assessing and managing enterprise-level risks. The Board administers this oversight function directly through the Board of Directors as a whole, as well as through its standing committees that address risks inherent in their respective areas of oversight. The risk oversight responsibility of the Board of Directors and its committees is supported by the management reporting processes, which are designed to provide visibility to the Board of Directors and to the personnel who are responsible for risk assessment and information about the identification, assessment and management of critical risks, and management's risk mitigation strategies. Our cybersecurity risk program directly integrates and is intended to align with the Board of Directors' overall risk management process.

Item 2. ***Properties***

We own an office complex in Austin, Texas, a portion of which serves as our corporate headquarters. Maintenance, physical facilities, leasing, property management and other key responsibilities related to property ownership are outsourced to professional real-estate managers. The office complex measures approximately 90,000 rentable square feet. We occupied approximately 25% of the property as of December 31, 2024.

Item 3. ***Legal Proceedings***

We are, and from time to time, we may become involved in litigation or other legal proceedings and claims, including U.S. government inquiries, investigations and Citizen Petitions submitted to FDA. In addition, we have received and from time to time may receive inquiries from government authorities relating to matters arising from the ordinary course of business. The outcome of these proceedings is inherently uncertain. Regardless of outcome, legal proceedings can have an adverse impact on us because of defense and settlement costs, diversion of management resources, and other factors. At this time, no assessment can be made as to their likely outcome or whether the outcome will be material to us. We believe that our total provisions for legal matters are adequate based upon currently available information. Additional information regarding our legal proceedings is included in this Annual Report on Form 10-K in Note 12 to our condensed consolidated financial statements entitled, "Contingencies."

Item 4. ***Mine Safety Disclosures***

Not applicable.

PART II

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

Market Information

Our common stock is quoted on Nasdaq, under the symbol "SAVA."

Holders

As of February 20, 2025, there were approximately 26 registered holders of record of our common stock. We believe the actual number of stockholders is greater than this number of record holders and includes stockholders who are beneficial owners but whose shares are held in street name by brokers and other nominees.

Sales of Non-Registered Securities

None.

Purchases of Equity Securities by the Issuer

None.

Dividend Policy

We currently expect to retain future earnings, if any, for use in the operation and expansion of our business and, notwithstanding our special non-dividend distributions in December 2012 (of $0.75 per share of common stock totaling $34.0 million) and December 2010 (of $2.00 per share of common stock totaling $85.7 million), we do not anticipate paying any cash dividends in the foreseeable future.

Stock Performance Graph

We are a smaller reporting company as defined by Rule 12b-2 of the Exchange Act and are not required to provide the information required under this item.

Item 6. ***[Reserved]***

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

This discussion and analysis of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and accompanying notes included elsewhere in this Annual Report on Form 10-K. This discussion contains forward-looking statements that involve risk and uncertainties, such as statements of our plans, objectives, expectations, and intentions, that are based on the beliefs of our management. Operating results are not necessarily indicative of results that may occur in future periods. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in the "Risk Factors" section of this Annual Report on Form 10-K.

Overview

Cassava Sciences, Inc. is a clinical-stage biotechnology company based in Austin, Texas. Our mission is to detect and treat central nervous system disorders, such as Alzheimer's disease and TSC-related epilepsy. Our novel science is based on stabilizing – but not removing – a critical protein in the brain for patients with certain central nervous system disorders, such as Alzheimer's or TSC.

Our lead therapeutic drug candidate, simufilam, was under clinical evaluation for the proposed treatment of Alzheimer's disease in Phase 3 clinical studies through 2024, when all ongoing clinical trials for simufilam in Alzheimer's disease were discontinued.

We combine innovative technology with new insights in neurobiology to develop novel solutions targeting Alzheimer's disease, TSC-related epilepsy, and other central nervous system disorders. Our strategy is to leverage our unique scientific/clinical platform to develop first-in-class programs for treating central nervous system disorders. In addition, we are in the early stages of exploring potential artificial intelligence ("AI") capabilities and related data analytics to target improvements in productivity and efficiency in our business, enhancements to research and development activities, and advancements in statistical analysis capabilities.

We currently have two biopharmaceutical assets under development:

- our lead therapeutic product candidate, called simufilam, is a proprietary small molecule oral treatment drug being studied for the treatment of Alzheimer's disease and TSC-related epilepsy; and
- our lead investigational diagnostic product candidate, called SavaDx, is a novel way to detect the presence of Alzheimer's disease from a small sample of blood.

Simufilam targets a protein called filamin A (FLNA) in the brain of patients with central nervous system disorders, such as Alzheimer's or TSC. Our and our collaborators' published studies have demonstrated that the altered form of FLNA is linked to neuronal dysfunction, neuronal degeneration and neuroinflammation. In Alzheimer's disease, we believe simufilam disrupts amyloid binding to the α7 nicotinic acetylcholine receptor (α7nAChR), which underlies our drug's primary mechanism of action in Alzheimer's disease. Published pre-clinical studies further show that overexpression of FLNA in patients with TSC may be associated with epileptic seizure activity. On February 26, 2025, we entered into a License Agreement with Yale to support our development and commercialization efforts for simufilam for the treatment of TSC-related epilepsy.

We solely own patents covering the composition of matter of our drug simufilam in the United States, Europe, Australia, Israel and Canada. We solely own patents covering certain methods of use of our drug simufilam in the United States, Europe and Japan. We solely own pending patent applications that cover diagnostic assets for simufilam in the United States, Europe, Japan, China, Canada, and Australia. We solely own pending patent applications that cover other diagnostic assets in the United States, Europe, Japan, China and Canada. We have no obligation to pay any royalty to any third party in connection with any of the foregoing described patents and patent applications. In the United States, our patent protection with respect to simufilam, its solid forms, and uses of simufilam for Alzheimer's disease and other neurodegenerative diseases includes nine issued United States patents, with terms expiring on dates ranging from 2029 to 2040, subject to any patent extensions that may be available for such patents. Corresponding foreign filings have been made for each of the Unites States filings.

Clinical Trials in Alzheimer's Disease (Discontinued)

We have conducted two randomized placebo-controlled Phase 3 clinical trials of oral simufilam in patients with mild-to-moderate Alzheimer's disease. Our first Phase 3 study, called RETHINK-ALZ, was designed to evaluate the safety and efficacy of simufilam 100 mg tablets versus placebo over 52 weeks (NCT04994483). Our second Phase 3 study, called REFOCUS-ALZ, was designed to evaluate the safety and efficacy of oral simufilam 100 mg and 50 mg tablets versus placebo over 76 weeks (NCT05026177).

On November 25, 2024, we announced that the top-line results from the Phase 3 RETHINK-ALZ study of simufilam in mild-to-moderate Alzheimer's disease did not meet each of the pre-specified co-primary, secondary and exploratory biomarker endpoints. The co-primary endpoints were the change in cognition and function from baseline to the end of the double-blind treatment period at week 52, assessed by the ADAS-COG12 and ADCS-ADL scales, comparing simufilam to placebo. Simufilam continued to demonstrate an overall favorable safety profile.

In light of the top-line results from the Phase 3 RETHINK-ALZ study, the Company also outlined its plan to discontinue the Phase 3 REFOCUS-ALZ study and Open Label Extension study and to analyze the complete 52-week dataset from the REFOCUS-ALZ study, along with a large portion of 76-week data. The Company expects to release top-line REFOCUS-ALZ results late first-quarter/early second-quarter 2025.

Following the release of the topline REFOCUS-ALZ results, the Company intends to evaluate the results and determine the next steps for the future advancement, if any, of its Alzheimer's program.

Exploratory Preclinical Studies with Simufilam in Tuberous Sclerosis Complex (TSC)

Preclinical research conducted at Yale indicate that simufilam (then PTI-125) may be effective in reducing TSC-related seizure activity. A study conducted by Angelique Bordey, PhD, at Yale and published in the peer-reviewed journal *Neuron* found overexpression of FLNA in brain tissue from TSC patients. The paper, MEK-ERK1/2-Dependent FLNA Overexpression Promotes Abnormal Dendritic Patterning in Tuberous Sclerosis Independent of mTOR (*Neuron*. 2014 Oct 1. PMID: 25277454), was co-authored by Zhang L, Bartley CM, Gong X, Hsieh LS, Lin TV and Feliciano DM. A later study conducted by Dr. Bordey and published in the peer-reviewed journal *Science Translational Medicine* in 2020 likewise found elevated FLNA in brains of a related mouse model. That study further demonstrated that simufilam treatment in the mouse model reduced the number of seizing mice and reduced seizure frequency. This 2020 paper, Filamin A Inhibition Reduces Seizure Activity in a Mouse Model of Focal Cortical Malformations (*Sci Transl Med*. 2020 Feb 19. PMID: 32076941), was co-authored by Zhang L, Huang T, Teaw S, Nguyen LH, Hsieh LS, Gong X, and Lindsay Burns, a former employee of the Company. While these data are promising, understanding their true significance requires additional exploration.

We intend to conduct exploratory preclinical studies in collaboration with the TSCA to better understand simufilam's potential as a treatment for TSC-related seizures. Based on the results of these studies, considered together with Dr. Bordey's work, the Company will assess whether sufficient support exists for an Investigational New Drug (IND) application in respect of a proof-of-concept open-label clinical trial for simufilam in TSC-related epilepsy.

License Agreement with Yale

On February 26, 2025, we entered into the License Agreement with Yale pursuant to which we were granted exclusive worldwide rights, with rights to sublicense, to Yale's interest in certain patent and other intellectual property rights that could be useful or necessary to the development and commercialization of simufilam for the treatment of TSC-related epilepsy and other potential indications. Pursuant to the License Agreement, we have agreed to use reasonable commercial efforts to implement a plan that it has designed for such development and commercialization.

In exchange for the rights acquired pursuant to the License Agreement, we agreed to pay Yale (i) a nominal upfront license fee, (ii) payments upon the achievement of specified clinical, regulatory and commercial milestones, totaling up to $4.5 million and (iii) upon transfer to a third party of a regulatory priority review voucher, if issued, a low-to-mid double digit percentage of any consideration received for such transfer. We also agreed to pay Yale tiered royalties, ranging from a low- to mid- single digit percentage, on aggregate net sales of licensed products, subject to tiered minimum annual royalty payments ranging from the low- to mid- hundreds of thousands of dollars.

Unless earlier terminated, the License Agreement will continue on a country-by-country basis until the later of (i) the date on which the last valid claim of the license patents expires or otherwise lapses, (ii) the end of any government or regulatory exclusivity period, and (iii) 10 years following the date of first sale of licensed product in such country. We may terminate the License Agreement: (i) at our option, upon specified advance notice to Yale and (ii) if Yale commits a material breach of the License Agreement that is not cured within a specified timeframe. Yale may terminate the License Agreement under specified circumstances, including if we (i) fail to make any payment due under the License Agreement and fail to cure such non-payment within a specified timeframe, (ii) commit a breach of the License Agreement that is not cured within a specified timeframe, (iii) default on a material obligation to any creditor, unless cured within a specified timeframe, (iv) fail to obtain or maintain insurance required by the License Agreement, (v) bring or assist a patent challenge against Yale (or if a sublicensee does so). In addition, the License Agreement will terminate automatically upon the occurrence of certain bankruptcy and insolvency events involving us.

The License Agreement includes customary confidentiality, reporting and inspection, and indemnification provisions.

Financial Overview

We have yet to generate any revenues from product sales. We have an accumulated deficit of $405.1 million at December 31, 2024. These losses have resulted principally from costs incurred in connection with research and development activities, salaries and other personnel-related costs and general corporate expenses. Research and development activities include costs of preclinical and clinical studies as well as clinical supplies associated with our product candidates. Salaries and other personnel-related costs include stock-based compensation associated with options and other equity awards granted to employees and non-employees. Our operating results may fluctuate substantially from period to period as a result of the timing of preclinical activities, enrollment rates of clinical studies for our product candidates and our need for clinical supplies.

We believe that our cash and cash equivalents at December 31, 2024, will enable us to fund our operating expenses for at least the next 12 months. In addition, we may seek in the future to fund our operations through additional public or private equity or debt financings or other sources. However, we may be unable to raise additional funds or enter into such other arrangements when needed on favorable terms or at all. If we are unable to obtain financing or reach profitability, the related lack of liquidity will have a material adverse effect on our operations and future prospects, and we may have to significantly delay, scale back or discontinue the development and commercialization of simufilam, our lead drug candidate, or delay our efforts to expand our product pipeline.

We expect to continue to use significant cash resources in our operations for the next several years. Our cash requirements for operating activities and capital expenditures may increase in the future as we:

- evaluate, and potentially discontinue, our existing Phase 3 program with simufilam in Alzheimer's disease;
- conduct other preclinical and clinical studies for our product candidates, including simufilam for TSC-related epilepsy;
- seek regulatory approvals for our product candidates;
- develop, formulate, manufacture and commercialize our product candidates;
- implement additional internal systems and develop new infrastructure;
- acquire or in-license additional products or technologies, or expand the use of our technology;
- maintain, defend and expand the scope of our intellectual property; and
- expend resources related to legal proceedings and claims, including U.S. government inquiries.

Product revenue will depend on our ability to receive regulatory approvals for, and successfully market, our product candidates. If our development efforts result in regulatory approval and successful commercialization of our product candidates, we expect to generate revenue from direct sales of our drugs and/or, if we license our drugs to future collaborators, from the receipt of license fees and royalties from sales of licensed products. We conduct our research and development programs through a combination of internal and collaborative programs. We rely on arrangements with universities, certain collaborators, CDMOs, CROs and clinical research sites for a significant portion of our product development efforts.

Components of Operating Results

Operating Expenses

Research and Development Expenses

We focus substantially all of our research and development efforts in the development of simufilam. Research and development expenses for our investigational diagnostic product candidate, SavaDx, represented less than 1% of total research and development expenses for the periods presented. The following table summarizes expenses by category for research and development efforts (in thousands):

	Years ended December 31,		
	2024	2023	2022
Phase 2 and Phase 3 clinical trials	$ 42,321	$ 71,087	$ 54,149
Pre-clinical and Phase 1 studies	5,109	6,425	2,966
Chemical, Manufacturing and Controls costs ("CMC costs")	6,464	2,910	2,573
Personnel related	6,640	5,723	5,631
Stock-based compensation	6,492	2,050	1,631
Other	2,611	1,228	1,082
	$ 69,637	$ 89,423	$ 68,032

Clinical trial costs include the costs of our CRO. CMC costs include costs related to our contract development and manufacturing organizations. Research and development expenses include compensation, contractor fees and supplies as well as allocated common costs such as facilities.

During the year ended December 31, 2024 and 2023, we did not receive reimbursement from NIH research grants. During the year ended December 31, 2022, we received $0.9 million in research grants from the NIH. When applicable, the proceeds from grants are recorded as reductions to our research and development expenses.

Our technology has been applied across certain of our portfolio of product candidates. Data, know-how, personnel, clinical results, research results and other matters related to the research and development of any one of our product candidates also relate to, and further the development of, our other product candidates. As a result, costs allocated to a specific product candidate may not necessarily reflect the actual costs surrounding research and development of such product candidate due to cross application of the foregoing.

Estimating the dates of completion of clinical development, and the costs to complete development, of our product candidates would be highly speculative and subjective. Pharmaceutical products take a significant amount of time to research, develop and commercialize. The clinical study portion of the development of a new drug alone usually spans several years. We expect our research and development expenses to decrease significantly in 2025 as a result of decreased spending for our Phase 3 program in Alzheimer's disease, as both Phase 3 studies have either been completed or discontinued. Our open label studies in Alzheimer's disease have also been discontinued. The decrease in clinical program costs is expected to be partially offset by higher stock-based compensation expense. We expect to reassess our future research and development plans based on our review of data we receive from our current research and development activities. In particular, following our release of the topline REFOCUS-ALZ results, we intend to evaluate the results and determine the next steps for the future advancement, if any, of our Alzheimer's program. The cost and pace of our future research and development activities are linked and subject to change.

Critical Accounting Estimates

The preparation of our consolidated financial statements in accordance with U.S. generally accepted accounting principles requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, expenses and interest income in our consolidated financial statements and accompanying notes. We evaluate our estimates on an ongoing basis, including those estimates related to agreements and research collaborations. We base our estimates on historical experience and various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Our significant accounting policies are described in Note 2 to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K, and we believe that the accounting policies discussed below involve the greatest degree of complexity and exercise of significant judgments and estimates by our management. The methods, estimates and judgments that we use in applying our accounting policies have a significant impact on our results of operations and, accordingly, we believe the policies described below are the most critical for understanding and evaluating our financial condition and results of operations.

- Legal and other contingencies. The Company is currently involved in various claims and legal and regulatory proceedings. The Company regularly reviews the status of each significant matter and assesses its potential financial exposure. If the potential loss from any claim or legal proceeding is considered probable and the amount can be reasonably estimated, the Company accrues a liability for the estimated loss. Significant judgment is required in both the determination of probability and whether an exposure is reasonably estimable. Our judgments are subjective based on the status of the legal or regulatory proceedings, the merits of our defenses and consultation with in-house and outside legal counsel. Because of uncertainties related to these matters, accruals are based only on the best information available at the time. As additional information becomes available, the Company reassesses the potential liability related to its pending claims and legal and regulatory proceedings and may revise its estimates. Due to the inherent uncertainties of the legal and regulatory process, our judgments may be materially different than the actual outcomes. Refer to Note 12 to the Consolidated Financial Statements for further information on contingencies.

- Research Contracts, Prepaids and Accruals. We have entered into various research and development contracts with research institutions and other third-party vendors. These agreements are generally cancelable. Related payments are recorded as research and development expenses as incurred. We record prepaids and accruals for estimated ongoing research costs. When evaluating the adequacy of prepaid expenses and accrued liabilities, we analyze progress of the studies including the phase or completion of events, invoices received and contracted costs. Significant judgments and estimates are made in determining the prepaid and accrued balances at the end of any reporting period. Actual results could differ from our estimates. Our historical prepaid and accrual estimates have not been materially different from actual costs.

- Valuation of Common Stock Warrant Labilities. The fair value of common stock warrant liabilities was determined on the January 3, 2024 warrant distribution date using a Monte Carlo valuation model. Determining the appropriate fair value model and calculating the fair value of common stock warrants requires considerable judgment. Any change in the estimates used may cause the value to be higher or lower than that reported. Subsequent to their distribution, the common stock warrants were traded on the Nasdaq Capital Market under the trading symbol "SAVAW". The fair value of common stock warrant liabilities at March 31, 2024 was determined using the closing price for the common stock warrants on that date. May 2, 2024 was the final day of trading for the common stock warrants on the Nasdaq Capital Market. Subsequent to that date and through the Warrant Redemption beginning May 7, 2024, the warrants were considered to have no value since there was no active market for trading. All changes in the fair value are recorded in the statements of operations each reporting period. Fair value changes may be significantly different from those recorded in the financial statements due to of the use of judgment and the inherent uncertainty in estimating the fair value of these instruments in the initial valuation as of January 3, 2024, the warrant distribution date.

Recent Accounting Pronouncements

See Note 2. Summary of Significant Accounting Policies, in Notes to the Consolidated Financial Statements in Item 8 of Part II of this Annual Report on Form 10-K.

Results of Operations – Comparison of years ended December 31, 2024 and 2023

Research and Development Expense

Research and development expenses consist primarily of costs of drug development work associated with our product candidates, including:

- clinical studies,
- preclinical testing,
- clinical supplies and related formulation and design costs, and
- compensation and other personnel-related expenses.

Research and development expenses decreased to $69.6 million in 2024 from $89.4 million in 2023, representing a 22% decrease. This decrease was due primarily to the completion of enrollment for our Phase 3 clinical program in the fall of 2023. Patients continually completed the Phase 3 program in 2024 and all clinical studies were in the process of being discontinued at year-end 2024. These decreases were partially offset by a $4.4 million increase in stock-based compensation expense due to new grant awards in 2024.

We expect significant costs to continue in the first quarter of 2025 as we wind down our existing clinical studies. Subsequently, we expect research and development expense to decrease significantly in future periods. The decrease in clinical program costs is expected to be partially offset by higher stock-based compensation expense due to new grant awards in 2024.

General and Administrative Expense

General and administrative expenses consist of personnel costs, allocated expenses and other expenses for outside professional services, including legal, human resources, audit and accounting services. Personnel costs consist of salaries, bonus, benefits and stock-based compensation. Allocated expenses consist primarily of existing facility costs. We incur insurance, audit, investor relations, SOX compliance and other administrative and professional services expenses associated with operating as a public company, including expenses related to compliance with the rules and regulations of the SEC and Nasdaq. General and administrative expense increased to $71.8 million in 2024 from $16.5 million in 2023. The 334% increase was due primarily to completion of the $40 million settlement with the SEC as well as a $7.3 million increase in stock-based compensation expense due to new grant awards in late 2023 and 2024, increased compensation costs and higher legal related expenses.

Interest Income

Interest income was $8.5 million in 2024 compared to $7.8 million in 2023. The increase in interest income was due to higher cash balances partially offset by lower interest rates in 2024 compared to the prior year.

We expect interest income to decrease in 2025 compared to 2024 as we use cash balances in operations.

Other income, net

We record the activities related to leasing office space to third parties in buildings we own as other income, net, as leasing is not core to the Company's operations. Other income, net, was $0.4 million during 2024 compared to $0.9 million during 2023. We expect to record a net loss on leasing activities in 2025 as higher vacancy rates are expected to significantly lower rental income.

Depreciation and amortization for the office complex is included in general and administrative and research and development expense, and thus not reflected in other income, net.

Comparison of the years ended December 31, 2023 and 2022

Refer to "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations" in our 2023 Annual Report on Form 10-K for a discussion of the results of operations for the year ended December 31, 2023 compared to the year ended December 31, 2022.

Liquidity and Capital Resources

Since inception, we have financed our operations primarily through public and private stock offerings, payments received under collaborative agreements and interest earned on our cash and cash equivalents balances. We intend to continue to use our capital resources to fund research and development activities, capital expenditures, working capital requirements and other general corporate purposes. As of December 31, 2024, cash and cash equivalents totaled $128.6 million.

2024 Common Stock Warrant Distribution

On January 3, 2024, we made a distribution of approximately 16.9 million warrants to purchase shares of our common stock to holders of record of our common stock as of the close of business on December 22, 2023.

Each warrant entitled the holder to purchase, at the holder's sole expense and exclusive election, at an exercise price of $33.00 per warrant, one and one-half shares of common stock (rounded down for any fractional shares).

On April 15, 2024, the Company announced that all outstanding warrants were to be redeemed on May 7, 2024 (the Redemption Date). The redemption price was equal to 1/10 of $0.01 per warrant. The warrants were exercisable at any time starting on January 3, 2024 until the business day prior to the Redemption Date.

From January 3, 2024 to March 31, 2024, a total of approximately 674,000 warrants were exercised resulting in net proceeds to the Company of approximately $22.3 million. The Company issued approximately 1.0 million shares of common stock from the exercise of warrants through March 31, 2024.

Subsequent to March 31, 2024 and through the Redemption Date, a total of approximately 3.15 million warrants were exercised resulting in gross proceeds to the Company of approximately $104.0 million. The Company issued approximately 4.7 million shares of common stock from the exercise of warrants from March 31, 2024 through the Redemption Date.

Gross proceeds in 2024 from the warrant distribution totaled approximately $126.3 million from the issuance of approximately 5.7 million common shares at $22.00 per share. Total net proceeds of the warrant distribution were approximately $123.6 million after deducting exercise expenses and commissions.

After the first $20 million of gross proceeds, the Company was obligated to pay a commission of 2.5% of the gross proceeds from the sale of shares of common stock from warrant exercises to the Company's financial advisor for the warrant distribution. Total cost of warrant exercises through the Redemption Date were approximately $2.7 million.

2022 Registered Direct Offering

On November 22, 2022, we completed a common stock offering pursuant to which certain investors purchased 1,666,667 shares of common stock at a price of $30.00 per share. Net proceeds of the offering were approximately $47.3 million after deducting offering expenses.

At the Market (ATM) Common Stock Issuance

On May 1, 2023, we entered into an at-the-market offering program (ATM) to sell, from time to time, shares of our common stock having an aggregate offering price of up to $200 million in common stock pursuant to a shelf registration statement that was filed with the SEC on May 1, 2023 and became effective immediately upon filing. We are obligated to pay a commission of up to 3% of the gross proceeds from the sale of shares of common stock under the ATM. We are not obligated to sell any shares in the offering. As of the filing of this Annual Report on Form 10-K, the Company is no longer a Well-Known Seasoned Issuer, as defined by the SEC. Thus, the Company is not eligible to sell securities under the ATM under its existing "automatic" shelf registration statement on Form S-3 unless and until it files a new Form S-3 that is declared effective by the SEC.

There were no common stock sales under the ATM during the years ended December 31, 2024 and 2023.

2020 Cash Incentive Bonus Plan Obligations

In August 2020, the Board approved the *2020 Cash Incentive Bonus Plan* (the CIB Plan). The CIB Plan was established to promote the long-term success of the Company by creating an "at-risk" cash bonus program that rewards CIB Plan participants with additional cash compensation in lockstep with significant increases in the Company's market capitalization. The CIB Plan is considered "at-risk" because CIB Plan participants will not receive a cash bonus unless the Company's market capitalization increases significantly and certain other conditions specified in the CIB Plan are met. Specifically, CIB Plan participants will not be paid any cash bonuses unless (1) the Company completes a merger or acquisition transaction that constitutes a sale of ownership of the Company or its assets (a Merger Transaction) or (2) the Compensation Committee determines the Company has sufficient cash on hand, as defined in the CIB Plan. CIB Plan participants will be paid all earned cash bonuses in the event of a Merger Transaction.

As of December 31, 2022, the Company's independent directors were participants in the CIB Plan. However, effective March 16, 2023, the Board amended the CIB Plan to remove all independent directors as participants in the CIB Plan and the independent directors consented to such removal. The independent directors' share of potential benefits under the CIB Plan were completely forfeited to the Company and will not be allocated to any other participant under the CIB Plan. The Company's independent directors have not received, and as a result of such amendment will never receive, any payments under the CIB Plan.

The Company's market capitalization, including all outstanding stock options, was $89.4 million at the inception of the CIB Plan in August 2020. If the Company were to exceed a $5 billion market capitalization for no less than 20 consecutive trading days, and conditions noted above for payment are met, all CIB Plan milestones would be deemed achieved, in which case total cash bonus awards would range from a minimum of $111.4 million up to a hypothetical maximum of $289.7 million.

The Company's potential financial obligation to CIB Plan participants at December 31, 2024 totaled $6.5 million (after taking into account the March 2023 CIB Plan amendment), based upon the achievement of one CIB Plan milestone in the Company's market capitalization in 2020. No actual cash bonus payments have been made to any CIB Plan participant, as the Company has not yet satisfied all the conditions necessary for amounts to be paid under the CIB Plan.

During the year ended December 31, 2021, the Company's market capitalization increased substantially. These increases triggered the achievement of 11 additional CIB Plan milestones. On February 13, 2025, the Compensation Committee concluded that no discretionary cash bonus amounts would be awarded for the 11 milestones achieved in 2021 nor for the 2 remaining CIB Plan milestones, which have not been achieved. Therefore, no compensation expense has been recorded and no payments have been made since no grant date has occurred and no Performance Conditions are considered probable of being met.

The achievement the 11 milestones in 2021 triggered a non-discretionary potential Company obligation to a CIB Plan participant of $74.9 million and contingent upon future satisfaction of a Performance Condition. However, no compensation expense has been recorded and no payments have been made since no grant date has occurred and no Performance Conditions are considered probable of being met.

No valuation milestones were achieved during the years ended December 31, 2024, 2023 or 2022.

On August 19, 2022, a shareholder derivative action was filed, purportedly on behalf of the Company, in the Delaware Court of Chancery, asserting claims under state fiduciary duty laws against certain named officers and members of the Company's Board. On May 28, 2024, the parties entered into a Stipulation and Agreement of Settlement, Compromise, and Release (the "Stipulation") to resolve the action. The Stipulation and exhibits thereto, including the proposed Notice of Pendency of Settlement of Class and Derivative Action (the "Notice") and [Proposed] Scheduling Order with Respect to Notice and Settlement Hearing (the "Scheduling Order"), were filed in the Delaware Court of Chancery on May 28, 2024.

As discussed in Note 12 to the Consolidated Financial Statements, on January 24, 2025, the Delaware Court of Chancery entered a Final Order and Judgment approving the Stipulation and dismissing an action related to the CIB Plan with prejudice. The Final Order and Judgment requires the Company to further amend the CIB Plan, as provided for in the Stipulation.

No actual cash payments were authorized or made to participants under the CIB Plan as of December 31, 2024, or through the filing date of this Annual Report on Form 10-K.

Use of Cash

The following table sets forth a summary of the primary sources and uses of cash for each of the periods presented below (in thousands):

	Years ended December 31,		
	2024	**2023**	**2022**
Net cash used in operating activities	$ (116,929)	$ (82,025)	$ (77,514)
Net cash used in investing activities	(103)	(414)	(2,712)
Net cash provided by financing activities	124,470	2,560	47,804
Net increase (decrease) in cash and cash equivalents	$ 7,438	$ (79,879)	$ (32,422)

Net cash used in operating activities was $116.9 million for the year ended December 31, 2024, resulting primarily from the net loss reported of $24.3 million, change in fair value of warrants of $108.2 million and a decrease in accounts payable and other accrued expenses of $2.9 million. This change was partially offset by stock compensation expense of $16.3 million, depreciation and amortization of $1.1 million and an increase in accrued compensation and benefits of $1.2 million.

Net cash used in operating activities was $82.0 million for the year ended December 31, 2023, resulting primarily from the net loss reported of $97.2 million partially offset by an increase in accounts payable and other accrued expenses of $6.9 million and accrued development expense of $0.8 million, a decrease in prepaid and other assets of $1.7 million, stock-based compensation expense of $4.6 million and depreciation and amortization of $1.0 million.

Net cash used in investing activities during the year ended December 31, 2024 was $0.1 million for computers and equipment and other assets.

Net cash used in investing activities during the year ended December 31, 2023 was $0.4 million as final payment was made on renovations and fixtures for our corporate headquarters.

Net cash provided by financing activities during the year ended December 31, 2024 was $124.5 million including $123.6 million of net proceeds from the exercise of warrants and $0.9 million from the exercise of stock options.

Net cash provided by financing activities during the year ended December 31, 2023 was $2.6 million from the exercise of stock options.

Use of Cash – Comparison of the years ended December 31, 2023 and 2022

Refer to “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations” in our 2023 Annual Report on Form 10-K for a discussion of use of cash for the year ended December 31, 2023 compared to the year ended December 31, 2022.

Property and Leases

We own an office complex in Austin, Texas, a portion of which serves as our corporate headquarters. Maintenance, physical facilities, leasing, property management and other key responsibilities related to property ownership are outsourced to professional real-estate managers. The office complex measures approximately 90,000 rentable square feet. At December 31, 2024, we occupied approximately 25% of the property with the remainder either leased or available for lease to third parties. Most tenant leases expired in 2024. We expect to record a net loss on leasing activities in 2025 as the higher vacancy rates are expected to significantly lower rental income.

Future Funding Requirements

We have an accumulated deficit of $405.1 million at December 31, 2024. We expect our cash requirements to be significant in the future. The amount and timing of our future cash requirements will depend on regulatory and market acceptance of our product candidates and the resources we devote to researching and developing, formulating, manufacturing, commercializing and supporting our products. We believe that our current resources should be sufficient to fund our operations for at least the next 12 months. We may seek additional future funding through public or private financing in the future, if such funding is available and on terms acceptable to us.

If we raise additional funds by issuing equity or equity-linked securities, our stockholders will experience dilution, which may be substantial. If we raise additional funds through the issuance of preferred equity securities or through debt financing, the terms of such future preferred equity or debt into which we enter may impose upon us additional covenants that restrict our operations, including limitations on our ability to incur liens or additional debt, pay dividends, repurchase our common stock, make certain investments and engage in certain merger, consolidation or asset sale transactions. Any debt financing or additional equity that we raise may contain terms that are not favorable to us or our stockholders. If we are unable to raise additional funds when needed, we may be required to delay, reduce, or terminate some or all of our development programs and clinical trials. We may also be required to sell or license to others rights to our drug candidates in certain territories or indications that we would prefer to develop and commercialize ourselves.

Item 7A. ***Quantitative and Qualitative Disclosures about Market Risk***

We are exposed to market risks in the ordinary course of our business, primarily related to interest rate sensitivities and, to a lesser extent, currency fluctuations related to our clinical operations outside the U.S.

Interest Rate Sensitivity

We are exposed to market risk related to changes in interest rates. We had cash and cash equivalents of $128.6 million as of December 31, 2024, which consisted primarily of U.S. Treasury securities and money market accounts.

The primary objective of our investment activities is to preserve capital to fund our operations. We also seek to maximize income from our investments without assuming significant risk. To achieve our objectives, we maintain investment vehicles with high credit quality and short-term duration, in accordance with our board-approved investment policy. Such interest-earning instruments carry a degree of interest rate risk. However, due to the generally short-term maturities and low risk profile of our cash equivalents, an immediate 100 basis point increase or decrease in interest rates during any of the periods presented would increase or decrease our annual net loss by less than $1.3 million in our condensed consolidated financial statements.

Item 8. ***Consolidated Financial Statements and Supplementary Data***

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Cassava Sciences, Inc.

Opinion on the Financial Statements

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

Basis for Opinion

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

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

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

Critical Audit Matter

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

Loss Contingencies

Description of the Matter

The Company is subject to lawsuits, claims, allegations, and investigations regarding simufilam and SavaDx. As described in Note 12 to the consolidated financial statements, such lawsuits, claims, allegations and investigations can have an adverse impact on the Company. During the year ended December 31, 2024, the Company incurred and paid a civil monetary penalty of $40 million to settle an investigation. With respect to the remaining ongoing lawsuits, claims, allegations and investigations regarding simufilam and SavaDx, the Company believes that the likelihood of an unfavorable outcome is not probable, however, it is reasonably possible that the Company may incur a loss. The Company is unable to reasonably estimate the amount or range of potential loss at December 31, 2024.

Auditing management's accounting for, and disclosure of, loss contingencies related to the lawsuits, claims, allegations and investigations was challenging because management's evaluation of the likelihood of loss required judgment.

How We Addressed the Matter in Our Audit

Our audit procedures included gaining an understanding of the status of ongoing lawsuits and investigations, reading the meeting minutes of the board of directors and of the committees of the board of directors, reading summaries of the proceedings and related correspondence, requesting letters from internal and external legal counsel, meeting with internal and external legal counsel to discuss developments related to the lawsuits, claims, allegations and investigations together with our forensic professionals, vouching accruals and subsequent payments to third party evidence, and obtaining written representations from the Company on these matters. We also evaluated the Company's disclosures in relation to these matters.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2002.

Austin, Texas

March 3, 2025

CASSAVA SCIENCES, INC.

CONSOLIDATED BALANCE SHEETS
(In thousands, except share and par value data)

	December 31, 2024	December 31, 2023
ASSETS		
Current assets:		
Cash and cash equivalents	$ 128,574	$ 121,136
Prepaid expenses and other current assets	7,958	8,497
Total current assets	136,532	129,633
Property and equipment, net	20,964	21,854
Intangible assets, net	37	176
Total assets	$ 157,533	$ 151,663
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable and other accrued expenses	$ 7,654	$ 10,573
Accrued development expense	2,440	3,037
Accrued compensation and benefits	1,357	200
Other current liabilities	299	385
Total current liabilities	11,750	14,195
Other non-current liabilities	79	—
Total liabilities	11,829	14,195
Commitments and contingencies (Notes 10, 11 and 12)		
Stockholders' equity:		
Preferred stock, $0.001 par value; 10,000,000 shares authorized, none issued and outstanding	—	—
Common stock, $0.001 par value; 120,000,000 shares authorized; 48,203,179 and 42,236,919 shares issued and outstanding at December 31, 2024 and 2023, respectively	48	42
Additional paid-in capital	550,767	518,195
Accumulated deficit	(405,111)	(380,769)
Total stockholders' equity	145,704	137,468
Total liabilities and stockholders' equity	$ 157,533	$ 151,663

See accompanying notes to consolidated financial statements.

CASSAVA SCIENCES, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share data)

	Years ended December 31,		
	2024	**2023**	**2022**
Operating expenses:			
Research and development, net of grant reimbursement	$ 69,637	$ 89,423	$ 68,032
General and administrative	71,809	16,534	11,988
Total operating expenses	141,446	105,957	80,020
Operating loss	(141,446)	(105,957)	(80,020)
Interest income	8,510	7,833	2,777
Other income, net	411	907	997
Gain from change in fair value of warrant liabilities	108,183	—	—
Net loss	$ (24,342)	$ (97,217)	$ (76,246)
Shares used in computing net loss per share, basic	46,329	41,932	40,202
Net loss per share, basic	$ (0.53)	$ (2.32)	$ (1.90)
Numerator, diluted:			
Net loss	$ (24,342)	$ (97,217)	$ (76,246)
Adjustment for change in fair value of warrant liabilities	(43,793)	—	—
Adjusted numerator, diluted	$ (68,135)	$ (97,217)	$ (76,246)
Shares used in computing net loss per share, diluted	46,604	41,932	40,202
Net loss per share, diluted	$ (1.46)	$ (2.32)	$ (1.90)

See accompanying notes to consolidated financial statements.

CASSAVA SCIENCES, INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands, except share data)

	Common stock		Additional paid-in capital	Accumulated deficit	Total stockholders' equity
	Shares	Par value			
Balance at December 31, 2021	40,016,792	40	461,181	(207,306)	253,915
Stock-based compensation for:					
Stock options for employees	—	—	1,972	—	1,972
Stock options for non-employees	—	—	94	—	94
Expiration of restricted stock Performance Awards	(57,143)	—	—	—	—
Issuance of common stock pursuant to exercise of stock options	109,241	—	475	—	475
Issuance of common stock pursuant to stock offering, net of issuance costs	1,666,667	2	47,327	—	47,329
Net loss	—	—	—	(76,246)	(76,246)
Balance at December 31, 2022	41,735,557	$ 42	$ 511,049	$ (283,552)	$ 227,539
Stock-based compensation for:					
Stock options for employees	—	—	4,493	—	4,493
Stock options for non-employees	—	—	93	—	93
Issuance of common stock pursuant to exercise of stock options	501,362	—	2,560	—	2,560
Net loss	—	—	—	(97,217)	(97,217)
Balance at December 31, 2023	42,236,919	$ 42	$ 518,195	$ (380,769)	$ 137,468
Stock-based compensation for:					
Stock options for employees	—	—	15,054	—	15,054
Stock options for non-employees	—	—	1,237	—	1,237
Issuance of warrants	—	—	(113,363)	—	(113,363)
Common stock issued pursuant to warrant exercises, net of exercise costs	5,739,247	6	123,546	—	123,552
Derecognition of warrant liabilities upon exercise of warrants	—	—	5,180	—	5,180
Issuance of common stock pursuant to exercise of stock options	227,013	—	918	—	918
Net loss	—	—	—	(24,342)	(24,342)
Balance at December 31, 2024	48,203,179	$ 48	$ 550,767	$ (405,111)	$ 145,704

See accompanying notes to consolidated financial statements.

CASSAVA SCIENCES, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Years ended December 31,		
	2024	**2023**	**2022**
Cash flows from operating activities:			
Net loss	$ (24,342)	$ (97,217)	$ (76,246)
Adjustments to reconcile net loss to net cash used in operating activities:			
Stock-based compensation	16,291	4,586	2,066
Gain from change in fair value of warrant liabilities	(108,183)	—	—
Depreciation	952	1,084	804
Amortization of intangible assets	180	446	497
Changes in operating assets and liabilities:			
Prepaid expenses and other current assets	539	1,714	1,189
Operating lease right-of-use assets and liabilities	—	(17)	(9)
Accounts payable and other accrued expenses	(2,919)	6,896	(3,449)
Accrued development expense	(597)	757	(523)
Accrued compensation and benefits	1,157	30	(1,707)
Other liabilities	(7)	(304)	(136)
Net cash used in operating activities	(116,929)	(82,025)	(77,514)
Cash flows from investing activities:			
Purchases of property and equipment	(103)	(414)	(2,712)
Net cash used in investing activities	(103)	(414)	(2,712)
Cash flows from financing activities:			
Proceeds from issuance of common stock upon exercise of stock options	918	2,560	475
Proceeds from exercise of common stock warrants, net of exercise costs	123,552	—	—
Proceeds from common stock offering, net of issuance costs	—	—	47,329
Net cash provided by financing activities	124,470	2,560	47,804
Net increase (decrease) in cash and cash equivalents	7,438	(79,879)	(32,422)
Cash and cash equivalents at beginning of period	121,136	201,015	233,437
Cash and cash equivalents at end of period	$ 128,574	$ 121,136	$ 201,015
Supplemental cash flow information:			
Non-cash investing activities			
Purchases of property and equipment included in accounts payable	$ —	$ —	$ 340
Non-cash financing activities			
Issuance of warrants resulting in recognition of warrant liabilities	113,363	—	—
Derecognition of warrant liabilities upon exercise of warrants	(5,180)	—	—

See accompanying notes to consolidated financial statements.

1. General, Liquidity and Basis of Presentation

Cassava Sciences, Inc. and its wholly-owned subsidiary (collectively referred to as the "Company") discovers and develops proprietary pharmaceutical product candidates that may offer significant improvements to patients and healthcare professionals. The Company generally focuses its product discovery and development efforts on disorders of the nervous system.

Basis of Consolidation

The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiary. All intercompany transactions have been eliminated in consolidation.

Liquidity

The Company has incurred significant net losses and negative cash flows since inception, and as a result has an accumulated deficit of $405.1 million at December 31, 2024. The Company expects its cash requirements to be significant in the future. The amount and timing of the Company's future cash requirements will depend on regulatory and market acceptance of its product candidates and the resources it devotes to researching and developing, formulating, manufacturing, commercializing and supporting its products. The Company may seek additional funding through public or private financing in the future, if such funding is available and on terms acceptable to the Company. There are no assurances that additional financing will be available on favorable terms, or at all. However, management believes that the current working capital position will be sufficient to meet the Company's working capital needs for at least the next 12 months.

2. Summary of Significant Accounting Policies

Use of Estimates

The Company makes estimates and assumptions in preparing its consolidated financial statements in conformity with accounting principles generally accepted in the United States. These estimates and assumptions affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amount of revenue earned and expenses incurred during the reporting period. The Company evaluates its estimates on an ongoing basis, including those estimates related to legal liabilities, common stock warrant liabilities, stock based compensation, clinical trials and manufacturing agreements. Actual results could differ from these estimates and assumptions.

Proceeds from Grants

During 2024 and 2023, there were no reimbursements received pursuant to National Institutes of Health ("NIH") research grants. In 2022, the Company received $0.9 million of reimbursement from the NIH and National Institute on Drug Abuse. The Company records the proceeds from these grants as reductions to its research and development expenses.

Cash and Cash Equivalents and Concentration of Credit Risk

The Company invests in cash and cash equivalents. The Company considers highly-liquid financial instruments with original maturities of three months or less to be cash equivalents. Highly liquid investments that are considered cash equivalents include money market accounts and funds, certificates of deposit and U.S. Treasury securities. The Company maintains its cash and cash equivalents at one financial institution.

Fair Value Measurements

The Company recognizes financial instruments in accordance with the authoritative guidance on fair value measurements and disclosures for financial assets and liabilities. This guidance defines fair value, establishes a framework for measuring fair value in accordance with GAAP, and expands disclosures about fair value measurements. The guidance also establishes a three-tier fair value hierarchy, which prioritizes the inputs used in measuring fair value. These tiers include:

- Level 1 includes quoted prices in active markets.
- Level 2 includes significant observable inputs, such as quoted prices for identical or similar securities, or other inputs that are observable and can be corroborated by observable market data for similar securities. The Company uses market pricing and other observable market inputs obtained from third-party providers. It uses the bid price to establish fair value where a bid price is available. The Company does not have any financial instruments where the fair value is based on Level 2 inputs.
- Level 3 includes unobservable inputs that are supported by little or no market activity. The Company does not have any financial instruments where the fair value is based on Level 3 inputs.

If a financial instrument uses inputs that fall in different levels of the hierarchy, the instrument will be categorized based upon the lowest level of input that is significant to the fair value calculation. The fair value of cash and cash equivalents was based on Level 1 inputs at December 31, 2024 and 2023.

The fair value of common stock warrants of $6.71 per warrant was determined at distribution on January 3, 2024 using a Monte Carlo valuation model since the warrants were not traded on the open market on January 3, 2024. Warrant trading on Nasdaq began on January 4, 2024. Quantitative information regarding Level 3 fair value measurements for common stock warrants is as follows:

Exercise price per warrant	$	33.00
Conversion rate - common shares per warrant		1.50
Closing price of common stock	$	23.72
Volatility		75%
Risk-free interest rate		5.40%
Expected life of option (in years)		0.3
Dividend yield		zero

The common stock warrants stopped trading on Nasdaq after May 2, 2024 and subsequently had little or no market activity. As of May 7, 2024, the warrants were presumed to have no value since they were redeemed for a nominal payment of $0.001 per warrant.

Segment Information

The Company reports segment information based on how it internally evaluates the operating performance of its business units, or segments. The Company’s operations are confined to one business segment: the development of novel drugs and diagnostics.

The Company’s reportable segment reflects the manner in which its chief operating decision maker ("CODM") allocates resources and assesses performance. The Company's CODM is the President and Chief Executive Officer. The primary measure used by the Company's CODM for purposes of allocating resources is based on net loss that also is reported on the income statement as consolidated net loss. The measure of segment assets is reported on the balance sheet as cash and cash equivalents.

The Company has not generated any product revenue in the current period and expects to continue to incur significant expenses and operating losses for the foreseeable future as we advance our product candidates through stages of development and clinical trials.

As such, the CODM uses cash forecast models in deciding how to invest in the development of novel drugs and diagnostics. Such cash forecast models are reviewed to assess the entity-wide operating results and performance. Net loss is used to monitor budget versus actual results. Monitoring budgeted versus actual results, net cash used in operating activities for the period and cash on hand are used in assessing performance of the segment.

The following table summarizes expenses by category regularly reviewed by the CODM (in thousands):

	Years Ended December 31,		
	2024	2023	2022
Operating expenses			
Research and development	$ 69,637	$ 89,423	$ 68,032
General and administrative	71,809	16,534	11,988
Other segment items(a)	(117,104)	(8,740)	(3,774)
Net loss	$ 24,342	$ 97,217	$ 76,246

(a) Other segment items include interest income, other income, net and gain from change in fair value of warrant liabilities.

The following table summarizes assets regularly reviewed by the CODM (in thousands):

	December 31,	
	2024	2023
Cash and cash equivalents	$ 128,574	$ 121,136

For the year ended December 31, 2024, and 2023, the net cash used in operating activities was $116.9 million and $82.0 million, respectively.

Stock-based Compensation

The Company recognizes non-cash expense for the fair value of all stock options and other share-based awards. The Company uses the Black-Scholes option valuation model ("Black-Scholes") to calculate the fair value of stock options, using the single-option award approach and straight-line attribution method. This model requires the input of subjective assumptions including expected stock price volatility, expected life and estimated forfeitures of each award. These assumptions consist of estimates of future market conditions, which are inherently uncertain, and therefore, are subject to management's judgment. For all options granted, it recognizes the resulting fair value as expense on a straight-line basis over the vesting period of each respective stock option, generally one to four years.

The Company has granted share-based awards that vest upon achievement of certain performance criteria ("Performance Awards"). The Company multiplies the number of Performance Awards by the fair value of its common stock on the date of grant to calculate the fair value of each award. It estimates an implicit service period for achieving performance criteria for each award. The Company recognizes the resulting fair value as expense over the implicit service period when it concludes that achieving the performance criteria is probable. It periodically reviews and updates as appropriate its estimates of implicit service periods and conclusions on achieving the performance criteria. Performance Awards vest and common stock is issued upon achievement of the performance criteria.

Net Loss per Share

Basic net loss per common share is computed by dividing the net loss available to common stockholders by the weighted-average number of common shares outstanding during the period. Diluted net loss per common share is computed by dividing the net loss available to common stockholders by the weighted-average number of common shares outstanding and potentially dilutive securities outstanding during the period using the treasury stock method. Potentially dilutive securities are excluded from the computations of diluted earnings per share if their effect would be anti-dilutive. A net loss causes all potentially dilutive securities to be anti-dilutive. Potentially dilutive securities consist of outstanding common stock options and Performance Awards. There is no difference between the Company's net loss and comprehensive loss. The numerators and denominators in the calculation of basic and diluted net loss per share were as follows (in thousands, except net loss per share data):

	Years ended December 31,		
	2024	**2023**	**2022**
Numerator, basic:			
Net loss	$ (24,342)	$ (97,217)	$ (76,246)
Denominator, basic:			
Weighted average common shares outstanding	46,329	41,932	40,202
Net loss per share, basic	(0.53)	(2.32)	(1.90)
Numerator, diluted:			
Net loss	$ (24,342)	$ (97,217)	$ (76,246)
Adjustment for change in fair value of warrant liabilities	(43,793)	—	—
Adjusted numerator, diluted	$ (68,135)	$ (97,217)	$ (76,246)
Denominator, diluted:			
Weighted average common shares outstanding	46,329	41,932	40,202
Dilutive effect of common stock warrants	275	—	—
Weighted average dilutive common shares	46,604	41,932	40,202
Net loss per share, diluted	$ (1.46)	$ (2.32)	$ (1.90)
Dilutive common stock options excluded from net loss per share, diluted	3,154	2,123	2,055
Dilutive Performance Awards excluded from loss per share, diluted	7	7	7

Warrant Liabilities

The Company accounts for warrants as either equity-classified or liability-classified instruments based on an assessment of the warrant's specific terms and in accordance with the Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 480, "Distinguishing Liabilities from Equity", and ASC 815, "Derivatives and Hedging". The assessment considers whether the warrants are freestanding financial instruments pursuant to ASC 480, meet the definition of a liability pursuant to ASC 480, and whether the warrants meet all of the requirements for equity classification under ASC 815, including whether the warrants are indexed to the Company's own shares, among other conditions for equity classification. This assessment, which requires the use of professional judgment, is conducted at the time of warrant issuance and as of each subsequent quarterly period end date while the warrants are outstanding.

For issued or modified warrants that meet all of the criteria for equity classification, the warrants are required to be recorded as a component of additional paid-in capital at the time of issuance. For issued or modified warrants that do not meet all the criteria for equity classification, the warrants are required to be recorded at their initial fair value of the date of issuance, and each balance sheet date thereafter. Changes in the estimated fair value of liability classified warrants are recognized as a non-cash gain or loss on the statements of operations. Costs associated with issuing the warrants classified as derivative liabilities are charged to operations when the warrants are issued.

Fair Value of Financial Instruments

Financial instruments include accounts payable, accrued expenses, accrued development expense and other liabilities. The estimated fair value of certain financial instruments may be determined using available market information or other appropriate valuation methodologies. However, considerable judgment is required in interpreting market data to develop estimates of fair value; therefore, the estimates are not necessarily indicative of the amounts that could be realized or would be paid in a current market exchange. The effect of using different market assumptions and/or estimation methodologies may be material to the estimated fair value amounts. The carrying amounts of accounts payable, accrued expenses, accrued development expense and other liabilities are at cost, which approximates fair value due to the short maturity of those instruments.

Research Contracts, Prepaids and Accruals

The Company has entered into various research and development contracts with research institutions and other third-party vendors. These agreements are generally cancelable. Related payments are recorded as research and development expenses as incurred. The Company records prepaids and accruals for estimated ongoing research costs. When evaluating the adequacy of prepaid expenses and accrued liabilities, the Company analyzes progress of the studies including the phase or completion of events, invoices received and contracted costs. Significant judgments and estimates are made in determining the prepaid and accrued balances at the end of any reporting period. Actual results could differ from the Company's estimates. The Company's historical prepaid and accrual estimates have not been materially different from actual costs.

Incentive Bonus Plan

In 2020, the Company established the 2020 Cash Incentive Bonus Plan (the "CIB Plan") to incentivize CIB Plan participants. Awards under the CIB Plan are accounted for as liability awards under ASC 718 "*Stock-based Compensation*". The fair value of each potential CIB Plan award will be determined once a grant date occurs and will be remeasured each reporting period. Compensation expense associated with the CIB Plan will be recognized over the expected achievement period for each CIB Plan award, when a Performance Condition (as defined below) is considered probable of being met. See Note 11 for further discussion of the CIB Plan.

Property and Equipment

Property and equipment are recorded at cost, net of accumulated depreciation. Depreciation is recorded using the straight-line method over the estimated useful lives of the assets. Owned buildings and related improvements have estimated useful lives of 39 years and approximately 10 years, respectively. Tenant improvements related to leased space are amortized using the straight-line method over the useful lives of the improvements or the remaining term of the corresponding leases, whichever is shorter.

Property and equipment are reviewed for impairment when events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. If property and equipment are considered to be impaired, an impairment loss is recognized.

Intangible Assets

Acquired intangible assets are recorded at fair value at the date of acquisition and primarily consist of lease-in-place agreements and leasing commissions. Intangible assets are amortized over the estimated life of the lease-in-place agreements. Intangible assets also include leasing commissions, which are amortized over the life of the lease agreement.

Intangible assets are reviewed for impairment on an annual basis, and when there is reason to believe that their values have been diminished or impaired. If intangible assets are considered to be impaired, an impairment loss is recognized.

Insurance Recoveries

We record proceeds from our insurance policies when the loss event has occurred, and proceeds are estimable and probable of being recovered. Insurance recoveries and proceeds received are recorded as a reduction to general and administrative expense. There was approximately $9.9 million and $0.1 million of insurance recoveries recorded during the year ended December 31, 2024 and 2023, respectively. The applicable policy year had a $10.0 million recovery limit which has been reached at December 31, 2024.

Related Party Transactions

On July 15, 2024, our former President and Chief Executive Officer resigned from the Company, effective as of September 13, 2024 (the "Effective Date"). Pursuant to the terms of his employment agreement, our former President and Chief Executive Officer is receiving severance compensation equal to $1.23 million over twelve months following the Effective Date. Severance compensation was included in general and administrative expense.

On July 16, 2024, our former Senior Vice President (SVP), Neuroscience agreed to step down from her employment with the Company, effective immediately. Our former SVP, Neuroscience is the spouse of our former President and Chief Executive Officer. Pursuant to a separation agreement, our former SVP, Neuroscience is receiving severance compensation equal to $0.5 million in quarterly installments over twelve months. Severance compensation was included in research and development expense.

Included in accrued compensation and benefits at December 31, 2024 is approximately $1.2 million of accrued severance costs for the two former senior officers.

On July 16, 2024, the Company entered into a one-year consulting agreement with the Company's former SVP, Neuroscience. Pursuant to the terms of the consulting agreement, the consultant is providing services for purposes of providing information and support for scientific research and/or obtaining governmental approval for the Company's products. The Company will pay $500 per hour for such consulting services. The Company incurred fees totaling $43,000 under the consulting agreement during the year ended December 31, 2024.

Income Taxes

The Company accounts for income taxes under the asset and liability method. Deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax balances are adjusted to reflect tax rates based on currently enacted tax laws, which will be in effect in the years in which the temporary differences are expected to reverse. The Company has accumulated significant deferred tax assets that reflect the tax effects of net operating loss and tax credit carryovers and temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Realization of certain deferred tax assets is dependent upon future earnings. The Company is uncertain about the timing and amount of any future earnings. Accordingly, the Company offsets these deferred tax assets with a valuation allowance.

The Company accounts for uncertain tax positions in accordance with ASC 740, "Income Taxes", which clarifies the accounting for uncertainty in tax positions. These provisions require recognition of the impact of a tax position in the Company's financial statements only if that position is more likely than not of being sustained upon examination by taxing authorities, based on the technical merits of the position. Any interest and penalties related to uncertain tax positions will be reflected as a component of income tax expense.

Recent Accounting Pronouncements

In November 2023, the FASB issued Accounting Standards Update ("ASU") 2023-07, Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures. This ASU includes amendments that expand the existing reportable segment disclosure requirements and requires disclosure of (i) significant expense categories and amounts by reportable segment as well as the segment's profit or loss measure(s) that are regularly provided to the chief operating decision maker (the "CODM") to allocate resources and assess performance; (ii) how the CODM uses each reported segment profit or loss measure to allocate resources and assess performance; (iii) the nature of other segment balances contributing to reported segment profit or loss that are not captured within segment revenues or expenses; and (iv) the title and position of the individual or name of the group or committee identified as the CODM. This guidance requires retrospective application to all prior periods presented in the financial statements and is effective for fiscal years beginning after December 15, 2023 and interim periods within fiscal years beginning after December 15, 2024. The Company adopted this guidance and has included enhanced disclosures relating to its reportable segments. See *Business Segments*, included in this Note 2 to the Consolidated Financial Statements, for the Company's updated disclosure.

Accounting Guidance Issued But Not Adopted as of December 31, 2024

In November 2024, the FASB issued ASU 2024-03, Income Statement—Reporting Comprehensive Income—Expense Disaggregation Disclosures (Subtopic 220-40): Disaggregation of Income Statement Expenses. This ASU includes amendments that require entities to bifurcate specified expense line items on the income statement into underlying components, including employee compensation, depreciation, and intangible asset amortization, as applicable. Qualitative descriptions of the remaining components are required. These enhanced disclosures are required for both interim and annual periods. In January 2025, the FASB subsequently issued ASU 2025-01, Income Statement—Reporting Comprehensive Income—Expense Disaggregation Disclosures (Subtopic 220-40): Clarifying the Effective Date, to provide clarification on the ASU's effective date. The new standard is effective for fiscal years beginning after December 15, 2026 on a prospective basis with the option to apply it retrospectively, and for interim periods within fiscal years beginning after December 15, 2027. Early adoption is permitted. The adoption of this guidance will result in the Company being required to include enhanced disclosures around income statement expenses.

In December 2023, the FASB issued ASU 2023-09, Income Taxes (Topic 740): Improvements to Income Tax Disclosures. The ASU requires that an entity disclose specific categories in the effective tax rate reconciliation as well as reconciling items that meet a quantitative threshold. Further, the ASU requires additional disclosures on income tax expense and taxes paid, net of refunds received, by jurisdiction. The new standard is effective for annual periods beginning after December 15, 2024 on a prospective basis with the option to apply it retrospectively. Early adoption is permitted. The adoption of this guidance will result in the company being required to include enhanced income tax related disclosures.

3. Prepaid Expenses and Other Current Assets

Prepaid and other current assets at December 31, 2024 and 2023 consisted of the following (in thousands):

	December 31,	
	2024	**2023**
Prepaid insurance	$ 800	$ 759
Contract research organization and other deposits	6,173	6,489
Interest receivable	947	962
Other	38	287
Total prepaid expenses and other current assets	$ 7,958	$ 8,497

Contract research organization and other deposits represent cash payments made to vendors in excess of expenses incurred.

4. Real Property and Other Income, Expense

The Company owns a two-building office complex in Austin, Texas, a portion of which serves as its corporate headquarters. Maintenance, physical facilities, leasing, property management and other key responsibilities related to property ownership are outsourced to professional real-estate managers. The office complex measures approximately 90,000 rentable square feet. At December 31, 2024, the Company occupied approximately 25% of the property with the remainder either leased or available for lease to third parties. Gross rental income under existing third-party leases at December 31, 2024 is expected to total $0.3 million in 2025, $0.4 million in 2026 and $0.2 million in 2027.

The Company records the net income from building operations and leases as other income, net, as leasing is not core to the Company's operations. Building depreciation and amortization for space not occupied by the Company is included in general and administrative expense. Building depreciation and amortization for space occupied by the Company is allocated between general and administrative expense and research and development expense. Components of other income, net, for the periods presented were as follows (in thousands):

	Years ended December 31,		
	2024	2023	2022
Lease revenue	$ 1,244	$ 2,283	$ 2,459
Property operating expenses	(832)	(1,376)	(1,462)
Other income, net	$ 411	$ 907	$ 997

The Company had accrued property taxes related to the building totaling $254,000 and $338,000 at December 31, 2024 and 2023, respectively, included in other current liabilities.

5. Property and Equipment

The components of property and equipment, net, as of December 31, 2024 and 2023 were as follows (in thousands):

	December 31,	
	2024	2023
Land	$ 3,734	$ 3,734
Buildings	15,980	15,980
Site improvements	494	494
Tenant improvements	3,062	3,062
Furniture and equipment	875	868
Construction in progress	55	—
Gross property and equipment	$ 24,200	$ 24,138
Accumulated depreciation	(3,236)	(2,284)
Property and equipment, net	$ 20,964	$ 21,854

Depreciation expense for property and equipment was $952,000, $1,084,000 and $804,000 for the years ended December 31, 2024, 2023 and 2022, respectively.

6. Intangible Assets

The components of intangible assets, net, as of December 31, 2024 and 2023 were as follows (in thousands):

	December 31,	
	2024	2023
Lease-in-place agreements	$ 1,053	$ 1,053
Leasing commissions and other	334	293
Gross intangible assets	$ 1,387	$ 1,346
Accumulated amortization	(1,350)	(1,170)
Intangible assets, net	$ 37	$ 176

Amortization expense for intangible assets was $180,000, $446,000 and $497,000 for the years ended December 31, 2024, 2023 and 2022, respectively.

Amortization expense for finite-lived intangible assets is expected to be as follows (in thousands):

For the year ending December 31,		
2025	$	17
2026		14
2027		6
Total amortization	$	37

7. Stockholders' Equity and Stock-Based Compensation

Preferred Stock

The Company's Board of Directors (the "Board") has the authority to issue preferred stock in one or more series and to fix the rights, preferences, privileges, restrictions and the number of shares constituting any series or the designation of the series.

2022 Registered Direct Offering

On November 22, 2022, the Company completed a common stock offering pursuant to which certain investors purchased 1,666,667 shares of common stock at a price of $30.00 per share. Net proceeds of the offering were approximately $47.3 million after deducting offering expenses.

Common Stock Warrant Distribution

See Notes 2 and 13 regarding the distribution of common stock warrants on January 3, 2024.

At the Market (ATM) Common Stock Issuance

On May 1, 2023, the Company entered into an at-the-market offering program ("ATM") to sell, from time to time, shares of Company common stock having an aggregate offering price of up to $200 million in common stock pursuant to a shelf registration statement that was filed with the U.S. Securities and Exchange Commission (the "SEC") on May 1, 2023 and became effective immediately upon filing. The Company is obligated to pay a commission of up to 3% of the gross proceeds from the sale of shares of common stock under the ATM. As of the filing of this Annual Report on Form 10-K, the Company is no longer a Well-Known Seasoned Issuer, as defined by the SEC. Thus, the Company is not eligible to sell securities under the ATM under its existing "automatic" shelf registration statement on Form S-3 unless and until it files a new Form S-3 that is declared effective by the SEC.

There were no common stock sales under the ATM during the year ended December 31, 2024 and 2023.

2008 Equity Incentive Plan

Under the Company's 2008 Equity Incentive Plan, or 2008 Equity Plan, its employees, directors and consultants received share-based awards, including grants of stock options and performance awards. The 2008 Equity Plan expired in December 2017. Share-based awards generally expire ten years from the date of grant.

2018 Equity Incentive Plan

The Company's Board or a designated Committee of the Board is responsible for administration of the Company's 2018 Omnibus Incentive Plan (the 2018 Plan) and determines the terms and conditions of each option granted, consistent with the terms of the 2018 Plan. The Company's employees, directors, and consultants are eligible to receive awards under the 2018 Plan, including grants of stock options and performance awards. Share-based awards generally expire ten years from the date of grant. The 2018 Plan, as amended in May 2022, provides for issuance of up to 5,000,000 shares of common stock, par value $0.001 per share, subject to adjustment as provided in the 2018 Plan.

When stock options or performance awards are exercised net of the exercise price and taxes, the number of shares of stock issued is reduced by the number of shares equal to the amount of taxes owed by the award recipient and that number of shares are cancelled. The Company may then use its cash to pay tax authorities the amount of statutory taxes owed by and on behalf of the award recipient.

Stock Options

The following summarizes information about stock option activity during 2024:

	Number of Options	Weighted Average Weighted Average Exercise Price	Weighted Average Remaining Contractual Term in Years	Aggregate Intrinsic Value in Millions
Outstanding as of December 31, 2023	3,039,029	$ 15.13	6.21	$ 30.28
Options granted	2,083,000	26.65		
Options exercised	(240,147)	5.25		
Options forfeited/canceled	(418,854)	24.64		
Outstanding as of December 31, 2024	4,463,028	20.15	7.61	$ 0.30
Vested and expected to vest at December 31, 2024	3,965,665	19.93	7.44	$ 0.30
Exercisable at December 31, 2024	1,794,501	$ 12.86	4.95	$ 0.30

Of the stock options exercised during the year ended December 31, 2024, 6,634 stock options were net settled in satisfaction of the exercise price, with no cash proceeds received. In addition, an employee surrendered 6,500 shares of common stock in conjunction with a net exercise of a stock option. The common shares surrendered were retired by the Company.

The following summarizes information about stock options at December 31, 2024 by a range of exercise prices:

		Options outstanding			Options exercisable	
Range of exercise prices		Number of outstanding options	Weighted average remaining contractual life (in years)	Weighted average exercise price	Number of vested options	Weighted average exercise price
From	To					
$ 0.95	$ 4.10	900,303	3.5	$ 2.80	900,303	$ 2.80
$ 5.46	$ 17.54	1,049,656	7.1	$ 16.21	560,765	$ 15.06
$ 18.78	$ 26.57	539,277	8.7	$ 21.90	197,198	$ 21.81
$ 26.91	$ 26.91	1,080,000	9.7	$ 26.91	364	$ 26.91
$ 27.42	$ 77.00	893,792	9.2	$ 33.02	135,871	$ 57.40
		4,463,028	7.6	$ 20.15	1,794,501	$ 12.86

The Company uses Black-Scholes to estimate the fair value of options granted. Black-Scholes considers a number of factors, including the market price of the Company's common stock. Factors utilized in Black-Scholes to value each stock option granted, and the weighted average fair value of options granted during the years ended December 31, 2024, 2023 and 2022 were as follows:

	2024	2023	2022
Volatility	151% to 170%	152% to 155%	151% to 154%
Risk-free interest rates	3.53% to 4.47%	3.82% to 4.37%	1.98% to 3.69%
Expected life of option (in years)	7	7	7
Dividend yield	zero	zero	zero
Forfeiture rate	4.3%	zero	zero
Weighted average fair value of stock options granted	$ 25.85	$ 18.21	$ 35.16

Volatility is based on reviews of the historical volatility of the Company's common stock. Risk-free interest rates are based on yields of U.S. treasury notes in effect at the date of grant. Expected life of option is based on actual historical option exercises. Dividend yield is zero because the Company does not anticipate paying cash dividends in the foreseeable future.

As of December 31, 2024, the Company expects to recognize compensation expense of $50.6 million related to non-vested options held by equity plan participants over the weighted average remaining recognition period of 2.3 years.

Performance Awards

The following summarizes information about performance award activity during 2024:

	Number of Performance Awards
Outstanding as of December 31, 2023	7,142
Granted	—
Vested	—
Forfeited/canceled	—
Outstanding as of December 31, 2024	7,142

During the year ended December 31, 2022, a total of 57,143 shares of restricted stock awards expired as performance criteria related to these Performance Awards were not attained. These shares of restricted stock were returned to the 2008 Equity Incentive Plan, which expired in December 2017, and thus were retired.

If and when outstanding Performance Awards vest, the Company would recognize $101,000 in stock-based compensation expense. These performance awards expire in 2026.

Stock-Based Compensation Expense

The following summarizes information about stock-based compensation expense, in thousands:

	Years ended December 31,		
	2024	2023	2022
Research and development	$ 6,492	$ 2,050	$ 1,631
General and administrative	9,799	2,536	435
Total stock-based compensation expense	$ 16,291	$ 4,586	$ 2,066

On September 13, 2024, the Company entered into a Consulting Agreement with our former President and Chief Executive Officer for a period of one year, which was subsequently terminated on January 23, 2025. The services to be provided under the Consulting Agreement were not deemed substantive for continuous service requirements of stock option vesting, resulting in a stock option modification under ASC 718. The Company's stock-based compensation expense for the year ended December 31, 2024 included approximately $0.6 million from the stock option modification accounting. See further discussion in Note 2 under "Related Party Transactions". There were no such costs during the years ended December 31, 2023 and 2022.

8. Employee 401(k) Benefit Plan

The Company has a defined-contribution savings plan under Section 401(k) of the Internal Revenue Code. The plan covers substantially all employees. Employees are eligible to participate in the plan the first day of the month after hire and may contribute up to the current statutory limits under Internal Revenue Service regulations. The 401(k) plan permits the Company to make additional matching contributions on behalf of all employees. Through December 31, 2024, the Company has not made any matching contributions to the 401(k) plan.

9. Income Taxes

The Company did not provide for income taxes during the periods presented because it had book and federal taxable losses in those years and the tax benefit that would have resulted from the pre-tax losses was fully offset by a change in the valuation allowance.

The reconciliation of the statutory federal income tax rate to the Company's effective tax rate for periods presented was as follows:

	Year ended December 31,		
	2024	2023	2022
Tax at federal statutory rate	21%	21%	21%
State tax, net of federal benefit	—	—	—
Share-based compensation	(5.7)	0.2	(0.5)
Research and development credits	15.4	5.1	4.9
Section 162(m) limitation	(0.2)	—	(0.2)
Uncertain tax positions	(6.1)	(2.0)	(2.0)
Tax attribute expiration	(4.1)	—	—
Change in fair value of warrant liabilities	93.3	—	—
SEC settlement payment	(34.5)	—	—
Other	0.3	(0.3)	0.2
Change in valuation allowance	(79.4)	(24.0)	(23.4)
Effective income tax rate	—%	—%	—%

Deferred tax assets and valuation allowance

Deferred tax assets reflect the tax effects of net operating loss and tax credit carryforwards and temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. The Company's deferred taxes assets at December 31, 2024 and 2023 were valued at the corporate tax rate of 21%. The Company offsets its deferred tax assets by a valuation allowance because it is uncertain about the timing and amount of any future profits. Significant components of its deferred tax assets are as follows (in thousands):

	December 31,	
	2024	2023
Deferred tax assets:		
Net operating loss carryforwards	$ 43,148	$ 33,322
Share-based compensation	4,814	2,561
Research and development credit carryforwards	13,789	12,557
Capitalized research and development expenses	33,598	27,538
Other	1,340	1,371
Total deferred tax assets	96,689	77,349
Valuation allowance	(96,689)	(77,349)
Net deferred tax assets	—	—
Deferred tax liabilities:		
Operating lease right-of-use assets	—	—
Total deferred tax liabilities	—	—
Net deferred tax asset (liability)	$ —	$ —

The valuation allowance increased by $19.4 million and $23.3 million in 2024 and 2023, respectively, due primarily to continuing operations.

The Company's net operating loss carryforwards of $205.5 million are federal, of which $74.1 million expires between 2029 and 2037 and $131.4 million carries forward indefinitely. As of December 31, 2024, the Company had federal research and development tax credits of approximately $23.0 million, which expire in the years 2025 through 2044.

Unrecognized tax benefits

As of December 31, 2024, 2023 and 2022, the Company has unrecognized tax benefits related to tax credits of $9.2 million, $8.4 million and $6.5 million, respectively. None of the unrecognized tax benefits as of December 31, 2024, if recognized, would impact the effective tax rate due to the valuation allowance and no interest or penalties have been recognized. A reconciliation of the beginning and ending balance of unrecognized tax benefits is as follows (in thousands):

	Year ended December 31,		
	2024	2023	2022
Beginning balance	$ 8,413	$ 6,496	$ 5,001
Expired research and development tax credits	$ (665)	$ (50)	$ —
Additions based on tax positions related to the current year	1,494	1,967	1,495
Ending balance	$ 9,242	$ 8,413	$ 6,496

As of December 31, 2024, there were no unrecognized tax benefits that we expect would change significantly over the next 12 months.

The Company files U.S. and Texas income tax returns. In the United States, the statute of limitations with respect to the federal income tax returns for tax years after 2020 are open to audit; however, since the Company has net operating losses, the taxing authority has the ability to review tax returns prior to the 2021 tax year and make adjustments to these net operating loss carryforwards. We are not under audit in any taxing jurisdiction at this time.

10. Commitments

Other Commitments

The Company conducts its product research and development programs through a combination of internal and collaborative programs that include, among others, arrangements with universities, contract research organizations and clinical research sites. It has contractual arrangements with these organizations that are generally cancelable. The Company's obligations under these contracts are largely based on services performed. The Company also had non-cancellable commitments for the manufacture of simufilam's active pharmaceutical ingredient totaling approximately $1.2 million recorded in prepaid expenses and other current assets at December 31, 2024. The Company is dependent on contract development and manufacturing organizations for the manufacture of all our materials for clinical studies.

On February 26, 2025, the Company entered into a License Agreement (the "License Agreement") with Yale University ("Yale") pursuant to which the Company was granted exclusive worldwide rights, with rights to sublicense, to Yale's interest in certain patent and other intellectual property rights that could be useful or necessary to the development and commercialization of simufilam for the treatment of Tuberous Sclerosis Complex (TSC)-related epilepsy and other potential indications. Pursuant to the License Agreement, the Company has agreed to use reasonable commercial efforts to implement a plan that it has designed for such development and commercialization. In exchange for the rights acquired pursuant to the License Agreement, the Company agreed to pay Yale (i) a nominal upfront license fee, (ii) payments upon the achievement of specified clinical, regulatory and commercial milestones, totaling up to $4.5 million and (iii) upon transfer to a third party in connection with a regulatory priority review voucher, if issued, a low-to-mid double digit percentage of any consideration received for such transfer. The Company also agreed to pay Yale tiered royalties, ranging from a low- to mid- single digit percentage, on aggregate net sales of licensed products, subject to tiered minimum annual royalty payments ranging from the low- to mid- hundreds of thousands of dollars.

Unless earlier terminated, the License Agreement will continue on a country-by-country basis until the later of (i) the date on which the last valid claim of the license patents expires or otherwise lapses, (ii) the end of any government or regulatory exclusivity period, and (iii) 10 years following the date of first sale of licensed product in such country.

Note 11. 2020 Cash Incentive Bonus Plan

In August 2020, the Board approved the CIB Plan. The CIB Plan was established to promote the long-term success of the Company by creating an "at-risk" cash bonus program that rewards CIB Plan participants with additional cash compensation in lockstep with significant increases in the Company's market capitalization. The CIB Plan is considered "at-risk" because CIB Plan participants will not receive a cash bonus unless the Company's market capitalization increases significantly and certain other conditions specified in the CIB Plan are met. Specifically, CIB Plan participants will not be paid any cash bonuses unless (1) the Company completes a merger or acquisition transaction that constitutes a sale of ownership of the Company or its assets (a Merger Transaction) or (2) the Compensation Committee of the Board (the Compensation Committee) determines the Company has sufficient cash on hand, as defined in the CIB Plan. Because of the inherent discretion and uncertainty regarding these requirements, the Company has concluded that a CIB Plan grant date has not occurred as of December 31, 2024.

CIB Plan participants will be paid all earned cash bonuses allocated under the CIB Plan in the event of a Merger Transaction.

As of December 31, 2022, the Company's independent directors were participants in the CIB Plan. However, effective March 16, 2023, the Board amended the CIB Plan to remove all independent directors as participants in the CIB Plan and the independent directors consented to such removal. The independent directors' share of potential benefits under the CIB Plan were completely forfeited to the Company and will not be allocated to any other participant under the CIB Plan. The Company's independent directors have not received, and as a result of such amendment will never receive, any payments under the CIB Plan.

The Company's market capitalization for purposes of the CIB Plan is determined based on either (1) the closing price of one share of the Company's common stock on the Nasdaq Capital Market multiplied by the total issued and outstanding shares and options to purchase shares of the Company, or (2) the aggregate consideration payable to security holders of the Company in a Merger Transaction. This constitutes a market condition under applicable accounting guidance.

The CIB Plan triggers a potential cash bonus each time the Company's market capitalization increases significantly, up to a maximum $5 billion in market capitalization. The CIB Plan specifies 14 incremental amounts between $200 million and $5 billion (each increment, a "Valuation Milestone"). Each Valuation Milestone triggers a potential cash bonus award in a pre-set amount defined in the CIB Plan. Each Valuation Milestone must be achieved and maintained for no less than 20 consecutive trading days for CIB Plan participants to be eligible for a potential cash bonus award. Approximately 67% of each cash bonus award associated with a Valuation Milestone is subject to adjustment and approval by the Compensation Committee. Any amounts not awarded by the Compensation Committee are no longer available for distribution.

If the Company were to exceed a $5 billion market capitalization for no less than 20 consecutive trading days, all Valuation Milestones would be deemed achieved, in which case cash bonus awards would range from a minimum of $111.4 million up to a hypothetical maximum of $289.7 million. Payment of cash bonuses is deferred until such time as (1) the Company completes a Merger Transaction, or (2) the Compensation Committee determines the Company has sufficient cash on hand to render payment (each, a "Performance Condition"), neither of which may ever occur. Accordingly, there can be no assurance that CIB Plan participants will ever be paid a cash bonus that is awarded under the CIB Plan, even if the Company's market capitalization increases significantly.

The CIB Plan is accounted for as a liability award. The fair value of each Valuation Milestone award will be determined once a grant date occurs and will be remeasured each reporting period. Compensation expense associated with the CIB Plan will be recognized over the expected achievement period for each of the 14 Valuation Milestones, when a Performance Condition is considered probable of being met.

In October 2020, the Company achieved the first Valuation Milestone. Subsequently in 2020, the Compensation Committee approved a potential cash bonus award of $6.5 million in total for all CIB Plan participants (after taking into account the March 2023 CIB Plan amendment), subject to future satisfaction of a Performance Condition. There is no continuing service requirement for CIB Plan participants once the Compensation Committee approves a cash bonus award.

During the year ended December 31, 2021, the Company achieved 11 additional Valuation Milestones. On February 13, 2025, the Compensation Committee concluded that no discretionary cash bonus amounts would be awarded for the 11 milestones achieved in 2021 nor for the 2 remaining CIB Plan milestones, which have not been achieved. Therefore, no compensation expense has been recorded and no payments have been made since no grant date has occurred and no Performance Conditions are considered probable of being met.

The achievement the 11 milestones in 2021 triggered a non-discretionary potential Company obligation to a CIB Plan participant of $74.9 million (after taking into account the March 2023 CIB Plan amendment) and contingent upon future satisfaction of a Performance Condition. However, no compensation expense has been recorded and no payments have been made since no grant date has occurred and no Performance Conditions are considered probable of being met.

No Valuation Milestones were achieved during the years ended December 31, 2024, 2023 and 2022.

As discussed in Note 12, on January 24, 2025, the Delaware Court of Chancery entered a Final Order and Judgment approving the Stipulation and dismissing an action related to the CIB Plan with prejudice. The Final Order and Judgment requires the Company to further amend the CIB Plan, as provided in the Stipulation.

No actual cash payments were authorized or made to participants under the CIB Plan through December 31, 2024 and the date of filing of this Annual Report on Form 10-K.

12. Contingencies

The Company is, and from time to time, the Company may become, involved in litigation or other legal proceedings and claims, including U.S. government inquiries, investigations and Citizen Petitions submitted to FDA. In addition, the Company has received, and from time to time may receive, inquiries from government authorities relating to matters arising from the ordinary course of business. The outcome of these proceedings is inherently uncertain. Regardless of outcome, legal proceedings can have an adverse impact on the Company because of defense and settlement costs, diversion of management resources, and other factors. At this time, no assessment can be made as to their likely outcome or whether the outcome will be material to the Company other than as disclosed below. The Company believes that its total provisions for legal matters are adequate based upon currently available information.

Update on Government Investigations

Beginning in August 2021, the Company has received subpoenas, a Civil Investigative Demand ("CID") and other requests for documents and information from the Department of Justice ("DOJ") and document requests from the SEC, each seeking corporate information and documents concerning the research and development of simufilam and/or SavaDx. The Company has been providing documents and information in response to these subpoenas, the CID and requests for information.

On September 26, 2024, the Company announced that it had reached a settlement with the SEC resolving the SEC investigation of the Company's disclosures regarding its Phase 2b clinical trial of simufilam for the treatment of Alzheimer's disease (the "Phase 2b Study") and related matters. The SEC also agreed to a settlement with two former senior employees of the Company. Pursuant to these settlements, the U.S. District Court for the Western District of Texas entered final consent judgment on October 18, 2024, on a complaint filed by the SEC against the Company and its two former senior employees. The Company has neither admitted nor denied the allegations of the complaint. The SEC's complaint alleged that certain disclosures by the Company regarding the Phase 2b Study violated certain federal securities laws and SEC rules, including negligence-based disclosure violations of Sections 17(a)(2) and 17(a)(3) of the Securities Act of 1933, as amended (the "Securities Act"), as well as recordkeeping and reporting requirements under the Securities Exchange Act of 1934, as amended (the "Exchange Act"). The complaint alleges that the Company's SEC reports and other public statements regarding the Phase 2b Study negligently contained materially misleading statements and omissions. The SEC's allegations with respect to the Company's two former employees relate to these employees' roles in such disclosures. Under its settlement, the Company consented to a permanent injunction against future violations of Section 17(a) of the Securities Act, Section 13(a)(1) of the Exchange Act and Rules 12b-20, 13a-1, 13a-11 and 13a-13 under the Exchange Act. In addition, the Company paid a civil monetary penalty of $40 million in November 2024.

The Company continues to cooperate with the DOJ related to requests for documents and information, including those related to conduct alleged in the indictment of Dr. Hoau-Yan Wang announced by DOJ on June 28, 2024. The Company cannot predict the outcome or impact of ongoing matters, including whether a government authority may pursue an enforcement action against the Company or others. The Company does not at this time anticipate, however, that DOJ will bring criminal charges against or seek a criminal resolution with the Company.

Securities Class Actions and Shareholder Derivative Actions

Between August 27, 2021 and October 26, 2021, four putative class action lawsuits were filed alleging violations of the federal securities laws by the Company and certain named officers. The complaints rely on allegations contained in Citizen Petitions submitted to FDA and allege that various statements made by the defendants regarding simufilam were rendered materially false and misleading. The Citizen Petitions were all subsequently denied by FDA. These actions were filed in the U.S. District Court for the Western District of Texas. The complaints seek unspecified compensatory damages and other relief on behalf of a purported class of purchasers.

On June 30, 2022, a federal judge consolidated the four class action lawsuits into one case and appointed a lead plaintiff and a lead counsel. Lead plaintiff filed a consolidated amended complaint on August 18, 2022 on behalf of a putative class of purchasers of the Company's securities between September 14, 2020 and July 26, 2022. On May 11, 2023, the court dismissed with prejudice plaintiffs' claims against defendant Nadav Friedmann, PhD, MD, our former Chief Medical Officer and a Company director, who is now deceased, but otherwise denied defendants' motion to dismiss. Defendants filed an answer to the consolidated amended complaint on July 3, 2023. On February 22, 2024, plaintiffs filed a motion to supplement their complaint to extend the putative class period through October 12, 2023. The court granted that Motion on June 12, 2024, and plaintiffs filed a supplemental complaint on June 13, 2024. On November 13, 2024, Plaintiffs filed a second motion to supplement their complaint. On March 13, 2024, plaintiffs filed a Motion for Class Certification. On February 25, 2025, the Court denied Plaintiff's Motion for Class Certification without prejudice, explaining that rulings on pending motions, including specifically Plaintiffs' second motion to supplement their complaint, could affect disposition of class certification.

On November 4, 2021, a related shareholder derivative action was filed, purportedly on behalf of the Company, in the U.S. District Court for the Western District of Texas, asserting claims under the U.S. securities laws and state fiduciary duty laws against certain named officers and the members of the Company's Board. This complaint relies on the allegations made in Citizen Petitions that were submitted to (and subsequently denied by) FDA. The complaint alleges, among other things, that the individual defendants exposed the Company to unspecified damages and securities law liability by causing it to make materially false and misleading statements, in violation of the U.S. securities laws and in breach of their fiduciary duties to the Company. The derivative case seeks, among other things, to recover unspecified compensatory damages on behalf of the Company arising out of the individual defendants' alleged wrongful conduct. Although the plaintiff in this derivative case does not seek relief against the Company, the Company has certain indemnification obligations to the individual defendants. Between November 4, 2021 and June 20, 2023, four additional shareholder derivative actions were filed alleging substantially similar claims, two in the U.S. District Court for the Western District of Texas, one in Texas state court (Travis County District Court) and one in the Delaware Court of Chancery. On July 5, 2022, the three actions in the Western District of Texas were consolidated into a single action. All of the foregoing actions are currently stayed pending further developments in the consolidated securities action described above. On November 9, 2023, another shareholder derivative action alleging substantially similar claims was filed in the U.S. District Court for the Western District of Texas. The parties to that case expect that it will be consolidated into the existing consolidated federal court shareholder derivative action.

On February 2, 2024, a putative class action lawsuit was filed, purportedly on behalf of the Company, alleging violations of the federal securities law by the Company and certain named officers. The complaint relies on an October 12, 2023 article that describes a purported leaked report of alleged scientific misconduct by a scientific collaborator of the Company at City University of New York. The complaint alleges that various statements made by the defendants regarding simufilam were rendered materially false and misleading by this article. The action was filed in the U.S. District Court for the Northern District of Illinois. The complaint seeks unspecified compensatory damages and other relief on behalf of a purported class of purchasers of the Company's securities between August 18, 2022 and October 12, 2023. On May 28, 2024, the Northern District of Illinois transferred this action to the Western District of Texas.

Beginning on March 18, 2024, two related shareholder derivative actions were filed, purportedly on behalf of the Company, in the U.S. District Court for the Northern District of Illinois, asserting claims under the U.S. securities laws and state fiduciary duty laws against certain named officers and the members of the Company's Board. The complaints rely on an October 12, 2023 article that describes a purported leaked report of alleged scientific misconduct by a scientific collaborator of the Company at City University of New York. The complaints allege, among other things, that the individual defendants exposed the Company to unspecified damages and securities law liability by causing it to make materially false and misleading statements, in violation of the U.S. securities laws and in breach of their fiduciary duties to the Company. The derivative cases seek, among other things, to recover unspecified compensatory damages on behalf of the Company arising out of the individual defendant's alleged wrongful conduct. Although the plaintiffs in these derivative cases do not seek relief against the Company, the Company has certain indemnification obligations to the individual defendants. On September 6, 2024, these two cases were consolidated and stayed pending further developments in the shareholder class action initially filed in the Northern District of Illinois on February 2, 2024.

The Company disputes the allegations and intends to defend against these lawsuits vigorously. The Company is unable to estimate the possible loss or range of loss, if any, associated with these lawsuits.

On December 13, 2024, a putative class action lawsuit was filed, purportedly on behalf of the Company, alleging violations of the federal securities law by the Company and certain named officers. The complaint alleges that various statements made by the defendants regarding simufilam were revealed to be materially false and misleading by the release of top-line results for the Company's RETHINK-ALZ Phase 3 clinical trial on November 25, 2024. The action was filed in the U.S. District Court for the Western District of Texas. The complaint seeks unspecified compensatory damages and other relief on behalf of a purported class of purchasers of the Company's securities between February 7, 2024, and November 24, 2024. The Company believes that the likelihood of an unfavorable outcome is not probable, however, it is reasonably possible that the Company may incur a loss. The Company is unable to reasonably estimate the amount or range of potential loss at this time.

On August 19, 2022, a shareholder derivative action was filed, purportedly on behalf of the Company, in the Delaware Court of Chancery, asserting claims under state fiduciary duty laws against certain named officers and members of the Company's Board. The complaint alleges, among other things, that the individual defendants breached their fiduciary duties by approving the CIB Plan in August 2020. The complaints sought unspecified compensatory damages and other relief. On January 6, 2023, the plaintiffs filed an amended complaint. Defendants filed a partial answer to the amended complaint on March 10, 2023, and moved to partially dismiss the amended complaint on March 14, 2023.

On May 28, 2024, the parties entered into a Stipulation and Agreement of Settlement, Compromise, and Release (the "Stipulation") to resolve the action. The Stipulation and exhibits thereto, including the proposed Notice of Pendency of Settlement of Class and Derivative Action (the "Notice") and [Proposed] Scheduling Order with Respect to Notice and Settlement Hearing (the "Scheduling Order"), were filed in the Delaware Court of Chancery on May 28, 2024.

On June 26, 2024, the Delaware Court of Chancery entered the Scheduling Order, which included approval of the Notice. The Delaware Court of Chancery held a settlement hearing on September 9, 2024. On January 24, 2025, the Delaware Court of Chancery entered a Final Order and Judgment approving the Stipulation and dismissing the action with prejudice. Pursuant to the Final Order, the Company paid $1 million in attorneys' fees and expenses in February 2025, which was recorded in accounts payable and other accrued expenses at December 31, 2024.

Anti-SLAPP Lawsuit

On August 6, 2024, a lawsuit was filed in the District Court for the Southern District of New York which, as amended and as joined by intervenor plaintiffs, asserts claims, including a claim under the New York Anti-SLAPP Law, against the Company and against two former officers to whom the Company has certain indemnification obligations. The amended complaint and the complaint in intervention seeks costs and damages relating to a defamation action filed by the Company against the plaintiffs and subsequently dismissed voluntarily and without prejudice by the Company. The Company intends to defend the lawsuit vigorously. The Company is unable to estimate the possible loss or range of loss, if any, associated with this lawsuit.

13. Warrant Dividend Distribution

On January 3, 2024, the Company made a distribution to the holders of record of the Company's common stock in the form of warrants to purchase shares of common stock. Each holder of record of the Company's common stock as of the close of business on December 22, 2023 received four warrants for every 10 shares of common stock (rounded down for any fractional warrant) resulting in the issuance of approximately 16.9 million warrants.

Each warrant entitled the holder to purchase, at the holder's sole expense and exclusive election, at an exercise price of $33.00 per warrant, one and one-half shares of common stock (rounded down for any fractional shares). Payment for shares of common stock upon exercise of warrants was required to be in cash.

On April 15, 2024, the Company announced that all outstanding warrants would be redeemed on May 7, 2024 (the "Redemption Date"). The redemption price was equal to 1/10 of $0.01 per warrant. The warrants were exercisable at any time starting on January 3, 2024 until the business day prior to the Redemption Date. There are no remaining warrants currently outstanding.

The warrants were subject to the terms and conditions of the Warrant Agreement (including Form of Warrant), dated January 3, 2024, between Cassava Sciences, Inc., Computershare Inc., and Computershare Trust Company, N.A. as filed in a Current Report on Form 8-K with the SEC on January 3, 2024. The warrants were listed and traded separately from the Company's common stock on the Nasdaq Capital Market under the ticker "SAVAW".

From January 3, 2024 to March 31, 2024, a total of approximately 674,000 warrants were exercised resulting in net proceeds to the Company of approximately $22.3 million. The Company issued approximately 1.0 million shares of common stock from the exercise of warrants through March 31, 2024.

Subsequent to March 31, 2024 and through the Redemption Date, a total of approximately 3.15 million warrants were exercised resulting in gross proceeds to the Company of approximately $104.0 million. The Company issued approximately 4.7 million shares of common stock from the exercise of warrants from March 31, 2024 through the Redemption Date.

Gross proceeds for the year ended December 31, 2024 from the warrant distribution totaled approximately $126.3 million from the issuance of approximately 5.7 million common shares at $22.00 per share. Total net proceeds of the warrant distribution were approximately $123.6 million after deducting exercise expenses and commissions.

After the first $20 million of gross proceeds, the Company was obligated to pay a commission of 2.5% of the gross proceeds from the sale of shares of common stock from warrant exercises to the Company's financial advisor for the warrant distribution. Total cost of warrant exercises through the Redemption Date were approximately $2.7 million.

Costs of the warrant distribution totaling approximately $537,000 were recorded as general and administrative expenses in the statements of operations upon distribution of the warrants on January 3, 2024.

The outstanding warrants were classified as liabilities in accordance with ASC 480 and ASC 815, which requires the warrants to be measured at initial fair value on January 3, 2024 and at each reporting period thereafter, with the changes in fair value recognized as a non-cash gain or loss in our consolidated statements of operations. As of December 31, 2024, there were no warrants outstanding.

During the period from common stock warrant distribution on January 3, 2024 to the Redemption Date, changes in the Company's common stock warrants liability and warrants outstanding were as follows (in thousands):

	Number of Common Stock Warrants	Common Stock Warrant Liability
Distribution of common stock warrants on January 3, 2024	16,895	$ 113,363
Warrants exercised	(674)	(4,954)
Gain from change in fair value of warrant liabilities	—	(43,041)
Balance at March 31, 2024	16,221	65,368
Warrants exercised	(3,152)	(226)
Gain from change in fair value of warrant liabilities	—	(65,142)
Redemption of common stock warrants	(13,069)	—
Balance as of June 30, 2024	—	$ —
Balance as of September 30, 2024	—	$ —
Balance as of December 31, 2024	—	$ —

See Note 2 for additional information regarding common stock warrants and associated warrant liability.

14. Subsequent Event

On January 7, 2025, the Company announced a reduction its workforce by 10 employees, a reduction of 33% (the "Workforce Reduction"). The Company communicated the Workforce Reduction to affected employees on January 7, 2025.

The Company estimates that it will incur approximately $0.4 million of one-time costs in connection with the Workforce Reduction, primarily related to severance payments. The Company expects the Workforce Reduction to be completed, and the majority of the associated costs and cash payments to be incurred, during the first quarter of 2025.

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

None.

Item 9A. ***Controls and Procedures***

Evaluation of disclosure controls and procedures.

Our management, with the participation of our Chief Executive Officer and our Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of the end of the period covered by this Annual Report on Form 10-K. Based on this evaluation, our Chief Executive Officer and our Chief Financial Officer have concluded that our disclosure controls and procedures were effective to ensure that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission, or SEC, rules and forms and that such information is accumulated and communicated to management as appropriate to allow timely decisions regarding required disclosures.

Management's annual report on internal control over financial reporting. Our management is responsible for establishing and maintaining adequate internal control over our financial reporting. Our management has assessed the effectiveness of internal control over financial reporting as of December 31, 2024. Our assessment was based on criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission, or COSO, in Internal Control-Integrated Framework (2013 Framework).

Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with generally accepted accounting principles. Our internal control over financial reporting includes those policies and procedures that:

(1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect our transactions and dispositions of our assets;
(2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of consolidated financial statements in accordance with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of our management and board of directors; and
(3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our assets that could have a material effect on the consolidated financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Based on it's assessment under the COSO framework, management concluded that our internal control over financial reporting as of December 31, 2024 was effective.

Changes in internal control over financial reporting.

There was no change in our internal control over financial reporting that occurred during the quarter ended December 31, 2024 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

This report does not include an attestation report of our registered public accounting firm regarding internal control over financial reporting. As a “smaller reporting company,” management’s report is not subject to attestation by our registered public accounting firm.

Item 9B. ***Other Information***

During the quarter ended December 31, 2024, none of our directors or officers (as defined in Rule 16a-1(f) of the Exchange Act) informed us of the adoption or termination of a “Rule 10b5-1 trading arrangement” or “non-Rule 10b5-1 trading arrangement,” as those terms are defined in Regulation S-K, Item 408.

Item 9C. ***Disclosure Regarding Foreign Jurisdictions that Prevent Inspection***

None**.**

PART III

Item 10. ***Directors, Executive Officers and Corporate Governance***

The information regarding our directors (other than the biographies below), executive officers, director nomination process and the audit committee of the Board is incorporated by reference from "Directors and Executive Officers" in our Proxy Statement for our 2025 Annual Meeting of Stockholders.

Biographies of Directors and Executive Officers

Richard J. Barry has served as a director since June 2021 and was appointed Chief Executive Officer in September 2024. Mr. Barry served as Executive Chairman of the Board beginning July 2024 until his appointment as Chief Executive Officer. Since June 2015, Mr. Barry has also served as a director of Sarepta Therapeutics, Inc., (Nasdaq: SRPT). Mr. Barry has extensive experience in the investment management business. He was a founding member of Eastbourne Capital Management LLC, and served as a Managing General Partner and Portfolio Manager from 1999 to its close in 2010. Prior to Eastbourne, Mr. Barry was a Portfolio Manager and Managing Director of Robertson Stephens Investment Management. Mr. Barry holds a Bachelor of Arts from Pennsylvania State University.

R. Christopher Cook has served as Senior Vice President and General Counsel since October 2022. He previously served, since 2017, as the Global Head of Litigation and Government Investigations for Alcon, a publicly traded medical device and pharmaceutical company, as well as the Vice President and division General Counsel for Walmart Central America in San Jose, Costa Rica. Mr. Cook also spent seventeen years at Jones Day, where he was a litigation partner in the firm's Washington, DC and Chicago offices. He served as an Assistant United States Attorney in Chicago and graduated from Harvard Law School.

James W. Kupiec, M.D. joined the Company in January 2021 as Chief Clinical Development Officer and has served as our Chief Medical Officer since December 2022. Dr. Kupiec joined the Company after three decades of drug development experience at Pfizer, Sanofi and Ciba-Geigy. Dr. Kupiec previously served as Vice President, Global Clinical Leader for Parkinson’s Disease and Clinical Head of the Neuroscience Research Unit for Pfizer, Inc., in Cambridge, MA. He joined Pfizer in 2000 after seven years with Sanofi, and two years with Ciba-Geigy Pharmaceuticals. During his 17-year career at Pfizer, Dr. Kupiec had extensive governance, business development, alliance and leadership responsibilities. Dr. Kupiec earned his BS with Honors in Biochemistry at Stony Brook University and his MD from the Albert Einstein College of Medicine. He completed his residency training at the Strong Memorial Hospital, University of Rochester School of Medicine, and is certified by the American Board of Internal Medicine. He served as an investigator on many clinical trials before transitioning to the pharmaceutical industry.

Eric Schoen has served as Chief Financial Officer since 2018. Prior to joining the Company, Mr. Schoen served in numerous financial leadership roles. Most recently, he served as Vice President, Senior Vice President, Finance and Chief Accounting Officer of Aspira Women’s Health Inc. (formerly Vermillion, Inc.), a publicly-held women’s health company, from 2011 to 2017. Mr. Schoen also began his career and spent nine years with PricewaterhouseCoopers in the audit and assurance, transaction services and global capital markets practices. Mr. Schoen received his B.S. in Finance from Santa Clara University.

Robert Anderson, Jr. has served as a director since December 2023. Mr. Anderson has decades of operational experience in cybersecurity, counterintelligence, economic espionage and critical incident response and management. Mr. Anderson previously led more than 20,000 FBI employees as the bureau's Executive Assistant Director of the Criminal, Cyber, Response and Services Branch—the No. 3 position in the organization. Mr. Anderson is currently Chairman of the Board and Chief Executive Officer of Cyber Defense Labs, an advisory firm focused on cybersecurity, where he has served as CEO since March 2019 and Chairman since January 2022. Mr. Anderson holds a Bachelor of Science and a Master in Public Administration from Wilmington University.

Pierre Gravier has served as a director since December 2023. Since July 2023, Mr. Gravier has been the Chief Financial Officer of PTC Therapeutics, Inc., a publicly traded biotechnology company. From 2013 to July 2023, Mr. Gravier was previously Managing Director in the healthcare group of Perella Weinberg Partners, a leading global independent advisory firm that provides strategic, financial, and tactical advice in connection with executing mergers, acquisitions and other corporate strategies. Mr. Gravier holds a Master's Degree in Finance from ESCP Business School and a Master of Science in Bioengineering from the University of Technology of Compiègne.

Robert Z. Gussin, Ph.D. has served as a director since 2003. Dr. Gussin worked at Johnson & Johnson for 26 years, most recently as Chief Scientific Officer and Corporate Vice President, Science and Technology from 1986 through his retirement in 2000. Dr. Gussin served on the board of directors of Duquesne University and the advisory boards of the Duquesne University Pharmacy School and the University of Michigan Medical School Department of Pharmacology. Dr. Gussin received his B.S. and M.S. degrees and D.Sc. with honors from Duquesne University and his Ph.D. in Pharmacology from the University of Michigan, Ann Arbor.

Claude Nicaise, M.D. has served as a director since December 2023. Since June 2015, Dr. Nicaise has also served as a director of Sarepta Therapeutics, Inc., (Nasdaq: SRPT). Since January 2021, Dr. Nicaise has served as a member of the board of directors of Gain Therapeutics. Since March 2021, Dr. Nicaise has served as a member of the board of directors of Chemomab Therapeutics Ltd. Dr. Nicaise has held clinical/regulatory leadership roles that have resulted in 14 new drug approvals in various diseases areas, including neuroscience. Dr. Nicaise is the founder of Clinical Regulatory Services, a company providing advice on clinical and regulatory matters to biotechnology companies. Dr. Nicaise served as Executive Vice President, Regulatory and Head of Research and Development at Ovid Therapeutics Inc., a company that develops medicines for orphan diseases of the brain, from 2015 to 2023. Dr. Nicaise was a Senior Vice President of Strategic Development and Global Regulatory Affairs at Alexion Pharmaceuticals from 2008 to 2014. From 1983 to 2008, Dr. Nicaise served in various positions of increasing responsibility at Bristol-Myers Squibb, including senior positions such as Vice President of Global Development and Vice-President of Worldwide Regulatory Science and Strategy. Dr. Nicaise received his M.D. from the Université Libre de Bruxelles in Belgium.

Michael J. O'Donnell, Esq. has served as a director since 1998. Mr. O'Donnell is employed at the law firm of Orrick Herrington Sutcliffe LLP since June 2021 with the title Senior Partner. Orrick, Herrington & Sutcliffe LLP provides legal services to the Company. Previously, Mr. O'Donnell was a member of Morrison & Foerster LLP from 2011 to 2021. Mr. O'Donnell serves as corporate counsel to numerous public and private biopharmaceutical and life sciences companies. Previously, Mr. O'Donnell was a member of Wilson Sonsini Goodrich & Rosati. Mr. O'Donnell received his J.D., cum laude, from Harvard University and his B.A. from Bucknell University, summa cum laude.

Patrick J. Scannon, M.D., Ph.D. has served as a director since 2007. Dr. Scannon is one of the founders of XOMA. From 2006 to 2016, Dr. Scannon was Executive Vice President, Chief Biotechnology Officer of XOMA. From 1993 to 2006, Dr. Scannon served as Chief Scientific and Medical Officer of XOMA. Dr. Scannon retired from XOMA and resigned from XOMA's board of directors in 2016. Dr. Scannon received his Ph.D. in organic chemistry from the University of California, Berkeley and his M.D. from the Medical College of Georgia.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Exchange Act requires our executive officers and directors and persons who own more than ten percent (10%) of a registered class of our equity securities to file reports of ownership and changes in ownership with the SEC. Executive officers, directors and greater than ten percent (10%) stockholders are required to furnish us with copies of all Section 16(a) forms they file. We believe all of our executive officers and directors complied with all applicable filing requirements during 2024.

Code of Ethics

We have adopted a Code of Ethics that applies to all of our directors, officers and employees, including our principal executive officer and principal financial officer. We publicize the Code of Ethics through posting the policy on our website, http://www.cassavasciences.com. We will disclose on our website any waivers of, or amendments to, our Code of Ethics.

Item 11. *Executive Compensation*

The information required by this Item is incorporated by reference from our definitive Proxy Statement referred to in Item 10 above where it appears under the heading "Executive Compensation and Other Matters."

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

The information required by this Item regarding security ownership of certain beneficial owners and management is incorporated by reference from our definitive Proxy Statement referred to in Item 10 above where it appears under the heading "Security Ownership of Certain Beneficial Owners and Management."

The following table summarizes the securities authorized for issuance under our equity compensation plans as of December 31, 2024:

	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights		Weighted Average Exercise Price of Outstanding Options, Warrants and Rights		Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans	
Equity compensation plans approved by stockholders	4,470,170	(1)	$ 20.12	(2)	1,023,595	(3)
Equity compensation plans not approved by stockholders	—		—		—	
	4,470,170		$ 20.12		1,023,595	

(1) Includes outstanding stock options and awards for 753,725 shares of our common stock under the 2008 Plan and 3,716,445 shares of our common stock under the 2018 Plan.

(2) Includes the weighted average stock price for outstanding stock options of $6.17 under the 2008 Plan and $22.96 for the 2018 Plan.

(3) Represents 965,578 shares of our common stock for the 2018 Plan and 58,017 for the Employee Stock Purchase Plan. No future awards shall occur under the 2008 Plan.

Item 13. ***Certain Relationships and Related Transactions and Director Independence***

The information required by this Item is incorporated by reference from our definitive Proxy Statement referred to in Item 10 above where it appears under the heading "Certain Relationships and Related Transactions."

Item 14. ***Principal Accountant Fees and Services***

The information required by this Item is incorporated by reference from our definitive Proxy Statement referred to in Item 10 above where it appears under the heading “Principal Accountant Fees and Services.”

PART IV

Item 15. ***Exhibits and Financial Statement Schedules***

(a) The following documents are filed as part of this Form 10-K:

(1) *Consolidated Financial Statements (included in Part II of this report):*

Report of Independent Registered Public Accounting Firm

Consolidated Balance Sheets

Consolidated Statements of Operations

Consolidated Statements of Stockholders' Equity

Consolidated Statements of Cash Flows

Notes to Consolidated Financial Statements

(2) *Consolidated Financial Statement Schedules:*

All consolidated financial statement schedules are omitted because the information is inapplicable or presented in the notes to the consolidated financial statements.

(3) *Management Contracts, Compensatory Plans and Arrangements*.

Management contracts, compensatory plans and arrangements are indicated by the symbol “*” in the applicable exhibits listed in Item 15(b), below.

(b) *Exhibits*

The exhibits listed below are filed as part of this Form 10-K other than Exhibit 32.1, which shall be deemed furnished.

Exhibit No.	Description	Incorporated by Reference			Filed Herewith
		Form	Filing Date	Exhibit No.	
3.1	Amended and Restated Certificate of Incorporation.	10-Q	7/29/2005	3.1	
3.2	Certificate of Amendment of Restated Certificate of Incorporation.	8-K	5/8/2017	3.1	
3.3	Certificate of Amendment of Restated Certificate of Incorporation.	10-K	3/29/2019	3.3	
3.4	Amended and Restated Bylaws of Cassava Sciences, Inc.	8-K	9/13/23	3.4	
4.1	Specimen Common Stock Certificate.	10-Q	8/12/2019	4.1	
4.2	Description of Registrant's Securities.				X
4.3	Warrant Agreement (including Form of Warrant), dated January 3, 2024, between the Company, Computershare Inc., a Delaware corporation, and Computershare Trust Company, N.A., as Warrant Agent.	8-K	1/3/24	4.1	
10.1	Form of Indemnification Agreement between Registrant and each of its directors and officers.	10-K	3/1/2022	10.1	
10.5*	Employment Agreement, dated July 1, 1998 and amended December 17, 2008, between Registrant and Remi Barbier.	10-K	2/13/2009	10.12	
10.6*	2000 Employee Stock Purchase Plan, as amended and restated.	10-Q	7/29/2010	10.1	
10.7*	2008 Equity Incentive Plan.	8-K	5/29/2008	10.1	
10.8*	Amendment Number 1 to the 2008 Equity Incentive Plan.	10-Q	8/1/2013	10.1	
10.9*	Amendment No. 2 to Employment Agreement between Registrant and Remi Barbier.	10-Q	8/1/2013	10.2	
10.10*	2018 Omnibus Incentive Plan.	8-K	5/11/2018	10.1	
10.11	Capital On Demand™ Sales Agreement, dated as of May 1, 2023, between Cassava Sciences, Inc. and JonesTrading Institutional Services LLC	8-K	5/1/2023	1.1	
10.12*	Cassava Sciences, Inc. 2020 Cash Incentive Bonus Plan (As Amended March 16, 2023)	10-Q	8/3/2023	10.2	
10.13*	Employment Agreement, executed on October 9, 2018, by and between Registrant and Eric Schoen.	8-K	10/11/2018	10.1	
10.14*	Employment agreement amendment, dated May 20, 2024, by and between Cassava Sciences, Inc. and Eric J. Schoen	8-K	5/22/2024	10.1	
10.15*	Remi Barbier Consulting Agreement, dated September 13, 2024	8-K	9/17/2024	10.1	
10.16*	Employment agreement, dated October 1, 2024, by and between Cassava Sciences, Inc. and Richard J. Barry	8-K	10/1/2024	10.1	
10.17*	Employment Agreement, executed on January 1, 2021, by and between Registrant and Dr. James Kupiec.	8-K	1/6/2021	10.1	
10.18+	Master Services Agreement between Cassava Sciences, Inc. and Evonik Corporation, dated February 22, 2021.	8-K	3/11/2021	10.1	
10.19+	Master Services Agreement between Cassava Sciences, Inc. and Premier Research International LLC, dated June 11, 2021	10-Q	8/4/2021	10.3	

10.20+	Agreement of Sale and Purchase Between DWF IV Lakewood, LP and Cassava Sciences, Inc. dated July 2, 2021	10-Q	11/15/2021	10.4	
10.21*	Amendment 1 to 2018 Omnibus Incentive Plan	10-Q	8/4/2022	10.1	
10.22*	Employment Agreement, executed on October 13, 2022, by and between Registrant and R. Christopher Cook	8-K	10/27/2022	10.1	
10.23*	Cassava Sciences Non-Employee Director Compensation Plan	10-Q	8/3/2023	10.3	
10.24*	Employment Agreement, executed on November 18, 2024, by and between Registrant and Freda Nassif				X
10.25+	License Agreement, dated February 26, 2025, by and between Cassava Sciences, Inc. and Yale University	8-K	2/27/2025	10.1	
19.1	Insider Trading Policy				X
21.1	Subsidiaries of the Registrant.				X
23.1	Consent of Independent Registered Public Accounting Firm.				X
31.1	Certification of Principal Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X
31.2	Certification of Principal Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X
32.1	Certifications of the Chief Executive Officer and the Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				X
97	Policy Regarding Recovery of Erroneously Awarded Compensation				X
101.INS	Inline XBRL Instance Document.				X
101.SCH	Inline XBRL Taxonomy Extension Schema Document.				X
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document.				X
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document.				X
101.LAB	Inline XBRL Taxonomy Extension Labels Linkbase Document.				X
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document.				X
104	The cover page from the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2024, formatted in Inline XBRL (included in Exhibit 101).				X

* Management contract, compensatory plan or arrangement.
+ Confidential portions of this document have been redacted as permitted by applicable regulations.

(c) *Consolidated Financial Statement Schedules*

All consolidated financial statement schedules are omitted because the information is inapplicable or presented in the notes to the consolidated financial statements.

Item 16. ***Form 10-K Summary***

The Company has elected not to include summary information.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Cassava Sciences, Inc.
(Registrant)

/s/ RICHARD J. BARRY
Richard J. Barry,
President, Chief Executive Officer and Director
(Principal Executive Officer)

Dated: March 3, 2025

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ RICHARD J. BARRY Richard J. Barry	President, Chief Executive Officer and Director (Principal Executive Officer)	March 3, 2025
/s/ ERIC J. SCHOEN Eric J. Schoen	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	March 3, 2025
/s/ ROBERT ANDERSON, JR. Robert Anderson, Jr.	Director	March 3, 2025
/s/ RICHARD J. BARRY Richard J. Barry	Director	March 3, 2025
/s/ PIERRE GRAVIER Pierre Gravier	Director	March 3, 2025
/s/ ROBERT Z. GUSSIN, PH.D. Robert Z. Gussin, Ph.D.	Director	March 3, 2025
/s/ CLAUDE NICAISE, M.D. Claude Nicaise, M.D.	Director	March 3, 2025
/s/ MICHAEL J. O'DONNELL, ESQ. Michael J. O'Donnell, Esq.	Director	March 3, 2025
/s/ PATRICK SCANNON, M.D., PH.D. Patrick Scannon, M.D., Ph.D.	Director	March 3, 2025