

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

FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

HOTH THERAPEUTICS, INC.
(Exact name of registrant as specified in its charter)

Nevada

(State or other jurisdiction of
incorporation or organization)

2834

(Primary Standard Industrial
Classification Code Number)

82-1553794

(I.R.S. Employer
Identification Number)

**590 Madison Ave., 21st Floor
New York, NY 10022
(646) 756-2997**

(Address and telephone number of registrant's principal executive offices)

**Robb Knie
Hoth Therapeutics, Inc.
Chief Executive Officer
590 Madison Ave., 21st Floor
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(646) 756-2997**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

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Approximate date of commencement of proposed sale to the public:

As soon as practicable after the effective date of this registration statement becomes effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 check the following box: ☒

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

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

Large accelerated filer ☐

Accelerated filer ☐

Non-accelerated filer ☒

Smaller reporting company ☒

Emerging growth company ☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided to Section 7(a)(2)(B) of the Securities Act. ☐

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

The information in this preliminary prospectus is not complete and may be changed. The selling stockholders may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state or jurisdiction where the offer or sale is not permitted.

PRELIMINARY PROSPECTUS

SUBJECT TO COMPLETION

DATED APRIL 11, 2024

Hoth Therapeutics, Inc.

Up to 5,030,000 Shares of Common Stock

Pursuant to this prospectus, the selling stockholders identified herein (the “Selling Stockholders”) are offering on a resale basis an aggregate of 5,030,000 shares of common stock, par value \$0.001 per share (the “Common Stock”) of Hoth Therapeutics, Inc. (the “Company,” “we,” “us” or “our”) consisting of (i) 1,100,000 shares of Common Stock that are issuable upon exercise of warrants (the “September Warrants”) issued pursuant to a securities purchase agreement entered into by and between us and the Selling Stockholders dated September 13, 2023 (the “Purchase Agreement”), (ii) up to 55,000 shares of Common Stock issuable upon exercise of warrants (the “September Placement Agent Warrants”) issued pursuant to the engagement agreement dated as of September 13, 2023, by and between the Company and H.C. Wainwright & Co., LLC (the “Placement Agent”), (iii) 3,750,000 shares of Common Stock issuable upon exercise of warrants (the “Inducement Warrants”, together with the September Warrants, the “Common Warrants”) issued pursuant to an inducement offer letter agreement by and between us and a certain Selling Stockholder dated March 27, 2024 (the “Inducement Letter”) and (iv) up to 125,000 shares of Common Stock issuable upon exercise of warrants (the “Inducement Placement Agent Warrants”, together with the September Placement Agent Warrants, the “Placement Agent Warrants”) issued to the Placement Agent pursuant to the Inducement Letter. The Common Warrants and Placement Agent Warrants are collectively referred to herein as the “Warrants”.

We will not receive any of the proceeds from the sale by the Selling Stockholders of the Common Stock. Upon any exercise of the Warrants by payment of cash, however, we will receive the exercise price of the Warrants, which, if exercised in cash with respect to the 5,030,000 shares of Common Stock offered hereby, would result in gross proceeds to us of approximately \$9.49 million. However, we cannot predict when and in what amounts or if the Warrants will be exercised by payments of cash and it is possible that the Warrants may expire and never be exercised, in which case we would not receive any cash proceeds.

The Selling Stockholders may sell or otherwise dispose of the Common Stock covered by this prospectus in a number of different ways and at varying prices. We provide more information about how the Selling Stockholders may sell or otherwise dispose of the Common Stock covered by this prospectus in the section entitled “Plan of Distribution” on page 62. Discounts, concessions, commissions and similar selling expenses attributable to the sale of Common Stock covered by this prospectus will be borne by the Selling Stockholders. We will pay all expenses (other than discounts, concessions, commissions and similar selling expenses) relating to the registration of the Common Stock with the Securities and Exchange Commission (the “SEC”).

Our Common Stock is listed on The Nasdaq Capital Market under the symbol “HOTH”. On April 5, 2024, the closing price as reported on The Nasdaq Capital Market was \$1.40 per share. There is no established public trading market for the Warrants, and we do not expect a market to develop. Without an active trading market, the liquidity of the Warrants will be limited. In addition, we do not intend to list the Warrants on The Nasdaq Capital Market, any other national securities exchange or any other trading system.

We are an “emerging growth company” under the federal securities laws and, as such, are subject to reduced public company reporting requirements.

Investing in our Common Stock involves a high degree of risk. See “Risk Factors” beginning on page 6 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is April 11, 2024

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ABOUT THIS PROSPECTUS

This prospectus relates to the resale by the Selling Stockholders identified in this prospectus under the caption "Selling Stockholders," from time to time, of up to an aggregate of 5,030,000 shares of Common Stock. We are not selling any shares of Common Stock under this prospectus, and we will not receive any proceeds from the sale of shares of Common Stock offered hereby by the Selling Stockholders, although we may receive cash from the exercise of the Warrants.

You should rely only on the information provided in this prospectus, including any information incorporated by reference. We have not authorized anyone to provide you with any other information and we take no responsibility for, and can provide no assurances as to the reliability of, any other information that others may give you. The information contained in this prospectus speaks only as of the date set forth on the cover page and may not reflect subsequent changes in our business, financial condition, results of operations and prospects.

We are not, and the Selling Stockholders are not, making offers to sell these securities in any jurisdiction in which an offer or solicitation is not authorized or permitted or in which the person making such offer or solicitation is not qualified to do so or to any person to whom it is unlawful to make such an offer or solicitation. You should read this prospectus, including any information incorporated by reference, in its entirety before making an investment decision.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements, which reflect the views of our management with respect to future events and financial performance. These forward-looking statements are subject to a number of uncertainties and other factors that could cause actual results to differ materially from such statements. Forward-looking statements are identified by words such as "anticipates," "believes," "estimates," "expects," "intends," "plans," "projects," "targets," and similar expressions. Such forward-looking statements may be contained in the sections "Risk Factors," and "Business," among other places in this prospectus. Readers are cautioned not to place undue reliance on these forward-looking statements, which are based on the information available to management at this time and which speak only as of this date. We undertake no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. For a discussion of some of the factors that may cause actual results to differ materially from those suggested by the forward-looking statements, please read carefully the information under "Risk Factors."

The identification in this document of factors that may affect future performance and the accuracy of forward-looking statements is meant to be illustrative and by no means exhaustive. All forward-looking statements should be evaluated with the understanding of their inherent uncertainty. You may rely only on the information contained in this prospectus.

We have not authorized anyone to provide information different from that contained in this prospectus. Neither the delivery of this prospectus nor the sale of our Common Stock means that information contained in this prospectus is correct after the date of this prospectus. This prospectus is not an offer to sell or solicitation of an offer to buy these securities in any circumstances under which the offer or solicitation is unlawful.

PROSPECTUS SUMMARY

This summary highlights certain information about us, this offering and selected information contained elsewhere in this prospectus and in the documents incorporated by reference. This summary is not complete and does not contain all the information that you should consider before deciding whether to invest in our securities. For a more complete understanding of our company and this offering, we encourage you to read and consider carefully the more detailed information contained in or incorporated by reference in this prospectus, including the information contained under the heading "Risk Factors" beginning on page 6 of this prospectus.

Overview

We are a clinical-stage biopharmaceutical company focused on developing new generation therapies for unmet medical needs. We are focused on developing (i) a topical formulation for treating side effects from drugs used for the treatment of cancer (HT-001); (ii) a treatment for mast-cell derived cancers and anaphylaxis (HT-KIT); (iii) a treatment for traumatic brain injury and ischemic stroke (HT-TBI); and (iv) a treatment and/or prevention for Alzheimer's or other neuroinflammatory diseases (HT-ALZ). We also have assets being developed for (i) atopic dermatitis (also known as eczema) (BioLexa); (ii) a treatment for asthma and allergies using inhalational administration (HT-004); and (iii) a treatment for acne as well as inflammatory bowel diseases (HT-003). In addition, the Company also has interests in certain other assets being developed by third parties (see Note 5 to the consolidated financial statements for a discussion of the Company's agreements with Zylö Therapeutics, Inc. and Voltron Therapeutics).

Primary Development:

HT-001

On February 1, 2020, we entered into a patent license agreement with The George Washington University ("GW") pursuant to which GW granted us a license to certain patent rights to, among other things, make, use, offer and sell certain licensed products throughout the world with respect to HT-001 which we intend to seek approval for use for treating dermatological side effects from epidermal growth factor receptor ("EGFR") inhibitors, and potentially other drugs used for the treatment of cancer. HT-001 is a topical formulation under development for the treatment of patients with rash and skin disorders associated with initial and repeat courses of tyrosine kinase EGFR inhibitor therapy. EGFR inhibitors are used for the treatment of cancers with EGFR up-regulation (such as non-small cell lung cancer, pancreatic cancer, breast cancer and colon cancer); however, EGFR inhibitors are often associated with dose-limiting skin toxicities that can result in the interruption or reduction of treatment. HT-001 is targeted to treat these EGFR-induced skin disorders to allow patients to achieve the best potential outcomes of EGFR therapy. HT-001 has achieved positive results in its initial pre-clinical studies conducted at GW. In November 2022, we submitted an IND to the FDA with respect to HT-001 as a concomitant

therapy with EGFR inhibitors, for a Phase 2a clinical trial in humans. We have engaged Worldwide Clinical Trials ("Worldwide") as our clinical research organization to provide clinical management, data management, biostatistical, medical monitoring, pharmacovigilance, and other related services to support the CLEER-001 Phase 2a clinical trial in the United States. We received FDA approval to proceed with our clinical study on December 28, 2022 and it is currently enrolling patients.

We believe that the key elements for our market success with respect to HT-001 include:

- To our knowledge, there are currently no drugs approved for the treatment of skin toxicities associated with EGFR inhibitor therapy and 49-100% of patients develop skin toxicities during EGFR inhibitory therapy;
- The main active ingredient of HT-001 is already approved in oral and IV dosage forms which supports pursuit of the 505(b)(2) regulatory pathway to reduce development time and cost;
- To our knowledge, there are no current topical formulations available using HT-001's active ingredient so we believe that there is no direct market competition; and
- We have the potential to pursue other indications such as chronic pruritus, atopic dermatitis and other skin toxicities that develop from anti-cancer therapies using the HT-001 formulation.

HT-KIT

We have obtained from North Carolina State University ("NC State") an exclusive, worldwide, royalty bearing license to certain intellectual property to, among other things, discover, develop, make, have made, use and sell certain licensed products and sell, use and practice certain licensed services with respect to cancer and anaphylaxis; this is being developed as HT-KIT. The HT-KIT drug is designed to more specifically target the receptor tyrosine kinase KIT in mast cells, which is required for the proliferation, survival and differentiation of bone marrow-derived hematopoietic stem cells. Mutations in the KIT pathway have been associated with several human cancers, such as gastrointestinal stromal tumors and mast cell-derived cancers (mast cell leukemia and mast cell sarcoma). Based on the initial proof-of-concept success, we intend to initially target mast cell neoplasms for development of HT-KIT, which is a rare, aggressive cancer with poor prognosis.

The same target, KIT, also plays a key role in mast cell-mediated anaphylaxis, a serious allergic reaction that is rapid in onset and may cause death. Anaphylaxis typically occurs after exposure to an external allergen that results in an immediate and severe immune response. We also intend to pursue the anaphylaxis indication for HT-KIT in parallel to cancer treatment.

On November 15, 2021, we entered into a sponsored research agreement with NC State to focus on characterizing the HT-KIT dose and dosing frequency for treatment of aggressive mastocytosis and mast cell neoplasms using humanized tumor mouse models.

In December 2021, we submitted an Orphan Drug Designation ("ODD") request to the U.S. Food and Drug Administration ("FDA") for HT-KIT for the treatment of mastocytosis, and on March 10, 2022, we received such ODD. Drugs intended to treat orphan diseases (rare diseases that affect less than 200,000 people in the U.S.) are eligible to apply for ODD, which provides benefits such as 7-year marketing exclusivity and tax incentives to the sponsor during development and after approval. In September 2023, we submitted a pre-IND meeting request to the FDA with respect to HT-KIT as for the treatment of adult patients with advanced systemic mastocytosis (AdvSM), systemic mastocytosis with an associated hematological neoplasm (SM-AHN) and mast cell leukemia (MCL). In preparation for such pre-IND meeting, we prepared and submitted to the FDA our IND-opening clinical trial plan which includes two phase 1 trials conducted in patients. Based on the FDA's feedback, we intend to advance our IND-enabling activities for HT-KIT as planned.

HT-ALZ

In February 2021, we filed a provisional patent application with the United States Patent and Trademark Office for the use of the active ingredient of HT-001 to treat and prevent Alzheimer's disease and other neuroinflammatory diseases, and in February 2022, we filed a Patent Cooperation Treaty patent application, receiving confirmation of such filing on April 4, 2022.

We intend to develop HT-ALZ for use in patients following the Section 505(b)(2) regulatory pathway of the FDA rules. Section 505(b)(2) of the Federal Food, Drug, and Cosmetic Act ("FDCA") was enacted to enable sponsors to seek New Drug Application ("NDA") approval for novel repurposed drugs without the need for such sponsors to undertake time consuming and expensive pre-clinical safety studies and Phase 1 safety studies. Proceeding under this regulatory pathway, we will be able to rely upon publicly available data with respect to our active ingredient in our NDA submission to the FDA for marketing approval.

On June 7, 2021, we entered into a sponsored research agreement with Washington University in St. Louis to investigate the effects of HT-ALZ on behavioral and pathological markers of Alzheimer's disease and to determine if HT-ALZ can improve learning and memory in an animal model of Alzheimer's disease. Our study will also determine if behavior is improved utilizing HT-ALZ in blocking NK-1Rs. The study commenced in August 2021 and after positive initial preclinical results, a chronic dosing study in mice was initiated. We received preclinical results from the chronic dosing study in 2023 and amended the SRA to conduct additional studies. We expect the results from the additional preclinical studies in 2024.

HT-TBI

In October 2022, we filed a provisional patent application with the United States Patent and Trademark Office for the use of the active ingredient of HT-001 to treat traumatic brain injury and ischemic stroke. We intend to develop HT-ALZ for use in patients following the Section 505(b)(2) regulatory pathway of the FDA rules pursuant to which we will be able to rely upon publicly available data with respect to our active ingredient in our NDA submission to the FDA for marketing approval.

HT-TBI injection is being developed as a ready-to-inject autoinjector for intramuscular injection to be used in both traumatic brain injuries and ischemic stroke. The same dose and formulation can be used across both TBI and stroke indications in age two years through adult. Our focus of development is for point-of-care use in ambulatory and emergency room settings. HT-TBI's active ingredient targets substance P/NK-1 pathway, identified as a leading cause of post-brain injury inflammation and edema. Preclinical data has shown an NK-1 Antagonist significantly reduces brain edema and blood brain barrier disruption post-TBI and post-stroke.

The BioLexa Platform

We have obtained an exclusive license from the University of Cincinnati to make, use, have made, import, offer for sale, and sell products based upon or involving the use of (i) topical compositions comprising a zinc chelator and gentamicin and (ii) zinc chelators to inhibit biofilm formation (the "BioLexa Platform" or "BioLexa"). The license enables us to develop the platform for any indications in humans. The BioLexa Platform is a proprietary, patented, drug compound platform for the treatment of eczema. It combines an FDA approved zinc chelator with one or more approved antibiotics in a topical dosage form to address unchecked eczema flare-ups by preventing the formation of infectious biofilms and the resulting clogging of sweat ducts. We intend to develop the BioLexa Platform for use in patients following the Section 505(b)(2) regulatory pathway of the FDA rules. Proceeding under this regulatory pathway, we will be able to rely upon publicly available data with respect to gentamicin and the zinc chelator in our NDA submission to the FDA for marketing approval.

In December 2020, we received approval from the Belberry Human Research Ethics Committee in Australia to conduct our Phase 1b clinical trial of BioLexa, and we have engaged Novotech (Australia) Pty Limited as our local clinical research organization in Australia to provide clinical management, data management, biostatistical, medical monitoring, pharmacovigilance, and other related services to support the first in human clinical trial of BioLexa. Phase 1b of the trial was initiated in 2021 and final dosing of patients concluded in September 2022. At this time, we do not anticipate conducting any further trials in Australia.

We believe that the key elements for our market success with respect to BioLexa include:

- the proprietary formulation of two FDA-approved drugs to treat bacterial proliferation which may reduce development time and costs by giving us the ability to rely on safety and efficacy data from the two approved drugs;
- our proprietary formulation is not a topical corticosteroid, and provides a novel mechanism of action and potentially a preferred safety profile as a market differentiator; and
- the literature set forth below reaffirms the critical role that *S. aureus* plays in the development of atopic dermatitis flare-ups within the international medical community, supporting the targeted mechanism of action of BioLexa.

Shi et al, "MRSA Colonization is Associated with Decreased Skin Commensal Bacteria in Atopic Dermatitis," Invest Dermatol. 2018.

Blicharz, et al, "Staphylococcus aureus: an underestimated factor in the pathogenesis of atopic dermatitis?," Adv Dermatol Allergol 2019.

Preclinical Development

HT-003

On July 30, 2020 (the "Isoprene Effective Date"), we entered into a Sublicense Agreement (the "Isoprene Sublicense Agreement") with Isoprene Pharmaceuticals, Inc. ("Isoprene") pursuant to the commercial evaluation sublicense and option agreement dated March 8, 2019, by and among us, the University of Maryland, Baltimore and Isoprene. Pursuant to the Isoprene Sublicense Agreement, Isoprene granted us an exclusive sublicense to certain intellectual property (i) to make, have made, use, sell, offer to sell and import certain licensed products, (ii) in connection therewith, to use certain inventions and licensed materials and (iii) to practice certain patent rights for the treatment of dermatological conditions or diseases, referred to as HT-003. HT-003 is a novel retinoic acid metabolism blocking agents ("RAMBAs") under investigation for topical treatment in acne and psoriasis applications.

In December 2019, we entered into a research collaboration agreement with Weill Cornell Medicine for the completion of pre-clinical studies investigating the mechanism of action of HT-003 that was renewed in January 2021 as a result of positive preclinical results. Dr. Jonathan Zippin, M.D., Ph.D., FAAD, Associate Professor of Dermatology at Weill Cornell Medicine and our Senior Scientific Advisor, was the principal investigator for such pre-clinical studies.

RAMBAs have the potential to be developed as a platform for multiple inflammatory-based indications. Accordingly, we entered into a Sublicense Agreement with Isoprene on July 2, 2021 pursuant to the option agreement dated December 22, 2020 to expand the therapeutic indication of the sublicensed RAMBAs from Isoprene to include inflammatory bowel diseases, including Crohn's disease and ulcerative colitis. Preclinical proof-of-concept studies were conducted in 2021 for the investigation of RAMBAs for treatment of inflammatory bowel diseases, including Crohn's disease and ulcerative colitis.

HT-004

On November 20, 2019, we entered into a license agreement with NC State pursuant to which NC State granted us an exclusive license to, among other things, develop, make, use, offer and sell certain licensed products throughout the world with respect to HT-004 for treating allergic diseases. HT-004 is a potential disease-modifying agent that uses exon-skipping oligonucleotide-targeted methods to reduce mast cell responses to immunoglobulin E (IgE)-directed antigens, which is one of the key mechanisms in the pathophysiology of asthma, atopic dermatitis and other allergic diseases. HT-004 is currently under investigation for the treatment of asthma and allergies using inhalational administration.

In December 2019, we entered a sponsored research agreement with NC State for proof of principle in targeting allergic inflammation in the airways. Preclinical proof-of-concept data was generated in October 2020 supporting efficacy of HT-004 after inhalational delivery in a mouse model. Critical proof-of-concept studies in a humanized mouse model were completed in 2023. Further preclinical studies are underway at NC State to study HT-004 in different animal models.

We believe that the key elements for our market success with respect to HT-004 include:

- To our knowledge, there are currently no disease-modifying agents for asthma or allergy diseases;
- The active pharmaceutical ingredient in HT-004 is a novel molecular class that we believe would prevent generic competition after commercialization;
- HT-004 is being developed for inhalational administration by either inhaler or nebulizer for easy access at home by patients; and
- HT-004 is applicable for both adult and pediatric patient populations with asthma and/or allergies.

Corporate Information

We were incorporated as a Nevada corporation on May 16, 2017. Our principal executive offices are located at 590 Madison Ave, 21st FL, New York, New York 10022 and our telephone number is (646) 756-2997.

THE OFFERING

Common Stock to be offered by the Selling Stockholder	Up to 5,030,000 shares of Common Stock
Common stock outstanding prior to this offering	4,888,804 shares of Common Stock.
Common stock to be outstanding after this offering	9,918,804 shares of Common Stock, assuming the exercise of all of the Warrants
Use of proceeds	We will not receive any proceeds from the sale of the shares of Common Stock by the Selling Stockholders, except for the warrant exercise price paid for the Common Stock offered hereby and issuable upon the exercise of the Warrants. See "Use of Proceeds" on page 36 of this prospectus.
Risk Factors	See "Risk Factors" beginning on page 6 of this prospectus, as well as other information included in this prospectus, for a discussion of factors you should read and consider carefully before investing in our securities.
Nasdaq Capital Markets symbol	Our common stock is listed on The Nasdaq Capital Markets under the symbol "HOTH". There is no established trading market for the Warrants and we do not expect a trading market to develop. We do not intend to list the Common Warrants on any securities exchange or other trading market. Without a trading market, the liquidity of the Warrants will be extremely limited.

The number of shares of our Common Stock to be outstanding after this offering as shown above is based on 4,888,804 shares outstanding as of April 1, 2024 and excludes as of that date:

- 5,267,523 shares of common stock issuable upon exercise of warrants with a weighted average exercise price of \$2.59;
- 617,362 shares of common stock issuable upon exercise of options with a weighted average exercise price of \$7.86; and
- 133,275 shares of common stock reserved for future issuance under our 2018 Equity Incentive Plan and 2022 Equity Incentive Plan.

RISK FACTORS

An investment in our securities involves a high degree of risk. This prospectus contains a discussion of the risks applicable to an investment in our securities. Prior to deciding about investing in our securities, you should carefully consider the specific factors discussed within this prospectus. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our operations. The occurrence of any of these known or unknown risks might cause you to lose all or part of your investment in the offered securities.

Risks Related to Our Financial Position and Need for Capital

We have generated no revenue from commercial sales to date and our future profitability is uncertain.

We were incorporated in May 2017 and have a limited operating history and our business is subject to all of the risks inherent in the establishment of a new business enterprise. Our likelihood of success must be considered in light of the problems, expenses, difficulties, complications and delays frequently encountered in connection with development and expansion of a new business enterprise. Since inception, we have incurred losses and expect to continue to operate at a net loss for at least the next several years as we commence our research and development efforts, conduct clinical trials and develop manufacturing, sales, marketing and distribution capabilities. Our net losses for the years ended December 31, 2023 and 2022 were \$7.8 million and \$11.4 million, respectively, and our accumulated deficit as of December 31, 2023 and 2022 was \$52.9 million and \$45.1 million, respectively. There can be no assurance that the products under development by us will be approved for sale in the U.S. or elsewhere. Furthermore, there can be no assurance that if such products are approved they will be successfully commercialized, and the extent of our future losses and the timing of our profitability are highly uncertain. If we are unable to achieve profitability, we may be unable to continue our operations.

If we fail to obtain the capital necessary to fund our operations, we will be unable to continue or complete our product development and you will likely lose your entire investment.

We will need to continue to seek capital from time to time to continue development of our product candidates. We cannot provide any assurances that any revenues that we may generate in the future will be sufficient to fund our ongoing operations. We believe that we will need to raise substantial additional capital to fund our operations and the development and commercialization of our product candidates.

Our business or operations may change in a manner that may consume available funds more rapidly than anticipated and substantial additional funding may be required to maintain operations, fund expansion, commercialize our product candidates, develop new or enhanced products, acquire complementary products, business or technologies or otherwise respond to competitive pressures and opportunities, such as a change in the regulatory environment or a change in preferred treatment modalities. In addition, we may need to accelerate the growth of our sales capabilities and distribution beyond what is currently envisioned, and this would require additional capital. However, we may not be able to secure funding on favorable terms, if at all.

If we cannot raise adequate funds to satisfy our capital requirements, we may have to delay, scale back or eliminate our research and

development activities, clinical studies or operations. We may also be required to obtain funds through arrangements with collaborators, which arrangements may require us to relinquish rights to certain intellectual property, technologies or products that we otherwise would not consider relinquishing, including rights to future product candidates or certain major geographic markets. This could result in sharing revenues which we might otherwise retain for ourselves. Any of these actions may harm our business, financial condition and results of operations.

The amount of capital we may need depends on many factors, including the progress, timing and scope of our product development programs; the progress, timing and scope of our pre-clinical studies and clinical trials; the time and cost necessary to obtain regulatory approvals; the time and cost necessary to further develop manufacturing processes and arrange for contract manufacturing; our ability to enter into and maintain collaborative, licensing and other commercial relationships; and our partners' commitment of time and resources to the development and commercialization of our products.

Even if we can raise additional funding, we may be required to do so on terms that are dilutive to you.

The capital markets have been unpredictable in the recent past for unprofitable companies such as ours. The amount of capital that a company such as ours is able to raise often depends on variables that are beyond our control. As a result, we may not be able to secure financing on terms attractive to us, or at all. If we are able to consummate a financing arrangement, the amount raised may not be sufficient to meet our future needs. If adequate funds are not available on acceptable terms, or at all, our business, including our results of operations, financial condition and our continued viability will be materially adversely affected.

Risks Related to Product Development, Regulatory Approval, Manufacturing and Commercialization

We are dependent upon the clinical success of our licensed products and technologies. If we are unable to generate revenues from our licensed products and technologies, our ability to create shareholder value may be limited.

We do not currently generate revenues from any of our product candidates, and we may not be successful in obtaining regulatory approvals to commence our clinical trials. If we do not obtain such approvals, the time in which we expect to commence clinical programs for our product candidates will be extended and such extension may increase our expenses and our need for additional capital. Moreover, there is no guarantee that our clinical trials will be successful or that we will continue clinical development in support of an approval from the regulatory agencies for any indication. We note that most drug candidates never reach the clinical stage and even those that do commence clinical development have only a small chance of successfully completing clinical development and gaining regulatory approval. Therefore, our business currently depends entirely on the successful development, regulatory approval and commercialization of our product candidates, which may never occur.

Although we have entered into the Voltron Agreement pursuant to which we and HaloVax, LLC ("HaloVax") intend to jointly develop products to prevent COVID-19, no assurance can be given as to when, if ever, we will be able to develop any products for such purpose and if developed that such products will be successfully commercialized.

In March 2020, we entered into the Voltron Agreement pursuant to which we and HaloVax will work to jointly develop potential products candidates to prevent COVID-19; however, no assurance can be given as to when, if ever, we will be able to develop any products for such purpose. Furthermore, we are subject to risks including, but not limited to, the following with respect to the development of a treatment for COVID-19:

- the EUA marketing approval processes of the FDA are lengthy, time consuming and inherently unpredictable, and we cannot guarantee that we will ever have a marketable product
- we may encounter substantial delays in completing our clinical studies which in turn will require additional costs, or we may fail to demonstrate adequate safety and efficacy to the satisfaction of applicable regulatory authorities;
- conducting successful clinical studies may require the enrollment of large numbers of patients, and suitable patients may be difficult to identify and recruit;
- to be commercially successful, physicians must be persuaded that using our products are effective alternatives to other existing therapies and treatments;

- we may depend on third parties for manufacturing our proposed product candidates and any conflicts with such partners could delay or prevent the development or commercialization of such product candidates;
- if third-party contract manufacturers upon whom we rely to formulate and manufacture our product candidates do not perform, fail to manufacture according to our specifications or fail to comply with strict regulations, our clinical studies could be adversely affected and the development of our product candidates could be delayed or terminated or we could incur significant additional expenses;
- adverse events involving our products may lead the FDA to delay or deny clearance for our products or result in product recalls that could harm our reputation, business and financial results; and
- if we fail to comply with healthcare regulations, we could face substantial enforcement actions, including civil and criminal penalties and our business, operations and financial condition could be adversely affected.

Although the federal government had previously declared COVID-19 a national emergency, that declaration expired on May 11, 2023, at which time the favorable payment provisions available to healthcare providers during the declared national emergency ended. The FDA issued EUAs for several COVID-19 related products in 2020 and 2021. EUAs are authorized pursuant to an EUA declaration under the U.S. Food, Drug, and Cosmetic Act and remain in effect until the Secretary of the U.S. Department of Health and Human Services terminates the EUA declaration or unless sooner terminated or revoked.

If our joint venture with HaloVax is not successful or if we fail to realize the benefits we anticipate from such joint venture, we may not be able to capitalize on the full market potential of our potential products.

In March 2020, we entered into the Voltron Agreement to form a joint venture entity named HaloVax to jointly develop potential product

candidates for the prevention of the COVID-19. Pursuant to the terms of the Voltron Agreement we are entitled to receive sales-based royalties at low single digit percentages and shall contribute proceeds of the development of products to prevent COVID-19. In addition, in 2020, we purchased 6% of HaloVax's outstanding membership interests; however, during the fourth quarter of 2022, we identified indicators of impairment for the HaloVax investment as a result of adverse changes in HaloVax's business operations, including liquidity concerns. As a result, our investment in HaloVax was valued at \$0 as of December 31, 2023 and 2022. If and to the extent we and HaloVax are unable to develop potential product candidates for the prevention of COVID-19, we will not be entitled to any sale-based royalties.

While Voltron has agreed to cooperate and use commercially reasonable efforts to exchange information and resources that will lead to the development activities and established a Joint Development Committee consisting of seven members, two of which were selected by us, to plan, review, coordinate and oversee the performance of the development activities and timelines with respect to development activities, we have limited contractual rights to direct its activities. Moreover, we will not have any other control with respect to the operations of HaloVax. Therefore, HaloVax will have a greater influence with respect to its commercialization efforts and other operations. In general, our joint venture with HaloVax subjects us to a number of related risks including that:

- we may not receive sales-based royalties pursuant to the terms of the Voltron Agreement;
- we may not be successful in the development of any product candidates;
- HaloVax may not commit sufficient resources to the marketing and distribution of our products;
- HaloVax may infringe the intellectual property rights of third parties, which may expose us to litigation and other potential liability;
- disputes may arise between us and HaloVax that result in the delay or termination of the commercialization of our products or product candidates or that result in costly litigation or arbitration that diverts management attention and resources including, but not limited to, disputes with respect to commercializing products upon terms mutually agreeable or beneficial to us and HaloVax;
- any products, if developed, will be sold or licensed on terms that are beneficial to us;
- HaloVax may not provide us with timely and accurate information regarding commercialization status or results, which could adversely impact our ability to manage our own commercialization efforts, accurately forecast financial results or provide timely information to our shareholders regarding our commercialization efforts; and
- if any product candidates are successfully developed that we will be able to commercialize such products upon terms mutually agreeable or beneficial to us and HaloVax.

If HT-005 is not commercialized by Zylö or otherwise acquired by a third-party, we may not be able to capitalize on the full market potential of our interests with respect to HT-005.

In December 2021, we licensed HT-005 back to Zylö and are entitled to receive a low single digit percent of the net proceeds attributable to the sale of HT-005 to a third-party, a low single digit percent of the net proceeds from the sale of HT-005 in the United States and Canada and their respective territories (collectively, the "Territory") and a low double digit percent of any royalty Zylö receives through the sublicense to a third-party based on the net sales of HT-005 in the Territory. In connection with the license of HT-005 back to Zylö, we acquired 100,000 shares of Zylö's Class B common stock. As of December 31, 2023, we own 220,000 shares of Zylö's Class B common stock. If Zylö is unable to sell or otherwise commercialize HT-005, we will not be entitled to any proceeds or sale-based royalties and the value of our ownership interest in Zylö could decline in which case we may lose all or part of our investment in Zylö.

The marketing approval process of the FDA is lengthy, time consuming and inherently unpredictable, and if we are ultimately unable to obtain marketing approval for the product candidates we intend to develop, our business may be substantially harmed.

None of the product candidates we intend to develop have gained marketing authorization, approval or clearance in the U.S. or elsewhere, and we cannot guarantee that we will ever have marketable products. Our business is substantially dependent on our ability to complete the development of, obtain marketing approval for, and successfully commercialize our product candidates in a timely manner. We cannot commercialize our product candidates in the United States or elsewhere without first obtaining approval from regulatory agencies such as the FDA to market each product candidate. Our product candidates could fail to receive marketing approval for many reasons, including among others:

- the FDA or other regulatory agencies may disagree with the design or implementation of our clinical trials;
- the FDA could determine that we cannot rely on Section 505(b)(2) for any of our product candidates; and
- the FDA may determine that we have identified the wrong reference listed drug or drugs or that approval of our Section 505(b)(2) application for any of our product candidates is blocked by patent or non-patent exclusivity of the reference listed drug or drugs.

In addition, the process of seeking regulatory clearance or approval to market the product candidates we intend to develop is expensive and time consuming and, notwithstanding the effort and expense incurred, clearance or approval is never guaranteed. If we are not successful in obtaining timely clearance or approval of our product candidates from the FDA or other foreign regulatory agencies, we may never be able to generate significant revenue and may be forced to cease operations. The NDA process is costly, lengthy and uncertain. Any NDA application filed by us will have to be supported by extensive data, including, but not limited to, technical, pre-clinical, clinical, manufacturing and labeling data, to demonstrate to the FDA's satisfaction the safety and efficacy of the product for its intended use.

Obtaining clearances or approvals from the FDA and from regulatory agencies in other countries is an expensive and time-consuming process and is uncertain as to outcome. The FDA and other agencies could ask us to supplement our submissions, collect non-clinical data, conduct additional clinical trials or engage in other time-consuming actions, or it could simply deny our applications. In addition, even if we obtain an NDA approval or pre-market approvals in other countries, the approval could be revoked or other restrictions imposed if post-market data demonstrates safety issues or lack of effectiveness. We cannot predict with certainty how, or when, the FDA or other regulatory agencies will act. If we are unable to obtain the necessary regulatory approvals, our financial condition and cash flow may be adversely affected, and our ability to grow domestically and internationally may be

limited. Additionally, even if cleared or approved, our products may not be approved for the specific indications that are most necessary or desirable for successful commercialization or profitability.

We may encounter substantial delays in completing our clinical studies which in turn will require additional costs, or we may fail to demonstrate adequate safety and efficacy to the satisfaction of applicable regulatory authorities.

It is impossible to predict if or when any of our product candidates will prove safe or effective in humans or will receive regulatory approval. Before obtaining marketing approval from regulatory authorities for the sale of our product candidates, we must conduct extensive clinical studies to demonstrate the safety and efficacy of the product candidates in humans. Clinical testing is expensive, time-consuming and uncertain as to outcome. We cannot guarantee that any clinical studies will be conducted as planned or completed on schedule, if at all. A failure of one or more clinical studies can occur at any stage of testing. Events that may prevent successful or timely completion of clinical development include:

- delays in reaching, or failing to reach, a consensus with regulatory agencies on study design;
- delays in reaching, or failing to reach, agreement on acceptable terms with a sufficient number of prospective contract research organizations ("CROs") and clinical study sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- delays in obtaining required IRB or Ethics Committee ("EC") approval at each clinical study site;
- delays in recruiting a sufficient number of suitable patients to participate in our clinical studies;
- imposition of a clinical hold by regulatory agencies, after an inspection of our clinical study operations or study sites;
- failure by our CROs, other third parties or us to adhere to clinical study, regulatory or legal requirements;
- failure to perform in accordance with the FDA's GCP or applicable regulatory guidelines in other countries;
- delays in the testing, validation, manufacturing and delivery of sufficient quantities of our product candidates to the clinical sites;
- delays in having patients complete participation in a study or return for post-treatment follow-up;
- clinical study sites or patients dropping out of a study;
- delay or failure to address any patient safety concerns that arise during the course of a trial;
- unanticipated costs or increases in costs of clinical trials of our product candidates;
- occurrence of serious adverse events associated with the product candidate that are viewed to outweigh its potential benefits; or
- changes in regulatory requirements and guidance that require amending or submitting new clinical protocols.

We could also encounter delays if a clinical trial is suspended or terminated by us, by the IRBs or ECs of the institutions in which such trials are being conducted, by an independent Safety Review Board for such trial or by the FDA, Therapeutics Goods Administration ("TGA"), European Medicines Agency ("EMA"), or other regulatory authorities. Such authorities may suspend or terminate a clinical trial due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA, TGA, or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a drug, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial.

Any inability to successfully complete pre-clinical and clinical development could result in additional costs to us or impair our ability to generate revenues from product sales, regulatory and commercialization milestones and royalties. In addition, if we make manufacturing or formulation changes to our product candidates, we may need to conduct additional studies to bridge our modified product candidates to earlier versions.

Clinical study delays could also shorten any periods during which we may have the exclusive right to commercialize our product candidates or allow our competitors to bring products to market before we do, which could impair our ability to successfully commercialize our product candidates. In addition, any delays in completing our clinical trials will increase our costs, slow down our product candidate development and approval process and jeopardize our ability to commence product sales and generate revenues. Any of these occurrences may significantly harm our business, financial condition and prospects. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of our product candidates.

The outcome of pre-clinical studies and early clinical trials may not be predictive of the success of later clinical trials, and interim results of a clinical trial do not necessarily predict final results. Further, pre-clinical and clinical data are often susceptible to various interpretations and analyses, and many companies that have believed their product candidates performed satisfactorily in pre-clinical studies and clinical trials have nonetheless failed to obtain marketing approval. If the results of our clinical studies are inconclusive or if there are safety concerns or adverse events associated with our other product candidates, we may:

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

- experience damage to our reputation.

Additionally, our product candidates could potentially cause other adverse events that have not yet been predicted. The inclusion of ill patients in our clinical studies may result in deaths or other adverse medical events due to other therapies or medications that such patients may be using. As described above, any of these events could prevent us from achieving or maintaining market acceptance of our product candidates and impair our ability to commercialize our products.

If we are not able to obtain any required regulatory approvals for our product candidates, we will not be able to commercialize our product candidates and our ability to generate revenue will be limited.

We must successfully complete clinical trials for our product candidates before we can apply for marketing approval. Even if we complete our clinical trials, it does not assure marketing approval. Our pre-clinical trials may be unsuccessful, which would materially harm our business. Even if our initial pre-clinical trials are successful, we are required to conduct clinical trials to establish our product candidates' safety and efficacy, before a marketing application (NDA or BLA or their foreign equivalents) can be filed with the FDA, the EMA, or comparable foreign regulatory authorities for marketing approval of our product candidates.

Clinical testing is expensive, is difficult to design and implement, can take many years to complete and is uncertain as to outcome. Success in early phases of pre-clinical and clinical trials does not ensure that later clinical trials will be successful, and interim results of a clinical trial do not necessarily predict final results. A failure of one or more of our clinical trials can occur at any stage of testing. We may experience numerous unforeseen events during, or as a result of, the clinical trial process that could delay or prevent our ability to receive regulatory approval or commercialize our product candidates. The research, testing, manufacturing, labeling, packaging, storage, approval, sale, marketing, advertising and promotion, pricing, export, import and distribution of drug products are subject to extensive regulation by the FDA, EMA, and other regulatory authorities in the United States, European Union, and other countries, where regulations differ from country to country. We are not permitted to market our product candidates as prescription pharmaceutical products in the United States until we receive approval of an NDA from the FDA, or in any foreign countries until we receive the requisite approval from such countries. In the United States, the FDA generally requires the completion of clinical trials of each drug to establish its safety and efficacy and extensive pharmaceutical development to ensure its quality before an NDA is approved. Regulatory authorities in other jurisdictions impose similar requirements. Of the large number of drugs in development, only a small percentage result in the submission of an NDA to the FDA or other regulatory authorities and even fewer are eventually approved for commercialization. We have not submitted an NDA to the FDA or comparable applications to other regulatory authorities. If our development efforts for our product candidates, including regulatory approval, are not successful for their planned indications, or if adequate demand for our product candidates is not generated, our business will be materially adversely affected.

Our success depends on the receipt of regulatory approval and the issuance of such regulatory approvals is uncertain and subject to a number of risks, including the following:

- the results of nonclinical or toxicology studies may not support the filing of an IND or foreign equivalent for our product candidates;
- the FDA, EMA, or comparable foreign regulatory authorities or IRBs or ECs may disagree with the design or implementation of our clinical trials;
- we may not be able to provide acceptable evidence of our product candidates' safety and efficacy;
- the results of our clinical trials may not be satisfactory or may not meet the level of statistical or clinical significance required by the FDA, EMA, or other regulatory agencies for marketing approval;
- the dosing of our product candidates in a particular clinical trial may not be at an optimal level;
- patients in our clinical trials may suffer adverse effects for reasons that may or may not be related to our product candidates;
- the data collected from clinical trials may not be sufficient to support the submission of an NDA, BLA or other marketing application or to obtain regulatory approval in the United States or elsewhere;
- the requirement for additional studies;
- the FDA, EMA, or comparable foreign regulatory authorities may fail to approve the manufacturing processes or facilities of third-party manufacturers with which we contract for clinical and commercial supplies;

- the approval policies or regulations of the FDA, EMA, or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval;
- the FDA, EMA, or comparable foreign regulatory authorities may disagree on the design or implementation of our clinical trials, including the methodology used in our studies, our chosen endpoints, our statistical analysis, or our proposed product indication;
- our failure to demonstrate to the satisfaction of the FDA, EMA, or comparable regulatory authorities that a product candidate is safe and effective for its proposed indication;
- we may fail to demonstrate that a product candidate's clinical and other benefits outweigh its safety risks;
- immunogenicity might affect a product candidate's efficacy and/or safety;
- the FDA, EMA, or comparable foreign regulatory authorities may disagree with our interpretation of data from nonclinical studies or clinical trials;

- data collected from clinical trials of our product candidates may be insufficient to support the submission and filing of a marketing application or to obtain marketing approval. For example, the FDA may require additional studies to show that our product candidates are safe or effective;
- we may fail to obtain approval of the manufacturing processes or facilities of third-party manufacturers with whom we contract for clinical and commercial supplies;
- there may be changes in the approval policies or regulations that render our nonclinical and clinical data insufficient for approval; or
- the FDA, EMA or comparable foreign regulatory authority may require more information, including additional nonclinical or clinical data to support approval, which may delay or prevent approval and our commercialization plans, or we may decide to abandon the development program.

Failure to obtain regulatory approval for our product candidates for the foregoing, or any other reasons, will prevent us from commercializing our product candidates, and our ability to generate revenue will be materially impaired. We cannot guarantee that regulators will agree with our assessment of the results of the clinical trials we intend to conduct in the future or that such trials will be successful. The FDA, EMA and other regulators have substantial discretion in the approval process and may refuse to accept any application or may decide that our data is insufficient for approval and require additional clinical trials, or pre-clinical or other studies. In addition, varying interpretations of the data obtained from pre-clinical and clinical testing could delay, limit or prevent regulatory approval of our product candidates.

We have only limited experience in filing the applications necessary to gain regulatory approvals and expect to rely on consultants and third-party CROs with expertise in this area to assist us in this process. Securing regulatory approvals to market a product requires the submission of pre-clinical, clinical, and/or pharmacokinetic data, information about product manufacturing processes and inspection of facilities, proposed product labeling and supporting information to the appropriate regulatory authorities for each therapeutic indication to establish a product candidate's safety and efficacy for each indication. Our product candidates may prove to have undesirable or unintended side effects, toxicities or other characteristics that may preclude us from obtaining regulatory approval or prevent or limit commercial use with respect to one or all intended indications.

The process of obtaining regulatory approvals is expensive, often takes many years, if approval is obtained at all, and can vary substantially based upon, among other things, the type, complexity and novelty of the product candidates involved, the jurisdiction in which regulatory approval is sought and the substantial discretion of the regulatory authorities. Changes in regulatory approval policies during the development period, changes in or the enactment of additional statutes or regulations, or changes in regulatory review for a submitted product application may cause delays in the approval or rejection of an application. Regulatory approval obtained in one jurisdiction does not necessarily mean that a product candidate will receive regulatory approval in all jurisdictions in which we may seek approval, but the failure to obtain approval in one jurisdiction may negatively impact our ability to seek approval in a different jurisdiction. Failure to obtain regulatory marketing approval for our product candidates in any indication will prevent us from commercializing our product candidates, and our ability to generate revenue will be materially impaired.

If we are unable to submit an application for product candidate approval under Section 505(b)(2) of the FDCA or if we are required to generate additional data related to the safety and efficacy of a product candidate in order to obtain approval under Section 505(b)(2), we may be unable to meet our anticipated development and commercialization timelines.

We may seek marketing authorization in the United States under Section 505(b)(2) of the FDCA which permits use of a marketing application, referred to as a 505(b)(2) application, where at least some of the information required for approval comes from studies not conducted by or for the applicant and for which the applicant has not obtained a right of reference or use. The FDA interprets this to mean that an applicant may rely for approval on such data as that found in published literature or the FDA's finding of safety or effectiveness, or both, of a previously approved drug product owned by a third-party. There is no assurance that the FDA would find third-party data relied upon by us in a 505(b)(2) application sufficient or adequate to support approval and may require us to generate additional data to support the safety and efficacy of a product candidate. Consequently, we may need to conduct substantial new research and development activities beyond those we currently plan to conduct. Such additional new research and development activities would be costly and time consuming and there is no assurance that such data generated from such additional activities would be sufficient to obtain approval.

If the data to be relied upon in a 505(b)(2) application is related to drug products previously approved by the FDA and covered by patents that are listed in the FDA's Orange Book, we would be required to submit with our 505(b)(2) application a Paragraph IV Certification in which we must certify that we do not infringe the listed patents or that such patents are invalid or unenforceable, and provide notice to the patent owner or the holder of the approved NDA. The patent owner or NDA holder would have 45 days from receipt of the notification of our Paragraph IV Certification to initiate a patent infringement action against us. If an infringement action is initiated, the approval of our NDA would be subject to a stay of up to 30 months or more while we defend against such a suit. Approval of our product candidates under Section 505(b)(2) may therefore be delayed until patent exclusivity expires or until we successfully challenge the applicability of those patents to our product candidates. Alternatively, we may elect to generate sufficient clinical data so that we would no longer need to rely on third-party data, which would be costly and time consuming and there would be no assurance that such data generated from such additional activities would be sufficient to obtain approval.

We may not be able to obtain shortened review of our applications, and the FDA may not agree that a product candidate qualifies for marketing approval. If we are required to generate additional data to support approval, we may be unable to meet anticipated or reasonable development and commercialization timelines, may be unable to generate the additional data at a reasonable cost, or at all, and may be unable to obtain marketing approval. If the FDA changes its interpretation of Section 505(b)(2) allowing reliance on data in a previously approved drug application owned by a third-party, or there is a change in the law affecting Section 505(b)(2), this could delay or even prevent the FDA from approving any Section 505(b)(2) application that we submit.

We may not be able to obtain or maintain ODD or exclusivity for our product candidates.

Regulatory authorities in some jurisdictions, including the United States, may designate drugs for relatively small patient populations as "orphan drugs." Under the Orphan Drug Act, the FDA may designate a drug candidate as an orphan drug if it is intended to treat a rare disease or condition, which is generally defined as a patient population of fewer than 200,000 individuals in the United States, or if the disease or condition affects more than 200,000 individuals in the United States and there is no reasonable expectation that the cost of developing and making a drug product available in the United States for the type of disease or condition will be recovered from sales of the product.

ODD entitles a party to financial incentives, such as opportunities for grant funding towards clinical trial costs, tax advantages and user-fee waivers. Additionally, if a product that has orphan designation subsequently receives the first FDA approval for the disease or condition for which it has such designation, the product is entitled to orphan drug exclusivity. This means that the FDA may not approve any other applications to market the same drug or biological product for the same indication for seven years, except in certain circumstances, including proving clinical superiority (i.e., another product is safer, more effective or makes a major contribution to patient care) to the product with orphan exclusivity. Competitors, however, may receive approval of different products for the indication for which the orphan product has exclusivity, or obtain approval for the same product but for a different indication than that for which the orphan product has exclusivity. In addition, exclusive marketing rights in the United States may be limited if we seek approval for an indication broader than the orphan-designated indication or may be lost if the FDA later determines that the request for designation was materially defective.

Modifications to our products may require new drug approvals.

Once a particular product receives FDA approval or clearance, expanded uses or uses in new indications of our products may require additional human clinical trials and new regulatory approvals or clearances, including additional IND and NDA/BLA submissions or premarket approvals before we can begin clinical development, and/or prior to marketing and sales. If the FDA requires new clearances or approvals for a particular use or indication, we may be required to conduct additional clinical studies, which would require additional expenditures and harm our operating results. If the products are already being promoted for these new indications, we may also be subject to significant enforcement actions. Conducting clinical trials and obtaining clearances and approvals can be a time-consuming process, and delays in obtaining required future clearances or approvals could adversely affect our ability to introduce new or enhanced products in a timely manner, which in turn would harm our future growth.

Conducting successful clinical studies may require the enrollment of large numbers of patients, and suitable patients may be difficult to identify and recruit.

Patient enrollment in clinical trials and completion of patient participation and follow-up depends on many factors, including the size of the patient population; the nature of the trial protocol; the attractiveness of, or the discomforts and risks associated with, the treatments received by enrolled subjects; the availability of appropriate clinical trial investigators; support staff; proximity of patients to clinical sites; ability to comply with the eligibility and exclusion criteria for participation in the clinical trial; and patient compliance. For example, patients may be discouraged from enrolling in our clinical trials if the trial protocol requires them to undergo extensive post-treatment procedures or follow-up to assess the safety and effectiveness of our product candidates or if they determine that the treatments received under the trial protocols are not attractive or involve unacceptable risks or discomforts. Patients may also not participate in our clinical trials if they choose to participate in contemporaneous clinical trials of competitive products.

Additional delays to the completion of clinical studies may result from modifications being made to the protocol during the clinical trial, if such modifications are warranted and/or required by the occurrences in the given trial.

Each modification to the protocol during a clinical trial has to be submitted to the FDA. This could result in the delay or halt of a clinical trial while the modification is evaluated. In addition, depending on the quantity and nature of the changes made, the FDA could take the position that the data generated by the clinical trial is not poolable because the same protocol was not used throughout the trial. This might require the enrollment of additional subjects, which could result in the extension of the clinical trial and the FDA delaying clearance or approval of a product. Any such delay could have a material adverse effect on our business and results of operations.

There can be no assurance that the data generated from our clinical trials using modified protocols will be acceptable to FDA.

There can be no assurance that the data generated using modified protocols will be acceptable to the FDA or that if future modifications during the trial are necessary, that any such modifications will be acceptable to the FDA. If the FDA believes that its prior approval is required for a particular modification, it can delay or halt a clinical trial while it evaluates additional information regarding the change.

Serious injury or death resulting from a failure of one of our drug candidates during clinical trials could also result in the FDA delaying our clinical trials or denying or delaying clearance or approval of a product candidate. Even though an adverse event may not be the result of the failure of our drug candidate, the FDA or an IRB could delay or halt a clinical trial for an indefinite period of time while an adverse event is reviewed, and likely would do so in the event of multiple such events.

Any delay or termination of our current or future clinical trials as a result of the risks summarized above, including delays in obtaining or maintaining required approvals from IRBs, delays in patient enrollment, the failure of patients to continue to participate in a clinical trial, and delays or termination of clinical trials as a result of protocol modifications or adverse events during the trials, may cause an increase in costs and delays in the filing of any product submissions with the FDA, delay the approval and commercialization of our products or result in the failure of the clinical trial, which could adversely affect our business, operating results and prospects.

We rely on and intend to rely on third-parties to conduct our clinical trials and to assist us with pre-clinical development. If these third-parties do not perform as contractually required or expected, we may not be able to obtain regulatory approval for or commercialize our products.

We do not have the ability to independently conduct our pre-clinical and clinical trials for our product candidates, and we must rely on third-parties, such as CROs, medical institutions, clinical investigators and contract laboratories to conduct such trials. If these third-parties do not successfully carry out their contractual duties or regulatory obligations, meet expected deadlines or need to be replaced, or if the quality or accuracy of the data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements or for other reasons, our pre-clinical development activities or clinical trials may be extended, delayed, suspended or terminated, and we may not be able to obtain regulatory approval for, or successfully commercialize, our products on a timely basis, if at all. Furthermore, our third-party clinical trial investigators may be delayed in conducting our clinical trials for reasons outside of their control. The occurrence of any of the foregoing may adversely affect our business, operating results and prospects.

We rely on and intend to rely on third parties to manufacture our clinical product supplies, and to produce and process our product candidates, if approved. Our commercialization of any of our product candidates could be stopped, delayed, or made less profitable if those third parties fail to obtain approval of government regulators, fail to provide us with sufficient quantities of drug product, devices, or device components, or fail to do so at acceptable quality levels or prices.

We do not currently have, nor do we currently plan to develop, the infrastructure or capability internally to manufacture our clinical supplies for use in the conduct of our clinical trials, and we lack the resources and the capability to manufacture any of our product candidates, devices, or device components on a clinical or commercial scale. We currently rely on outside vendors to manufacture our clinical supplies of our product candidates and plan to continue relying on third parties to manufacture our product candidates, devices, or device components on a commercial scale, if approved. In particular, we rely upon single-sourced manufacturing with one third-party contract development and manufacturing organization (a "CDMO"), WuXi AppTec ("WuXi") for HT-KIT.

In January 2024, the BIOSECURE Act (H.R. 7085) was introduced in the House of Representatives and a substantially similar bill (S.3558) was

introduced in the Senate. If these bills became law, or similar laws are passed, they would have the potential to severely restrict the ability of U.S. biopharmaceutical companies to contract with certain Chinese biotechnology companies “of concern” without losing the ability to contract with, or otherwise receive funding from, the U.S. government. We do business with companies in China and it is possible some of our contractual counterparties could be impacted by this legislation.

Our reliance on third-party manufacturers exposes us to the following additional risks:

- We may be unable to identify manufacturers of our product candidates on acceptable terms or at all.
- Our third-party manufacturers might be unable to timely formulate and manufacture our product or produce the quantity and quality required to meet our clinical and commercial needs, if any.
- Contract manufacturers may not be able to execute our manufacturing procedures appropriately.
- Our future third-party manufacturers may not perform as agreed or may not remain in the contract manufacturing business for the time required to supply our clinical trials or to successfully produce, store, and distribute our commercial products, if approved.
- Our reliance on single-sourced manufacturing with WuXi increases the risk that any problems or delays with that WuXi could materially, negatively affect the development of our product candidates.

- Manufacturers are subject to ongoing periodic unannounced inspection by the FDA and some state agencies to ensure strict compliance with cGMPs and other government regulations and corresponding foreign standards. We do not have control over third-party manufacturers' compliance with these regulations and standards.
- We may not own, or may have to share, the intellectual property rights to any improvements made by our third-party manufacturers in the manufacturing process for our product candidates.
- Our third-party manufacturers could breach or terminate their agreement with us.
- Our third-party manufacturers' performance, available capacity and ability to manufacture clinical or commercial products may be impacted by mergers and or acquisitions.
- We and our third-party manufacturers may be impacted by global conflicts, including any potential conflict involving China and Taiwan, and any resulting trade sanctions.
- Foreign third-party manufacturers may be subject to U.S. legislation or investigations, including the proposed BIOSECURE Act, trade restrictions and other foreign regulatory requirements, which could increase the cost or reduce the supply of HT-KIT, delay the procurement or supply of HT-KIT or delay clinical trials.

Each of these risks could delay our clinical trials, as well as the approval, if any, of our product candidates by the FDA, or the commercialization of our product candidates, or could result in higher costs, or could deprive us of potential product revenue.

We currently rely on foreign CROs and CDMOs, including WuXi, to manufacture HT-KIT, and will likely continue to rely on foreign CROs and CDMOs in the future. Foreign CDMOs may be subject to U.S. legislation or investigations, including the proposed BIOSECURE Act, sanctions, trade restrictions and other foreign regulatory requirements, which could increase the cost or reduce the supply of HT-KIT, delay the procurement or supply of HT-KIT, delay or impact clinical trials and could adversely affect our financial condition and business prospects. While we assume we could replace WuXi, this could be time consuming and expensive, which may adversely affect our financial condition and business prospects.

The future results of our current or future clinical trials may not support our product candidate claims or may result in the discovery of unexpected adverse side effects.

Even if our clinical trials are completed as planned, we cannot be certain that their results will support our drug candidate claims or that the FDA or foreign regulatory agencies will agree with our conclusions regarding them. Success in pre-clinical studies and early clinical trials does not ensure that later clinical trials will be successful, and we cannot be sure that the later trials will replicate the results of prior trials and pre-clinical studies. The clinical trial process may fail to demonstrate that our drug candidates are safe and effective for the proposed indicated uses. If the FDA or other regulatory agencies conclude that the clinical trials for any of our product candidates has failed to demonstrate safety and effectiveness, we would not receive clearance from the FDA or other regulatory agencies to market that product in the United States or internationally for the indications sought.

In addition, such an outcome could cause us to abandon the product candidate and might delay development of other product candidates. Any delay or termination of our clinical trials will delay the filing of any product submissions with the FDA and, ultimately, our ability to commercialize our product candidates and generate revenues. It is also possible that patients enrolled in clinical trials will experience adverse side effects that are not currently part of the product candidate's profile. In addition, our clinical trials may involve a relatively small patient population. Because of the small sample size, our results may not be indicative of future results.

Even if our product candidates are approved by regulatory authorities, if we or our suppliers fail to comply with ongoing FDA regulations or if we experience unanticipated problems with our products, these products could be subject to restrictions or withdrawal from the market.

The manufacturing processes, reporting requirements, post-approval clinical data and promotional activities for any product candidate for which we obtain regulatory approval will be subject to continued regulatory review, oversight and periodic inspections by the FDA. In particular, we and our suppliers are required to comply with FDA's Quality System Regulations and International Standards Organization ("ISO") regulations for the manufacture of our products and other regulations which cover the methods and documentation of the design, testing, production, control, quality assurance, labeling, packaging, storage and shipping of any product for which we obtain clearance or approval. Regulatory bodies, such as the FDA, enforce these regulations through periodic inspections. The failure by us or one of our suppliers to comply with applicable statutes and regulations administered by the FDA and other regulatory bodies, or the failure to timely and adequately respond to any adverse inspectional observations or product safety issues, could result in, among other things, enforcement actions by the FDA.

If any of these actions were to occur it would harm our reputation and cause our product sales and profitability to suffer and may prevent us from generating revenue. Furthermore, our key component suppliers may not currently be or may not continue to be in compliance with all applicable regulatory requirements which could result in our failure to produce our products on a timely basis and in the required quantities, if at all.

Even if regulatory clearance or approval of a product is granted, such clearance or approval may be subject to limitations on the intended uses for which the product may be marketed and reduce the potential to successfully commercialize the product and generate revenue from the product. If the FDA determines that the product promotional materials, labeling, training or other marketing or educational activities constitute promotion of an unapproved use, it could request that we or our commercialization partners cease or modify our training or promotional materials or subject us to regulatory enforcement actions. It is also possible that other federal, state or foreign enforcement authorities might take action if they consider such training or other promotional materials to constitute promotion of an unapproved use, which could result in significant fines or penalties under other statutory authorities, such as laws prohibiting false claims for reimbursement.

In addition, we may be required to conduct costly post-market testing and surveillance to monitor the safety or effectiveness of our products, and we must comply with adverse event and pharmacovigilance reporting requirements, including the reporting of adverse events which occur in connection with, and whether or not directly related to, our products. Later discovery of previously unknown problems with our products, including unanticipated adverse events or adverse events of unanticipated severity or frequency, manufacturing problems, or failure to comply with regulatory requirements, may result in changes to labeling, restrictions on such products or manufacturing processes, withdrawal of the products from the market, voluntary or mandatory recalls, a requirement to recall, replace or refund the cost of any product we manufacture or distribute, fines, suspension of regulatory approvals, product seizures, injunctions or the imposition of civil or criminal penalties which would adversely affect our business, operating results and prospects.

Our revenue stream will depend upon third-party reimbursement.

The commercial success of our products in both domestic and international markets will be substantially dependent on whether third-party coverage and reimbursement is available for patients that use our products. However, the availability of insurance coverage and reimbursement for newly approved therapies is uncertain, and therefore, third-party coverage may be particularly difficult to obtain even if our products are approved by the FDA as safe and efficacious. Patients using existing approved therapies are generally reimbursed all or part of the product cost by Medicare or other third-party payors. Medicare, Medicaid, health maintenance organizations and other third-party payors are increasingly attempting to contain healthcare costs by limiting both coverage and the level of reimbursement of new drugs, and, as a result, they may not cover or provide adequate payment for these products. Submission of applications for reimbursement approval generally does not occur prior to the filing of an NDA for that product and may not be granted for as long as many months after NDA approval. In order to obtain reimbursement arrangements for these products, we or our commercialization partners may have to agree to a net sales price lower than the net sales price we might charge in other sales channels. The continuing efforts of government and third-party payors to contain or reduce the costs of healthcare may limit our revenue. Initial dependence on the commercial success of our products may make our revenues particularly susceptible to any cost containment or reduction efforts.

Current and future legislation may increase the difficulty and cost for us to obtain marketing approval of and commercialize our product candidates and affect the prices we may obtain for such product candidates.

In the United States and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval for our product candidates, restrict or regulate post-approval activities and affect our ability to profitably sell our product candidates. Legislative and regulatory proposals have been made to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical products. We do not know whether additional legislative changes will be enacted, or whether the FDA regulations, guidance or interpretations will be changed, or what the impact of such changes on the marketing approvals of our product candidates, if any, may be. In addition, increased scrutiny by the U.S. Congress of the FDA's approval process may significantly delay or prevent marketing approval, as well as subject us to more stringent product labeling and post-marketing testing and other requirements.

In the United States, the Medicare Modernization Act ("MMA") changed the way Medicare covers and pays for pharmaceutical products. The legislation expanded Medicare coverage for drug purchases by the elderly and introduced a new reimbursement methodology based on average sales prices for drugs. In addition, this legislation authorized Medicare Part D prescription drug plans to use formularies where they can limit the number of drugs that will be covered in any therapeutic class. As a result of this legislation and the expansion of federal coverage of drug products, we expect that there will be additional pressure to contain and reduce costs. These cost reduction initiatives and other provisions of this legislation could decrease the coverage and price that we receive for our product candidates and could seriously harm our business. While the MMA applies only to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own reimbursement rates, and any reduction in reimbursement that results from the MMA may result in a similar reduction in payments from private payors.

The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Affordability Reconciliation Act of 2010 (collectively, the "Health Care Reform Law") is a sweeping law intended to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for healthcare and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms. The Health Care Reform Law revised the definition of "average manufacturer price" for reporting purposes, which could increase the amount of Medicaid drug rebates to states. Further, the law imposed a significant annual fee on companies that manufacture or import branded prescription drug products.

The Health Care Reform Law remains subject to legislative efforts to repeal, modify or delay the implementation of the law. However, if the Health Care Reform Law is repealed or modified, or if implementation of certain aspects of the Health Care Reform Law are delayed, such repeal, modification or delay may materially adversely impact our business, strategies, prospects, operating results or financial condition. We are unable to predict the full impact of any repeal, modification or delay in the implementation of the Health Care Reform Law on us at this time. Due to the substantial regulatory changes that will need to be implemented by the Centers for Medicare & Medicaid Services and others, and the numerous processes required to implement these reforms, we cannot predict which healthcare initiatives will be implemented at the federal or state level, the timing of any such reforms, or the effect such reforms or any other future legislation or regulation will have on our business.

In addition, other legislative changes have been proposed and adopted in the United States since the Health Care Reform Law was enacted. We expect that additional federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, and in turn could significantly reduce the projected value of certain development projects and reduce or eliminate our profitability.

We are dependent on third parties for manufacturing and marketing of our proposed product candidates. If we are not able to secure favorable arrangements with such third parties, our business and financial condition could be harmed.

We will not manufacture any of our proposed product candidates for commercial sale nor do we have the resources necessary to do so. In addition, we currently do not have the capability to market our drug products ourselves. In addition to our internal sales force efforts, we have contracted

with and intend to continue to contract with specialized manufacturing companies to manufacture our proposed product candidates and partner with larger pharmaceutical companies for commercialization of our products. In connection with our efforts to commercialize our proposed product candidates, we will seek to secure favorable arrangements with third parties to distribute, promote, market and sell our proposed product candidates. If our internal sales force is unable to successfully distribute, market and promote our product candidates and we are not able to secure favorable commercial terms or arrangements with third parties for the distribution, marketing, promotion and sales of our proposed product candidates, we may have to retain promotional and marketing rights and seek to develop the commercial resources necessary to promote or co-promote or co-market certain or all of our proposed drug candidates to the appropriate channels of distribution in order to reach the specific medical market that we are targeting. We may not be able to enter into any partnering arrangements on this or any other basis. If we are not able to secure favorable partnering arrangements or are unable to develop the appropriate resources necessary for the commercialization of our proposed product candidates, our business and financial condition could be harmed. In addition, we will have to hire additional employees or consultants, since our current employees have limited experience in these areas. Sufficient employees with relevant skills may not be available to us. Any increase in the number of our employees would increase our expense level and could have an adverse effect on our financial position.

In addition, we, or our potential commercial partners, may not successfully introduce our proposed product candidates or such candidates may not achieve acceptance by patients, health care providers and insurance companies. Further, it is possible that we may not be able to secure arrangements to manufacture, market, distribute, promote and sell our proposed product candidates at favorable commercial terms that would permit us to make a profit. To the extent that corporate partners conduct clinical trials, we may not be able to control the design and conduct of these clinical trials.

We may have conflicts with our partners that could delay or prevent the development or commercialization of our product candidates.

We may have conflicts with our partners, such as conflicts concerning the interpretation of pre-clinical or clinical data, the achievement of milestones, the interpretation of contractual obligations, payments for services, development obligations or the ownership of intellectual property developed during our collaboration. If any conflicts arise with any of our partners, such partner may act in a manner that is averse to our best interests. Any such disagreement could result in one or more of the following, each of which could delay or prevent the development or commercialization of our product candidates, and in turn prevent us from generating revenues: unwillingness on the part of a partner to pay us milestone payments or royalties we believe are due to us under a collaboration; uncertainty regarding ownership of intellectual property rights arising from our collaborative activities, which could prevent us from entering into additional collaborations; unwillingness by the partner to cooperate in the development or manufacture of the product, including providing us with product data or materials; unwillingness on the part of a partner to keep us informed regarding the progress of its development and commercialization activities or to permit public disclosure of the results of those activities; initiating of litigation or alternative dispute resolution options by either party to resolve the dispute; or attempts by either party to terminate the agreement.

Even if we receive regulatory approval for any of our product candidates, we may not be able to successfully commercialize the product and the revenue that we generate from its sales, if any, may be limited.

If approved for marketing, the commercial success of our product candidates will depend upon each product's acceptance by the medical community, including physicians, patients and health care payors. The degree of market acceptance for any of our product candidates will depend on a number of factors, including:

- demonstration of clinical safety and efficacy;
- relative convenience, dosing burden and ease of administration;
- the prevalence and severity of any adverse effects;
- the willingness of physicians to prescribe our product candidates, and the target patient population to try new therapies;
- efficacy of our product candidates compared to competing products;
- the introduction of any new products that may in the future become available targeting indications for which our product candidates may be approved;
- new procedures or therapies that may reduce the incidences of any of the indications in which our product candidates may show utility;
- pricing and cost-effectiveness;
- the inclusion or omission of our product candidates in applicable therapeutic and vaccine guidelines;
- the effectiveness of our own or any future collaborators' sales and marketing strategies;
- limitations or warnings contained in approved labeling from regulatory authorities;
- our ability to obtain and maintain sufficient third-party coverage or reimbursement from government health care programs, including Medicare and Medicaid, private health insurers and other third-party payors or to receive the necessary pricing approvals from government bodies regulating the pricing and usage of therapeutics; and
- the willingness of patients to pay out-of-pocket in the absence of third-party coverage or reimbursement or government pricing approvals.

If any of our product candidates are approved, but do not achieve an adequate level of acceptance by physicians, health care payors, and patients, we may not generate sufficient revenue and we may not be able to achieve or sustain profitability. Our efforts to educate the medical community and third-party payors on the benefits of our product candidates may require significant resources and may never be successful.

In addition, even if we obtain regulatory approvals, the timing or scope of any approvals may prohibit or reduce our ability to commercialize our product candidates successfully. For example, if the approval process takes too long, we may miss market opportunities thereby giving other companies the ability to develop competing products or establish market dominance. Any regulatory approval we ultimately obtain may be limited or subject to restrictions or post-approval commitments that render our product candidates not commercially viable. For example, regulatory authorities may approve any of our product candidates for fewer or more limited indications than we request, may grant approval contingent on the performance of costly post-marketing clinical trials, or may approve any of our product candidates with a label that does not include the labeling claims necessary or desirable for the successful commercialization for that indication. Further, the FDA or comparable foreign regulatory authorities may place conditions on approvals or require risk management plans or a REMS to assure the safe use of the drug. If the FDA concludes a REMS is needed, the sponsor of the NDA must submit a proposed REMS. The FDA will not approve the NDA without an approved REMS, if required. A REMS could include medication guides, physician communication plans, or elements to assure safe use, such as restricted distribution methods, patient registries and other risk minimization

tools. The FDA may also require a REMS for an approved product when new safety information emerges. Any of these limitations on approval or marketing could restrict the commercial promotion, distribution, prescription or dispensing of our product candidates. Moreover, product approvals may be withdrawn for non-compliance with regulatory standards or if problems occur following the initial marketing of the product. Any of the foregoing scenarios could materially harm the commercial success of our product candidates.

Our products will face significant competition, and if they are unable to compete successfully, our business will suffer.

Our product candidates face, and will continue to face, intense competition from large pharmaceutical companies, as well as academic and research institutions. We compete in an industry that is characterized by: (i) rapid technological change, (ii) evolving industry standards, (iii) emerging competition and (iv) new product introductions. Our competitors have and may develop products and technologies that will compete with our products and technologies. Because several competing companies and institutions have greater financial resources than us, they may be able to: (i) provide broader services and product lines, (ii) make greater investments in research and development and (iii) carry on larger research and development initiatives. Our competitors also have greater development capabilities than we do and have substantially greater experience in undertaking pre-clinical and clinical testing of products, obtaining regulatory approvals, and manufacturing and marketing pharmaceutical products. They also have greater name recognition and better access to customers than us.

Adverse events involving our products may lead the FDA or other regulatory agencies to delay or deny clearance for our products or result in product recalls that could harm our reputation, business and financial results.

Once a product receives clearance or approval, the agency has the authority to require the recall of commercialized products in the event of adverse side effects, material deficiencies or defects in design or manufacture. With respect to the FDA, the authority to require a recall must be based on an FDA finding that there is a reasonable probability that the product would cause serious injury or death. Manufacturers may, under their own initiative, recall a product if any material deficiency in a product is found. A government-mandated or voluntary recall by us or one of our distributors could occur as a result of adverse side effects, impurities or other product contamination, manufacturing errors, design or labeling defects or other deficiencies and issues. Recalls of any of our products would divert managerial and financial resources and have an adverse effect on our financial condition and results of operations. In addition, the FDA requires that certain classifications of recalls be reported to FDA within ten working days after the recall is initiated. Companies are required to maintain certain records of recalls, even if they are not reportable to the FDA. We may initiate voluntary recalls involving our products in the future that we determine do not require notification of the FDA. If the FDA disagrees with our determinations, they could require us to report those actions as recalls. A future recall announcement could harm our reputation with customers and negatively affect our sales. In addition, the FDA could take enforcement action for failing to report the recalls when they were conducted.

If we fail to comply with healthcare regulations, we could face substantial enforcement actions, including civil and criminal penalties and our business, operations and financial condition could be adversely affected.

Sales of our product candidates, if approved, or any other future product candidate will be subject to healthcare regulation and enforcement by the federal government and the states and foreign governments in which we might conduct our business. The healthcare laws and regulations that may affect our ability to operate include the following:

- the federal Anti-Kickback Statute makes it illegal for any person or entity to knowingly and willfully, directly or indirectly, solicit, receive, offer, or pay any remuneration that is in exchange for or to induce the referral of business, including the purchase, order, lease of any good, facility, item or service for which payment may be made under a federal healthcare program, such as Medicare or Medicaid. The term "remuneration" has been broadly interpreted to include anything of value;
- the Omnibus Budget Reconciliation Act of 1993 (42 U.S.C. § 1395nn) (the "Stark Law") prohibit referrals by a physician of "designated health services" which are payable, in whole or in part, by Medicare or Medicaid, to an entity in which the physician or the physician's immediate family member has an investment interest or other financial relationship, subject to several exceptions. The Stark Law also prohibits billing for services rendered pursuant to a prohibited referral. Several states have enacted laws similar to the Stark Law. These state laws may cover all (not just Medicare and Medicaid) patients. Many federal healthcare reform proposals in the past few years have attempted to expand the Stark Law to cover all patients as well. We consider the Stark Law in planning our products, marketing and other activities, and believe that our operations are in compliance with the Stark Law. If we violate the Stark Law, our financial results and operations could be adversely affected. Penalties for violations include denial of payment for the services, significant civil monetary penalties, and exclusion from the Medicare and Medicaid programs;
- federal false claims and false statement laws, including the federal civil False Claims Act and the Civil Monetary Penalties Law ("CMPL"), prohibits, among other things, any person or entity from knowingly presenting, or causing to be presented, for payment to, or approval by, federal programs, including Medicare and Medicaid, claims for items or services, including drugs, that are false or fraudulent;
- HIPAA, created additional federal criminal statutes that prohibit among other actions, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, including private third-party payors or making any false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services;

- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 and their implementing regulations, impose obligations on certain types of individuals and entities regarding the electronic exchange of information in common healthcare transactions, as well as standards relating to the privacy and security of individually identifiable health information;
- the FDCA which among other things, strictly regulates drug and biologics manufacturing, sales, distribution, prohibits the adulteration or misbranding of drugs and biologics prohibits manufacturers from marketing drug products for off-label use and regulates the distribution of drug samples; and
- the federal Physician Payments Sunshine Act requires certain manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program, with specific exceptions, to report annually to the Centers for Medicare & Medicaid Services information related to payments or other transfers of value made to physicians and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members.

Also, many states have similar laws and regulations, such as Stark Law, anti-kickback and false claims laws that may be broader in scope and

may apply regardless of payor, in addition to items and services reimbursed under Medicaid and other state programs. Additionally, we may be subject to state laws that require pharmaceutical companies to comply with the federal government's and/or pharmaceutical industry's voluntary compliance guidelines, state laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures, as well as state and foreign laws governing the privacy and security of health information, many of which differ from each other in significant ways and often are not preempted by HIPAA.

The laws and regulations applicable to our business are complex, changing and often subject to varying interpretations. As a result, we may not be able to adhere to all applicable laws and regulations. Any violation or alleged violation of any of these laws or regulations by us could have a material adverse effect on our business, financial condition, cash flows and results of operations. We may be a party to various lawsuits, demands, claims, *qui tam* suits, government investigations and audits, of which any could result in, among other things, substantial financial penalties or awards against us, reputational harm, termination of relationships or contracts related to our business, mandated refunds, substantial payments made by us, required changes to our business practices, exclusion from future participation in Medicare and other healthcare programs, seizure of product and possible criminal penalties.

If we are found in violation of applicable laws or regulations, we could suffer severe consequences that would have a material adverse effect on our business, results of operations, financial condition, cash flows, reputation and stock price, including:

- suspension or termination of our participation in federal healthcare programs;
- criminal or civil liability, fines, damages or monetary penalties for violations of healthcare fraud and abuse laws, including the federal False Claims Act, CMPL, and Anti-Kickback Statute;
- enforcement actions by governmental agencies or claims for monetary damages by patients under federal or state patient privacy laws, including HIPAA;
- repayment of amounts received in violation of law or applicable payment program requirements, and related monetary penalties;
- mandated changes to our practices or procedures that materially increase operating expenses;
- imposition of corporate integrity agreements that could subject us to ongoing audits and reporting requirements as well as increased scrutiny of our business practices;
- termination of various relationships or contracts related to our business; and
- harm to our reputation which could negatively affect our business relationships, decrease our ability to attract or retain patients and physicians, decrease access to new business opportunities and impact our ability to obtain financing, among other things.

Responding to lawsuits and other proceedings as well as defending ourselves in such matters will continue to require management's attention and cause us to incur significant legal expense. It is also possible that criminal proceedings may be initiated against us or individuals in our business in connection with investigations by the federal government.

Furthermore, to the extent that our product is sold in a foreign country, we may be subject to similar foreign laws.

If a third-party contract manufacturing organization ("CMO") upon whom we rely to formulate and manufacture our product candidates does not perform, fails to manufacture according to our specifications or fails to comply with strict regulations, our pre-clinical studies or clinical trials could be adversely affected, and the development of our product candidates could be delayed or terminated or we could incur significant additional expenses.

We do not own or operate any manufacturing facilities. We rely on and intend to continue to rely on CMOs to formulate and manufacture our pre-clinical and clinical materials. Our reliance on a CMO exposes us to a number of risks, any of which could delay or prevent the completion of our pre-clinical studies or clinical trials, or the regulatory approval or commercialization of our product candidates, result in higher costs, or deprive us of potential product revenues. Some of these risks include:

- our CMO failing to develop an acceptable formulation to support later-stage clinical trials for, or the commercialization of, our product candidates;
- our CMO failing to manufacture our product candidate according to our specifications, the FDA's cGMP requirements, or otherwise manufacturing material that we or the FDA may deem to be unsuitable in our clinical trials;
- our CMO being unable to increase the scale of, increase the capacity for, or reformulate the form of our product candidates. We may experience a shortage in supply, or the cost to manufacture our products may increase to the point where it may adversely affect the cost of our product candidates. We cannot assure you that our CMO will be able to manufacture our product candidates at a suitable scale, or we will be able to find alternative manufacturers acceptable to us that can do so;
- our CMO placing a priority on the manufacture of their own products, or other customers' products;
- our CMO failing to perform as agreed upon or not remain in business; and
- our CMOs' plants being closed as a result of regulatory sanctions, natural disasters, health epidemics or otherwise.

Manufacturers of pharmaceutical products are subject to ongoing periodic inspections by the FDA, the U.S. Drug Enforcement Administration and corresponding state and foreign agencies to ensure strict compliance with FDA mandated cGMPs, other government regulations and corresponding foreign standards. While we are obligated to audit their performance, we do not have control over our CMO's compliance with these regulations and standards. Failure by any of our CMOs, or us, to comply with applicable regulations could result in sanctions being imposed on us or the CMOs. These sanctions may include fines, injunctions, civil penalties, failure of the government to grant pre-market approval of drugs, delays, suspension or withdrawal of approvals, seizures or recalls of product, operating restrictions and criminal prosecutions, any of which could significantly and adversely affect our business.

In the event that we need to change our CMOs, our pre-clinical studies, clinical trials or the commercialization of our product candidates could be delayed, adversely affected or terminated, or such a change may result in significantly higher costs.

Various steps in the manufacture of our product candidates may need to be sole-sourced. In accordance with cGMP, changing manufacturers may require the re-validation of manufacturing processes and procedures, and may require further pre-clinical studies or clinical trials to show comparability between the materials produced by different manufacturers. Changing our current or future CMOs may be difficult for us and could be costly, which could result in our inability to manufacture our product candidates for an extended period of time and therefore a delay in the development of our product candidates. Further, in order to maintain our development time lines in the event of a change in our CMOs, we may incur significantly higher costs to manufacture our product candidates.

Healthcare Reform in the United States.

In the United States, there have been, and continue to be, a number of legislative and regulatory changes and proposed changes to the healthcare system that could affect the future results of pharmaceutical manufacturers' operations. In particular, there have been and continue to be a number of initiatives at the federal and state levels that seek to reduce healthcare costs. On the federal level, the Affordable Care Act ("ACA") was enacted in March 2010, and included measures to significantly change the way healthcare is financed by both governmental and private insurers. Among the provisions of the ACA that have been of greatest importance to the pharmaceutical and biotechnology industry are the following:

- an annual, nondeductible fee on any entity that manufactures or imports certain branded prescription drugs and biologic agents, apportioned among these entities according to their market share in certain government healthcare programs;
- implementation of the federal physician payment transparency requirements, sometimes referred to as the "Physician Payments Sunshine Act";
- a licensure framework for follow-on biologic products;
- creation of Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research;
- establishment of a Center for Medicare Innovation at the Centers for Medicare & Medicaid Services to test innovative payment and service delivery models to lower Medicare and Medicaid spending, potentially including prescription drug spending;
- an increase in the statutory minimum rebates a manufacturer must pay under the Medicaid Drug Rebate Program, to 23.1% and 13% of the average manufacturer price for most branded and generic drugs, respectively and capped the total rebate amount for innovator drugs at 100% of the Average Manufacturer Price;
- adoption of methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for certain drugs and biologics, including our product candidates, that are inhaled, infused, instilled, implanted or injected;
- extension of manufacturers' Medicaid rebate liability to covered drugs dispensed to individuals who are enrolled in Medicaid managed care organizations;
- expansion of eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to additional individuals and by adding new mandatory eligibility categories for individuals with income at or below 133% of the federal poverty level, thereby potentially increasing manufacturers' Medicaid rebate liability;
- creation of a Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 50% point-of-sale discounts off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer's outpatient drugs to be covered under Medicare Part D; and
- expansion of the entities eligible for discounts under the Public Health program.

Although there have been legal and political challenges to certain aspects of the ACA, the Biden Administration has affirmed support for the law and, entered its own executive orders to enforce and strengthen it. Because of the volatility surrounding the implementation and enforcement of the ACA since its passage, and at this time, the full effect that the ACA would have on a pharmaceutical manufacturer remains unclear. This uncertainty is heightened by President Biden's January 28, 2021 Executive Order on Strengthening Medicaid and the Affordable Care Act which indicates that the Biden Administration may significantly modify the ACA and further reform the ACA and other federal programs in manner that may impact our operations. The Biden Administration has indicated that a goal of its administration is to expand and support Medicaid and the ACA and to make high-quality healthcare accessible and affordable. The potential increase in patients covered by government funded insurance may impact our pricing. Further, it is possible that the Biden Administration may further increase scrutiny of drug pricing. Indeed, the Biden Administration has been vocal that lowering prescription drug prices is a priority for the Biden Administration.

In addition, we cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative or executive action, either in the United States or abroad. We expect that additional state and federal health care reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for health care products and services.

Further, there is uncertainty surrounding the applicability of the biosimilars provisions under the ACA. The FDA has issued several guidance documents, but no implementing regulations, on biosimilars. A number of biosimilar applications have been approved over the past few years. The regulations that are ultimately promulgated and their implementation are likely to have considerable impact on the way pharmaceutical manufacturers conduct their business and may require changes to current strategies. A biosimilar is a biological product that is highly similar to an approved drug notwithstanding minor differences in clinically inactive components, and for which there are no clinically meaningful differences between the biological product and the approved drug in terms of the safety, purity, and potency of the product.

Individual states have become increasingly aggressive in passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access, and marketing cost disclosure and transparency measures, and to encourage importation from other countries and bulk purchasing. Legally mandated price controls on payment amounts by third-party payors or other restrictions could harm a pharmaceutical manufacturer's business, results of operations, financial condition and prospects. In addition, regional healthcare authorities and individual hospitals are increasingly using bidding procedures to determine what

pharmaceutical products and which suppliers will be included in their prescription drug and other healthcare programs. This could reduce ultimate demand for certain products or put pressure product pricing, which could negatively affect a pharmaceutical manufacturer's business, results of operations, financial condition and prospects.

In addition, given recent federal and state government initiatives directed at lowering the total cost of healthcare, Congress and state legislatures will likely continue to focus on healthcare reform, the cost of prescription drugs and biologics and the reform of the Medicare and Medicaid programs. While no one cannot predict the full outcome of any such legislation, it may result in decreased reimbursement for drugs and biologics, which may further exacerbate industry-wide pressure to reduce prescription drug prices. This could harm a pharmaceutical manufacturer's ability to generate revenue. Increases in importation or re-importation of pharmaceutical products from foreign countries into the United States could put competitive pressure on a pharmaceutical manufacturer's ability to profitably price products, which, in turn, could adversely affect business, results of operations, financial condition and prospects. A pharmaceutical manufacturer might elect not to seek approval for or market products in foreign jurisdictions in order to minimize the risk of re-importation, which could also reduce the revenue generated from product sales. It is also possible that other legislative proposals having similar effects will be adopted.

Furthermore, regulatory authorities' assessment of the data and results required to demonstrate safety and efficacy can change over time and can be affected by many factors, such as the emergence of new information, including on other products, changing policies and agency funding, staffing and leadership. We cannot be sure whether future changes to the regulatory environment will be favorable or unfavorable to our business prospects. For example, average review times at the FDA for marketing approval applications can be affected by a variety of factors, including budget and funding levels and statutory, regulatory and policy changes.

Our business may be adversely affected by cybersecurity threats, information systems interruptions and/or threats to our physical buildings.

It is essential to our business strategy that our technology and network infrastructure and our physical buildings remain secure and are perceived by our customers and corporate partners to be secure. Despite security measures, however, any network infrastructure may be vulnerable to cyber-attacks by hackers and other security threats. We may face cybersecurity threats that attempt to penetrate our network security, sabotage or otherwise disable our research, products and services, misappropriate our or our customers' and partners' proprietary information, which may include personally identifiable information, or cause interruptions or failures of our internal systems and services. Despite security measures, we also cannot guarantee security of our physical buildings. Physical building penetration or any cybersecurity threats could negatively affect our reputation, damage our network infrastructure and our ability to deploy our products and services, harm our relationship with customers and partners that are affected, and expose us to financial liability.

Although we continue to review and enhance our systems and cybersecurity controls, we may experience cybersecurity threats, including threats to our information technology infrastructure and attempts to gain access to our sensitive information, as do our customers and suppliers. Although we maintain information security policies and procedures to prevent, detect, and mitigate these threats, information system disruptions, equipment failures or cybersecurity attacks, such as unauthorized access, malicious software and other intrusions, could still occur and may lead to potential data corruption, exposure of proprietary and confidential information. Further, while we work cooperatively with our customers and suppliers to seek to minimize the impacts of cybersecurity threats, other security threats or business disruptions, in addition to our internal processes, procedures and systems, we must also rely on the safeguards put in place by those entities.

Any intrusion, disruption, breach or similar event may cause operational stoppages, fines, penalties, diminished competitive advantages through reputational damages and increased operational costs. The costs related to cybersecurity or other security threats or disruptions may not be fully mitigated by insurance or other means. In addition to existing risks, any adoption or deployment of new technologies may increase our exposure to risks, breaches, or failures, which could materially adversely affect our results of operations or financial condition.

Additionally, there are a number of state, federal and international laws protecting the privacy and security of health information and personal data. For example, HIPAA imposes limitations on the use and disclosure of an individual's healthcare information by healthcare providers, healthcare clearinghouses, and health insurance plans, or, collectively, covered entities, and also grants individuals rights with respect to their health information. HIPAA also imposes compliance obligations and corresponding penalties for non-compliance on individuals and entities that provide services to healthcare providers and other covered entities. As part of the American Recovery and Reinvestment Act of 2009 ("ARRA") the privacy and security provisions of HIPAA were amended. ARRA also made significant increases in the penalties for improper use or disclosure of an individual's health information under HIPAA and extended enforcement authority to state attorneys general. As amended by ARRA and subsequently by the final omnibus rule adopted in 2013, HIPAA also imposes notification requirements on covered entities in the event that certain health information has been inappropriately accessed or disclosed, notification requirements to individuals, federal regulators, and in some cases, notification to local and national media. Notification is not required under HIPAA if the health information that is improperly used or disclosed is deemed secured in accordance with encryption or other standards developed by the U.S. Department of Health and Human Services. Most states have laws requiring notification of affected individuals and/or state regulators in the event of a breach of personal information, which is a broader class of information than the health information protected by HIPAA. Many state laws impose significant data security requirements, such as encryption or mandatory contractual terms, to ensure ongoing protection of personal information. Activities outside of the U.S. implicate local and national data protection standards, impose additional compliance requirements and generate additional risks of enforcement for non-compliance. We may be required to expend significant capital and other resources to ensure ongoing compliance with applicable privacy and data security laws, to protect against security breaches and hackers or to alleviate problems caused by such breaches.

Risks Related to Our Intellectual Property Rights

We rely upon licenses granted to us by various licensors, and if such licensors do not adequately defend such licenses, our business may be harmed.

We have entered into and may, in the future, enter into license and sublicense agreements with respect to our product candidates. We have limited control over the activities of our licensors, and we rely upon our licensors to protect their intellectual property, including the patents covered by our licenses. We cannot be certain that activities conducted by our licensors have been or will be conducted in compliance with applicable laws and regulations. Furthermore, we have no or limited control or input over whether, and in what manner, our licensors may enforce or defend the patents that we license against a third-party. Our licensors may defend the patents we license less vigorously than if we had enforced or defended the patents ourselves. Furthermore, our licensors may not necessarily seek enforcement in scenarios in which we would feel that enforcement was in our best interests. For example, our licensors may not enforce the patents against a competitor of ours who is not a direct competitor of such licensor. If our intellectual property is found to be invalid or unenforceable, then our licensors may not be able to enforce the patents against a competitor of ours. Moreover, if we fail to meet our obligations under our license agreements, the licensor may terminate the license agreement. Furthermore, if we fail to meet our obligations under our sublicense agreements or our sublicensor fails to meet its obligations to the licensor, such licensor may terminate the license agreement thereby terminating our sublicense agreement.

Our business depends upon us securing and protecting critical intellectual property.

To the extent we develop intellectual property, our commercial success will depend in part on obtaining and maintaining patent, trade secret, copyright and trademark protection of our technologies in the United States and other jurisdictions as well as successfully enforcing and defending such intellectual property rights against third-party challenges. We will only be able to protect our intellectual property from unauthorized use by third parties to the extent that valid and enforceable intellectual property protection, such as patents or trade secrets, cover them. In particular, we place considerable emphasis on obtaining patent and trade secret protection for significant new technologies, products and processes. Furthermore, the degree of future protection of our proprietary rights is uncertain because legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep our competitive advantage. Moreover, the degree of future protection of our proprietary rights is uncertain for products that are currently in the early stages of development because we cannot predict which of these products will ultimately reach the commercial market or whether the commercial versions of these products will incorporate proprietary technologies.

Patent positions in our industry are highly uncertain and involve complex legal and factual questions.

Patent positions in our industry are highly uncertain and involve complex legal and factual questions. Accordingly, we cannot predict the breadth of claims that may be allowed or enforced in our patents or in third-party patents. For example, we or our licensors might not have been the first to make the inventions covered by our pending patent applications and issued patents, as applicable; we or our licensors might not have been the first to file patent applications for these inventions; others may independently develop similar or alternative technologies or duplicate any of our technologies; it is possible that none of our pending patent applications or the pending patent applications of our licensors will result in issued patents; our issued patents and issued patents of our licensors may not provide a basis for commercially viable technologies, or may not provide us with any competitive advantages, or may be challenged and invalidated by third parties; and, we may not develop additional proprietary technologies that are patentable. As a result, our owned and licensed patents may not be valid, and we may not be able to obtain and enforce patents and to maintain trade secret protection for the full commercial extent of our technology. The extent to which we are unable to do so could materially harm our business.

We and/or our licensors have applied for and will continue to apply for patents for certain products. Such applications may not result in the issuance of any patents, and any patents now held or that may be issued may not provide us with adequate protection from competition. Furthermore, it is possible that patents issued or licensed to us may be challenged successfully. In that event, if we have a preferred competitive position because of such patents, any preferred position held by us would be lost. If we are unable to secure or to continue to maintain a preferred position, we could become subject to competition from the sale of generic products. Failure to receive, inability to protect, or expiration of our patents for medical use, manufacture, conjugation and labeling of any of our product candidates may adversely affect our business and operations.

Patents issued or licensed to us may be infringed by the products or processes of others. The cost of enforcing our patent rights against infringers, if such enforcement is required, could be significant, and we do not currently have the financial resources to fund such litigation. Further, such litigation can go on for years and the time demands could interfere with our normal operations. There has been substantial litigation and other proceedings regarding patent and other intellectual property rights in the pharmaceutical industry. We may become a party to patent litigation and other proceedings. The cost to us of any patent litigation, even if resolved in our favor, could be substantial. Some of our competitors may be able to sustain the costs of such litigation more effectively than we can because of their substantially greater financial resources. Litigation may also absorb significant management time.

Unpatented trade secrets, improvements, confidential know-how and continuing technological innovation are important to our scientific and commercial success. Although we attempt to and will continue to attempt to protect our proprietary information through reliance on trade secret laws and the use of confidentiality agreements with our corporate partners, collaborators, employees and consultants and other appropriate means, these measures may not effectively prevent disclosure of our proprietary information, and, in any event, others may develop independently, or obtain access to, the same or similar information.

If we are found to be infringing on patents or trade secrets owned by others, we may be forced to cease or alter our product development efforts, obtain a license to continue the development or sale of our products, and/or pay damages.

Our manufacturing processes and potential products may violate proprietary rights of patents that have been or may be granted to competitors, universities or others, or the trade secrets of those persons and entities. As the pharmaceutical industry expands and more patents are issued, the risk increases that our processes and potential products may give rise to claims that they infringe the patents or trade secrets of others. These other persons could bring legal actions against us claiming damages and seeking to enjoin clinical testing, manufacturing and marketing of the affected product or process. If any of these actions are successful, in addition to any potential liability for damages, we could be required to obtain a license in order to continue to conduct clinical tests, manufacture or market the affected product or use the affected process. Required licenses may not be available on acceptable terms, if at all, and the results of litigation are uncertain. If we become involved in litigation or other proceedings, it could consume a substantial portion of our financial resources and the efforts of our personnel.

Our ability to protect and enforce any patents we may obtain does not guaranty that we will secure the right to commercialize such patents.

A patent is a limited monopoly right conferred upon an inventor, and his successors in title, in return for the making and disclosing of a new and non-obvious invention. This monopoly is of limited duration but, while in force, allows the patent holder to prevent others from making and/or using his invention. While a patent gives the holder this right to exclude others, it is not a license to commercialize the invention, where other permissions may be required for permissible commercialization to occur. For example, a drug cannot be marketed without the appropriate authorization from the FDA, regardless of the existence of a patent covering the product. Further, the invention, even if patented itself, cannot be commercialized if it infringes the valid patent rights of another party.

We rely on confidentiality agreements to protect our trade secrets. If these agreements are breached by our employees or other parties, our trade secrets may become known to our competitors.

We rely on trade secrets which we seek to protect through confidentiality agreements with our employees and other parties. If these agreements are breached, our competitors may obtain and use our trade secrets to gain a competitive advantage over us. We may not have any remedies against our competitors and any remedies that may be available to us may not be adequate to protect our business or compensate us for the damaging disclosure. In addition, we may have to expend resources to protect our interests from possible infringement by others.

Risks Related to the Company

We have expanded and may continue to expand, our business through the acquisition of rights to new drug candidates that could disrupt our

business, harm our financial condition and may also dilute current shareholders' ownership interests in our Company.

Our business strategy includes expanding our products and capabilities, and we may seek acquisitions of additional drug candidates or technologies to do so. Acquisitions involve numerous risks, including substantial cash expenditures; potentially dilutive issuance of equity securities; incurrence of debt and contingent liabilities, some of which may be difficult or impossible to identify at the time of acquisition; difficulties in assimilating the acquired technologies or the operations of the acquired companies; diverting our management's attention away from other business concerns; risks of entering markets in which we have limited or no direct experience; and the potential loss of our key employees or key employees of the acquired companies.

We cannot assure you that any acquisition will result in short-term or long-term benefits to us. We may misjudge the value or worth of an acquired product, company or business. In addition, our future success would depend in part on our ability to manage the rapid growth associated with acquisitions. We cannot assure you that we will be able to make the combination of our business with that of acquired products, businesses or companies work or be successful. Furthermore, the development or expansion of our business or any acquired products, business or companies may require a substantial capital investment by us. We may not have these necessary funds or they might not be available to us on acceptable terms or at all. We may also seek to raise funds by selling shares of our preferred or common stock, which could dilute each current shareholder's ownership interest in the Company.

Any international operations we undertake may subject us to risks inherent with operations outside of the United States.

We may seek to obtain market clearance for in foreign markets that we deem to generate significant opportunities. However, even with the cooperation of a commercialization partner, conducting drug development in foreign countries involves inherent risks, including, but not limited to: difficulties in staffing, funding and managing foreign operations; unexpected changes in regulatory requirements; export restrictions; tariffs and other trade barriers; difficulties in protecting, acquiring, enforcing and litigating intellectual property rights; fluctuations in currency exchange rates; and potentially adverse tax consequences. If we were to experience any of the difficulties listed above, or any other difficulties, our international development activities and our overall financial condition may suffer and cause us to reduce or discontinue our international development and registration efforts.

We may not be successful in hiring and retaining key employees, including executive officers.

Our future operations and successes depend in large part upon the strength of our management team. We rely heavily on the continued service of each member of our management team. Accordingly, if any member of our management team were to terminate their employment with us, such departure may have a material adverse effect on our business. In addition, our future success depends on our ability to identify, attract, hire or engage, retain and motivate other well-qualified financial, managerial, technical, clinical and regulatory personnel. There can be no assurance that these professionals will be available in the market, or that we will be able to retain existing professionals or to meet or to continue to meet their compensation requirements. Furthermore, the cost base in relation to such compensation, which may include equity compensation, may increase significantly, which could have a material adverse effect on us. Failure to establish and maintain an effective management team and work force could adversely affect our ability to operate, grow and manage our business.

Managing our growth as we expand operations may strain our resources.

We expect to grow rapidly in order to support additional, larger, and potentially international, pivotal clinical trials of our drug candidates, which will place a significant strain on our financial, managerial and operational resources. In order to achieve and manage growth effectively, we must continue to improve and expand our operational and financial management capabilities. Moreover, we will need to increase staffing and to train, motivate and manage our employees. All of these activities will increase our expenses and may require us to raise additional capital sooner than expected. Failure to manage growth effectively could harm our business, financial condition or results of operations.

If a product liability claim is successfully brought against us for uninsured liabilities, or such claim exceeds our insurance coverage, we could be forced to pay substantial damage awards that could materially harm our business.

The use of any of our existing or future product candidates in clinical trials and the sale of any approved pharmaceutical products may expose us to significant product liability claims. We currently do not have product liability insurance coverage but we intend to obtain such insurance. Such insurance coverage may not protect us against any or all of the product liability claims that may be brought against us in the future. We may not be able to acquire or maintain adequate product liability insurance coverage at a commercially reasonable cost or in sufficient amounts or scope to protect us against potential losses. In the event a product liability claim is brought against us, we may be required to pay legal and other expenses to defend the claim, as well as uncovered damage awards resulting from a claim brought successfully against us. In the event our product candidate is approved for sale by the FDA or other regulatory agency and commercialized, we may need to substantially increase the amount of our product liability coverage. Defending any product liability claim or claims could require us to expend significant financial and managerial resources, which could have an adverse effect on our business.

Our business may be adversely affected by public health crises, such as pandemics and epidemics, including the COVID-19 pandemic, which may have a material adverse effect on our business. The nature and extent of future impacts are highly uncertain and unpredictable.

We are subject to risks associated with public health crises, such as pandemics and epidemics, including the COVID-19 pandemic. While many countries around the world have removed or reduced the restrictions taken in response to the COVID-19 pandemic, the emergence of new variants of COVID-19 virus could result in new governmental lockdowns, quarantine requirements or other restrictions to slow the spread of the virus. In addition, any such measures could also impact the global economy more broadly, for example by leading to further economic slowdowns. While COVID-19 case volumes have decreased in the U.S and certain other countries, the global outlook remains uncertain as case counts fluctuate and vaccination and booster rates remain relatively low in many parts of the world. If we were to experience shutdowns or other significant business disruptions, our ability to conduct our business in the manner presently planned could be materially and negatively impacted.

For example, staffing issues related to a public health crises may disrupt our business operations, including our clinical trials. Site initiation, participant recruitment and enrollment, participant dosing, distribution of clinical trial materials, study monitoring and data analysis may be paused or delayed due to changes in hospital or university policies, federal, state or local regulations, prioritization of hospital resources toward other efforts, or other staffing issues related to any such health epidemic. Also, some participants and clinical investigators may not be able to comply with clinical trial protocols. For example, quarantines or other travel limitations (whether voluntary or required) stemming from a health epidemic may impede participant movement, affect sponsor access to study sites, or interrupt healthcare services, and we may be unable to conduct our clinical trials. In addition, if any

third parties in the supply chain for materials used in the production of our product candidates are adversely impacted by a public health crises, our supply chain may be disrupted, limiting our ability to manufacture our product candidates for our clinical trials and research and development operations. Furthermore, we may be at a risk of delaying, defaulting and/or not performing under existing agreements, which may increase our costs. These cost increases may not be fully recoverable or adequately covered by insurance. Infections and deaths related to a health epidemic may also disrupt the United States' healthcare and healthcare regulatory systems which could divert healthcare resources away from, or materially delay FDA review and/or approval of our product candidates.

The scope and duration of any future public health crisis, including the potential emergence of new variants of the COVID-19 virus, the pace at which government restrictions are imposed and lifted, global vaccination and booster rates, the speed and extent to which global markets fully recover from the disruptions caused by such public health crisis, and the impact of these factors on our business, financial condition and results of operations, will depend on future developments that are highly uncertain and cannot be predicted with confidence.

Significant disruptions of information technology systems or breaches of data security could adversely affect our business.

Our business is increasingly dependent on critical, complex, and interdependent information technology systems, including Internet-based systems, to support business processes as well as internal and external communications. These systems are also critical to enable remote working arrangements, which have been growing in importance. The size and complexity of our computer systems make us potentially vulnerable to IT system breakdowns, internal and external malicious intrusion, and computer viruses and ransomware, which may impact product production and key business processes. We also have outsourced significant elements of our information technology infrastructure and operations to third parties, which may allow them to access our confidential information and may also make our systems vulnerable to service interruptions or to security breaches from inadvertent or intentional actions by such third parties or others.

In addition, our systems are potentially vulnerable to data security breaches - whether by employees or others - which may expose sensitive data to unauthorized persons. Data security breaches could lead to the loss of trade secrets or other intellectual property, result in demands for ransom or other forms of blackmail, or lead to the public exposure of personal information (including sensitive personal information) of our employees, clinical trial patients, customers, and others. Such attacks are of ever-increasing levels of sophistication and are made by groups and individuals with a wide range of motives (including industrial espionage or extortion) and expertise, including by organized criminal groups, "hacktivists," nation states, and others. As a company with an increasingly global presence, our systems are subject to frequent attacks. There is the potential that our systems may be directly or indirectly affected as nation-states conduct global cyberwarfare, including in connection with the current Russia-Ukraine or Hamas-Israel armed conflict.

Due to the nature of some of these attacks, there is a risk that an attack may remain undetected for a period of time. While we continue to make investments to improve the protection of data and information technology, and to oversee and monitor the security measures of our suppliers and/or service providers, there can be no assurance that our efforts will prevent service interruptions or security breaches. In addition, we depend in part on third-party security measures over which we do not have full control to protect against data security breaches.

If we or our suppliers and/or service providers fail to maintain or protect our information technology systems and data security effectively and in compliance with U.S. and foreign laws, or fail to anticipate, plan for, or manage significant disruptions to these systems, we or our suppliers and/or service providers could have difficulty preventing, detecting, or controlling such disruptions or security breaches, which could result in legal proceedings, liability under U.S. and foreign laws that protect the privacy of personal information, disruptions to our operations, government investigations, breach of contract claims, and damage to our reputation (in each case in the U.S. or globally), which could have a material adverse effect on our business, prospects, operating results, and financial condition.

Risks Related to Our Common Stock

The price of our common stock may fluctuate substantially.

You should consider an investment in our common stock to be risky, and you should invest in our common stock only if you can withstand a significant loss and wide fluctuations in the market value of your investment. Some factors that may cause the market price of our common stock to fluctuate, in addition to the other risks mentioned in this "Risk Factors" section and elsewhere in this Annual Report on Form 10-K, are:

- sale of our common stock by our shareholders, executives, and directors;
- volatility and limitations in trading volumes of our shares of common stock;
- our ability to obtain financings to conduct and complete research and development activities including, but not limited to, our clinical trials, and other business activities;
- the timing and success of introductions of new products by us or our competitors or any other change in the competitive dynamics of our industry, including consolidation among competitors;
- our ability to attract new customers;
- our ability to secure resources and the necessary personnel to conduct clinical trials on our desired schedule;
- commencement, enrollment or results of our clinical trials for our product candidates;
- changes in the development status of our product candidates;
- any delays or adverse developments or perceived adverse developments with respect to a regulatory agency's review of our planned pre-clinical and clinical trials;
- any delay in our submission for studies or product approvals or adverse regulatory decisions, including failure to receive regulatory approval for our product candidates;
- unanticipated safety concerns related to the use of our product candidates;
- changes in our capital structure or dividend policy, future issuances of securities and sales of large blocks of common stock by our shareholders;
- our cash position;

- announcements and events surrounding financing efforts, including debt and equity securities;
- our inability to enter into new markets or develop new products;
- reputational issues;
- announcements of acquisitions, partnerships, collaborations, joint ventures, new products, capital commitments, or other events by us or our competitors;
- changes in general economic, political and market conditions in or any of the regions in which we conduct our business;
- changes in industry conditions or perceptions;
- analyst research reports, recommendation and changes in recommendations, price targets, and withdrawals of coverage;
- departures and additions of key personnel;
- disputes and litigations related to intellectual properties, proprietary rights, and contractual obligations;
- changes in applicable laws, rules, regulations, or accounting practices and other dynamics; and
- other events or factors, many of which may be out of our control, including, but not limited to, pandemics, war, or other acts of God.

In addition, if the market for stocks in our industry or industries related to our industry, or the stock market in general, experiences a loss of investor confidence, the trading price of our common stock could decline for reasons unrelated to our business, financial condition and results of operations. If any of the foregoing occurs, it could cause our stock price to fall and may expose us to lawsuits that, even if unsuccessful, could be costly to defend and a distraction to management.

We may acquire other companies or technologies, which could divert our management's attention, result in dilution to our shareholders and otherwise disrupt our operations and adversely affect our operating results.

We may in the future seek to acquire or invest in businesses, applications and services or technologies that we believe could complement or expand our services, enhance our technical capabilities or otherwise offer growth opportunities. The pursuit of potential acquisitions may divert the attention of management and cause us to incur various expenses in identifying, investigating and pursuing suitable acquisitions, whether or not they are consummated.

In addition, we do not have any experience in acquiring other businesses. If we acquire additional businesses, we may not be able to integrate the acquired personnel, operations and technologies successfully, or effectively manage the combined business following the acquisition. We also may not achieve the anticipated benefits from the acquired business due to a number of factors, including:

- inability to integrate or benefit from acquired technologies or services in a profitable manner;
- unanticipated costs or liabilities associated with the acquisition;
- difficulty integrating the accounting systems, operations and personnel of the acquired business;
- difficulties and additional expenses associated with supporting legacy products and hosting infrastructure of the acquired business;
- difficulty converting the customers of the acquired business onto our platform and contract terms, including disparities in the revenue, licensing, support or professional services model of the acquired company;
- diversion of management's attention from other business concerns;
- adverse effects to our existing business relationships with business partners and customers as a result of the acquisition;
- the potential loss of key employees;
- use of resources that are needed in other parts of our business; and
- use of substantial portions of our available cash to consummate the acquisition.

In addition, a significant portion of the purchase price of companies we acquire may be allocated to acquired goodwill and other intangible assets, which must be assessed for impairment at least annually. In the future, if our acquisitions do not yield expected returns, we may be required to take charges to our operating results based on this impairment assessment process, which could adversely affect our results of operations. Acquisitions could also result in dilutive issuances of equity securities or the incurrence of debt, which could adversely affect our operating results. In addition, if an acquired business fails to meet our expectations, our operating results, business and financial position may suffer.

Unstable market and economic conditions and adverse developments with respect to financial institutions and associated liquidity risk may have serious adverse consequences on our business, financial condition and stock price.

The global credit and financial markets have recently experienced extreme volatility and disruptions, including severely diminished liquidity and credit availability, declines in consumer confidence, declines in economic growth, inflationary pressure and interest rate changes, increases in unemployment rates and uncertainty about economic stability. The financial markets and the global economy may also be adversely affected by the current or anticipated impact of military conflict, including the conflict between Russia and Ukraine, terrorism or other geopolitical events. Sanctions

imposed by the United States and other countries in response to such conflicts, including the one in Ukraine, may also adversely impact the financial markets and the global economy, and any economic countermeasures by the affected countries or others could exacerbate market and economic instability. More recently, the closures of Silicon Valley Bank and Signature Bank and their placement into receivership with the Federal Deposit Insurance Corporation ("FDIC") created bank-specific and broader financial institution liquidity risk and concerns. Although the Department of the Treasury, the Federal Reserve, and the FDIC jointly released a statement that depositors at SVB and Signature Bank would have access to their funds, even those in excess of the standard FDIC insurance limits, under a systemic risk exception, future adverse developments with respect to specific financial institutions or the broader financial services industry may lead to market-wide liquidity shortages, impair the ability of companies to access near-term working capital needs, and create additional market and economic uncertainty. We have significant cash balances at financial institutions which, throughout the year, regularly exceed the federally insured limit of \$250,000. Any loss incurred or a lack of access to such funds could have a significant adverse impact on our financial condition, results of operations, and cash flows.

There can be no assurance that future credit and financial market instability and a deterioration in confidence in economic conditions will not occur. Our general business strategy may be adversely affected by any such economic downturn, liquidity shortages, volatile business environment or continued unpredictable and unstable market conditions. If the equity and credit markets deteriorate, or if adverse developments are experienced by financial institutions, it may cause short-term liquidity risk and also make any necessary debt or equity financing more difficult, more costly and more dilutive. Failure to secure any necessary financing in a timely manner and on favorable terms could have a material adverse effect on our growth strategy, financial performance and stock price and could require us to delay or abandon clinical development plans. In addition, there is a risk that one or more of our financial institutions, manufacturers and other third parties with whom we engage may be adversely affected by the foregoing risks, which may have a material adverse effect on our business.

Future sales and issuances of our securities could result in additional dilution of the percentage ownership of our shareholders and could cause our share price to fall.

We expect that significant additional capital will be needed in the future to continue our planned operations, including research and development, increased marketing, hiring new personnel, commercializing our products, and continuing activities as an operating public company. To the extent we raise additional capital by issuing equity securities, our shareholders may experience substantial dilution. We may sell common stock, convertible securities or other equity securities in one or more transactions at prices and in a manner we determine from time to time. If we sell common stock, convertible securities or other equity securities in more than one transaction, investors may be materially diluted by subsequent sales. Such sales may also result in material dilution to our existing shareholders, and new investors could gain rights superior to our existing shareholders.

We do not intend to pay cash dividends on our shares of common stock so any returns will be limited to the value of our shares.

We have never paid or declared any cash dividends on our common stock, and we do not anticipate paying any cash dividends on our common stock in the foreseeable future. We currently anticipate that we will retain future earnings for the development, operation and expansion of our business. Any future determination to pay dividends will be at the discretion of our board of directors and will depend upon a number of factors, including our results of operations, financial condition, future prospects, contractual restrictions, restrictions imposed by applicable law and other factors that our board of directors deems relevant. Therefore, any return to shareholders will be limited to the increase, if any, of our share price.

We are an "emerging growth company" and will be able to avail ourselves of reduced disclosure requirements applicable to emerging growth companies, which could make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012 (the "JOBS Act"), and we intend to take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not "emerging growth companies" including not being required to comply with the auditor attestation requirements of Section 404(b) of the Sarbanes-Oxley Act of 2002, as amended ("Sarbanes-Oxley"), reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved. In addition, pursuant to Section 107 of the JOBS Act, as an "emerging growth company" we intend to take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act, for complying with new or revised accounting standards. In other words, an "emerging growth company" can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile. We may take advantage of these reporting exemptions until we are no longer an "emerging growth company." We will remain an "emerging growth company" until the earliest of (i) the last day of the fiscal year in which we have total annual gross revenues of \$1.235 billion or more; (ii) the last day of our fiscal year following the fifth anniversary of the date of our initial public offering; (iii) the date on which we have issued more than \$1.0 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the SEC.

We may be at risk of securities class action litigation.

We may be at risk of securities class action litigation. In the past, biotechnology and pharmaceutical companies have experienced significant stock price volatility, particularly when associated with binary events such as clinical trials and product approvals. If we face such litigation, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business and results in a decline in the market price of our common stock.

We are currently listed on The Nasdaq Capital Market ("Nasdaq"). If we are unable to maintain listing of our securities on Nasdaq or any stock exchange, our stock price could be adversely affected and the liquidity of our stock and our ability to obtain financing could be impaired and it may be more difficult for our shareholders to sell their securities.

Although our common stock is currently listed on Nasdaq, we may not be able to continue to meet the exchange's minimum listing requirements or those of any other national exchange. The Listing Rules of Nasdaq require listing issuers to comply with certain standards in order to remain listed on its exchange. If, for any reason, we should fail to maintain compliance with these listing standards and Nasdaq should delist our securities from trading on its exchange and we are unable to obtain listing on another national securities exchange, a reduction in some or all of the following may occur, each of which could have a material adverse effect on our shareholders:

- the liquidity of our common stock;
- the market price of our common stock;
- our ability to obtain financing for the continuation of our operations;
- the number of investors that will consider investing in our common stock;

- the number of market makers in our common stock;
- the availability of information concerning the trading prices and volume of our common stock; and
- the number of broker-dealers willing to execute trades in shares of our common stock.

Our Articles of Incorporation, as amended (“Articles of Incorporation”), our Amended and Restated Bylaws, and Nevada law may have anti-takeover effects that could discourage, delay or prevent a change in control, which may cause our stock price to decline.

Our Articles of Incorporation, Amended and Restated Bylaws, and Nevada law could make it more difficult for a third-party to acquire us, even if closing such a transaction would be beneficial to our shareholders. We are authorized to issue up to 10,000,000 shares of preferred stock, none of which are outstanding as of April 1, 2024. This preferred stock may be issued in one or more series, the terms of which may be determined at the time of issuance by our board of directors without further action by shareholders. The terms of any series of preferred stock may include voting rights (including the right to vote as a series on particular matters), preferences as to dividend, liquidation, conversion and redemption rights and sinking fund provisions. As of April 1, 2024, 5,000,000 shares of our preferred stock have been designated as Series A Preferred Stock of which 3,102,480 shares of Series A Preferred Stock were previously issued and converted into common stock at the time of our initial public offering and 1,897,520 shares of Series A Preferred Stock remain authorized. The issuance of any preferred stock could materially adversely affect the rights of the holders of our common stock, and therefore, reduce the value of our common stock. In particular, specific rights granted to future holders of preferred stock could be used to restrict our ability to merge with, or sell our assets to, a third-party and thereby preserve control by the present management.

Provisions of our Articles of Incorporation, our Amended and Restated Bylaws and Nevada law also could have the effect of discouraging potential acquisition proposals or making a tender offer or delaying or preventing a change in control, including changes a shareholder might consider favorable. Such provisions may also prevent or frustrate attempts by our shareholders to replace or remove our management. In particular, the Articles of Incorporation, our Amended and Restated Bylaws and Nevada law, as applicable, among other things:

- provide the board of directors with the ability to alter the Amended and Restated Bylaws without shareholder approval;
- place limitations on the removal of directors;
- establish advance notice requirements for nominations for election to the board of directors or for proposing matters that can be acted upon at shareholder meetings; and
- provide that vacancies on the board of directors may be filled by a majority of directors in office, although less than a quorum.

Our Amended and Restated Bylaws provide that the Eighth Judicial District Court of Clark County, Nevada will be the sole and exclusive forum for certain disputes which could limit shareholders’ ability to obtain a favorable judicial forum for disputes with us or its directors, officers, employees or agents.

Our Amended and Restated Bylaws provide that unless we consent in writing to the selection of an alternative forum, the Eighth Judicial District Court of Clark County, Nevada shall be the sole and exclusive forum for state law claims with respect to: (i) any derivative action or proceeding brought in the name or right of us or on our behalf, (ii) any action asserting a claim for breach of any fiduciary duty owed by any director, officer, employee or agent to us or our shareholders, (iii) any action arising or asserting a claim arising pursuant to any provision of Nevada Revised Statutes Chapters 78 or 92A or any provision of our Articles of Incorporation or Amended and Restated Bylaws or (iv) any action asserting a claim governed by the internal affairs doctrine, including, without limitation, any action to interpret, apply, enforce or determine the validity of our Articles of Incorporation or Amended and Restated Bylaws. This exclusive forum provision would not apply to suits brought to enforce any liability or duty created by the Securities Act or the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction. To the extent that any such claims may be based upon federal law claims, Section 27 of the Exchange Act creates exclusive federal jurisdiction over all suits brought to enforce any duty or liability created by the Exchange Act or the rules and regulations thereunder. Furthermore, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all suits brought to enforce any duty or liability created by the Securities Act or the rules and regulations thereunder.

This choice of forum provision may limit a shareholder’s ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers, other employees or agents and may result in increased costs to our shareholders, which may discourage such lawsuits against us and our directors, officers, other employees and agents. Alternatively, if a court were to find the choice of forum provision contained in our Amended and Restated Bylaws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could have a material adverse effect on our business, results of operations, and financial condition.

General Risk Factors

If securities or industry analysts do not publish research or reports, or publish unfavorable research or reports about our business, our stock price and trading volume may decline.

The trading market for our common stock will rely in part on the research and reports that industry or financial analysts publish about us, our business, our markets and our competitors. We do not control these analysts. If securities analysts do not cover our common stock, the lack of research coverage may adversely affect the market price of our common stock. Furthermore, if one or more of the analysts who do cover us downgrade our stock or if those analysts issue other unfavorable commentary about us or our business, our stock price would likely decline. If one or more of these analysts cease coverage of us or fails to regularly publish reports on us, we could lose visibility in the market and interest in our stock could decrease, which in turn could cause our stock price or trading volume to decline and may also impair our ability to expand our business with existing customers and attract new customers.

Financial reporting obligations of being a public company in the United States are expensive and time-consuming, and our management will be required to devote substantial time to compliance matters.

As a publicly traded company we incur significant legal, accounting and other expenses. The obligations of being a public company in the United States require significant expenditures and places significant demands on our management and other personnel, including costs resulting from public company reporting obligations under the Exchange Act and the rules and regulations regarding corporate governance practices, including those under

Sarbanes-Oxley, the Dodd-Frank Wall Street Reform and Consumer Protection Act, and the listing requirements of Nasdaq. These rules require the establishment and maintenance of effective disclosure and financial controls and procedures, internal control over financial reporting and changes in corporate governance practices, among many other complex rules that are often difficult to implement, monitor and maintain compliance with. Moreover, despite recent reforms made possible by the JOBS Act, the reporting requirements, rules, and regulations will make some activities more time-consuming and costly, particularly after we are no longer an "emerging growth company." Our management and other personnel will need to devote a substantial amount of time to ensure that we comply with all of these requirements and to keep pace with new regulations, otherwise we may fall out of compliance and risk becoming subject to litigation or being delisted, among other potential problems.

Failure to maintain effective internal controls could cause our investors to lose confidence in us and adversely affect the market price of our common stock. If our internal controls are not effective, we may not be able to accurately report our financial results or prevent fraud.

Section 404 of Sarbanes-Oxley requires annual management assessments of the effectiveness of our internal controls over financial reporting. If we fail to comply with the rules under Sarbanes-Oxley related to disclosure controls and procedures in the future, or, if we discover material weaknesses and other deficiencies in our internal controls over financial reporting, our stock price could decline significantly and raising capital could be more difficult. If material weaknesses or significant deficiencies are discovered or if we otherwise fail to achieve and maintain the adequacy of our internal controls, we may not be able to ensure that we can conclude on an ongoing basis that we have effective internal controls over financial reporting in accordance with Section 404 of Sarbanes-Oxley. Moreover, effective internal controls are necessary for us to produce reliable financial reports and are important to helping prevent financial fraud. If we cannot provide reliable financial reports or prevent fraud, our business and operating results could be harmed, investors could lose confidence in our reported financial information, and the trading price of our common stock could drop significantly.

USE OF PROCEEDS

We will not receive any of the proceeds from the sale by the Selling Stockholders of the Common Stock. Upon any exercise of the Warrants by payment of cash, however, we will receive the exercise price of the Warrants, which, if exercised in cash with respect to the 5,030,000 shares of Common Stock offered hereby, would result in gross proceeds to us of approximately \$9.49 million. However, we cannot predict when and in what amounts or if the Warrants will be exercised by payments of cash and it is possible that the Warrants may expire and never be exercised, in which case we would not receive any cash proceeds.

DIVIDEND POLICY

We have never paid cash dividends on our Common Stock and we do not anticipate paying cash dividends in the foreseeable future, but intend to retain our capital resources for reinvestment in our business. Any future determination to pay cash dividends on our Common Stock will be at the discretion of our board of directors and will be dependent upon our financial condition, results of operations, capital requirements and other factors as the board of directors deems relevant.

DETERMINATION OF THE OFFERING PRICE

The prices at which the shares of Common Stock covered by this prospectus may actually be sold will be determined by the prevailing public market price for shares of our Common Stock or by negotiations between the Selling Stockholders and buyers of our Common Stock in private transactions or as otherwise described in "Plan of Distribution."

BUSINESS

Overview

We are a clinical-stage biopharmaceutical company focused on developing new generation therapies for unmet medical needs. We are focused on developing (i) a topical formulation for treating side effects from drugs used for the treatment of cancer (HT-001); (ii) a treatment for mast-cell derived cancers and anaphylaxis (HT-KIT); (iii) a treatment for traumatic brain injury and ischemic stroke (HT-TBI); and (iv) a treatment and/or prevention for Alzheimer's or other neuroinflammatory diseases (HT-ALZ). We also have assets being developed for (i) atopic dermatitis (also known as eczema) (BioLexa); (ii) a treatment for asthma and allergies using inhalational administration (HT-004); and (iii) a treatment for acne as well as inflammatory bowel diseases (HT-003). In addition, the Company also has interests in certain other assets being developed by third parties (see Note 5 to the consolidated financial statements for a discussion of the Company's agreements with Zylö Therapeutics, Inc. and Voltron Therapeutics).

Primary Development:

HT-001

On February 1, 2020, we entered into a patent license agreement with The George Washington University ("GW") pursuant to which GW granted us a license to certain patent rights to, among other things, make, use, offer and sell certain licensed products throughout the world with respect to HT-001 which we intend to seek approval for use for treating dermatological side effects from epidermal growth factor receptor ("EGFR") inhibitors, and potentially other drugs used for the treatment of cancer. HT-001 is a topical formulation under development for the treatment of patients with rash and skin disorders associated with initial and repeat courses of tyrosine kinase EGFR inhibitor therapy. EGFR inhibitors are used for the treatment of cancers with EGFR up-regulation (such as non-small cell lung cancer, pancreatic cancer, breast cancer and colon cancer); however, EGFR inhibitors are often associated with dose-limiting skin toxicities that can result in the interruption or reduction of treatment. HT-001 is targeted to treat these EGFR-induced skin disorders to allow patients to achieve the best potential outcomes of EGFR therapy. HT-001 has achieved positive results in its initial pre-clinical studies conducted at GW. In November 2022, we submitted an IND to the FDA with respect to HT-001 as a concomitant therapy with EGFR inhibitors, for a Phase 2a clinical trial in humans. We have engaged Worldwide Clinical Trials ("Worldwide") as our clinical research organization to provide clinical management, data management, biostatistical, medical monitoring, pharmacovigilance, and other related services to support the CLEER-001 Phase 2a clinical trial in the United States. We received FDA approval to proceed with our clinical study on December 28, 2022 and it is currently enrolling patients.

We believe that the key elements for our market success with respect to HT-001 include:

- To our knowledge, there are currently no drugs approved for the treatment of skin toxicities associated with EGFR inhibitor therapy and 49-100% of patients develop skin toxicities during EGFR inhibitory therapy;
- The main active ingredient of HT-001 is already approved in oral and IV dosage forms which supports pursuit of the 505(b)(2) regulatory pathway to reduce development time and cost;
- To our knowledge, there are no current topical formulations available using HT-001's active ingredient so we believe that there is no direct market competition; and

- We have the potential to pursue other indications such as chronic pruritus, atopic dermatitis and other skin toxicities that develop from anti-cancer therapies using the HT-001 formulation.

HT-KIT

We have obtained from North Carolina State University ("NC State") an exclusive, worldwide, royalty bearing license to certain intellectual property to, among other things, discover, develop, make, have made, use and sell certain licensed products and sell, use and practice certain licensed services with respect to cancer and anaphylaxis; this is being developed as HT-KIT. The HT-KIT drug is designed to more specifically target the receptor tyrosine kinase KIT in mast cells, which is required for the proliferation, survival and differentiation of bone marrow-derived hematopoietic stem cells. Mutations in the KIT pathway have been associated with several human cancers, such as gastrointestinal stromal tumors and mast cell-derived cancers (mast cell leukemia and mast cell sarcoma). Based on the initial proof-of-concept success, we intend to initially target mast cell neoplasms for development of HT-KIT, which is a rare, aggressive cancer with poor prognosis.

The same target, KIT, also plays a key role in mast cell-mediated anaphylaxis, a serious allergic reaction that is rapid in onset and may cause death. Anaphylaxis typically occurs after exposure to an external allergen that results in an immediate and severe immune response. We also intend to pursue the anaphylaxis indication for HT-KIT in parallel to cancer treatment.

On November 15, 2021, we entered into a sponsored research agreement with NC State to focus on characterizing the HT-KIT dose and dosing frequency for treatment of aggressive mastocytosis and mast cell neoplasms using humanized tumor mouse models.

In December 2021, we submitted an Orphan Drug Designation ("ODD") request to the U.S. Food and Drug Administration ("FDA") for HT-KIT for the treatment of mastocytosis, and on March 10, 2022, we received such ODD. Drugs intended to treat orphan diseases (rare diseases that affect less than 200,000 people in the U.S.) are eligible to apply for ODD, which provides benefits such as 7-year marketing exclusivity and tax incentives to the sponsor during development and after approval. In September 2023, we submitted a pre-IND meeting request to the FDA with respect to HT-KIT as for the treatment of adult patients with advanced systemic mastocytosis (AdvSM), systemic mastocytosis with an associated hematological neoplasm (SM-AHN) and mast cell leukemia (MCL). In preparation for such pre-IND meeting, we prepared and submitted to the FDA our IND-opening clinical trial plan which includes two phase 1 trials conducted in patients. Based on the FDA's feedback, we intend to advance our IND-enabling activities for HT-KIT as planned.

HT-ALZ

In February 2021, we filed a provisional patent application with the United States Patent and Trademark Office for the use of the active ingredient of HT-001 to treat and prevent Alzheimer's disease and other neuroinflammatory diseases, and in February 2022, we filed a Patent Cooperation Treaty patent application, receiving confirmation of such filing on April 4, 2022.

We intend to develop HT-ALZ for use in patients following the Section 505(b)(2) regulatory pathway of the FDA rules. Section 505(b)(2) of the Federal Food, Drug, and Cosmetic Act ("FDCA") was enacted to enable sponsors to seek New Drug Application ("NDA") approval for novel repurposed drugs without the need for such sponsors to undertake time consuming and expensive pre-clinical safety studies and Phase 1 safety studies. Proceeding under this regulatory pathway, we will be able to rely upon publicly available data with respect to our active ingredient in our NDA submission to the FDA for marketing approval.

On June 7, 2021, we entered into a sponsored research agreement with Washington University in St. Louis to investigate the effects of HT-ALZ on behavioral and pathological markers of Alzheimer's disease and to determine if HT-ALZ can improve learning and memory in an animal model of Alzheimer's disease. Our study will also determine if behavior is improved utilizing HT-ALZ in blocking NK-1Rs. The study commenced in August 2021 and after positive initial preclinical results, a chronic dosing study in mice was initiated. We received preclinical results from the chronic dosing study in 2023 and amended the SRA to conduct additional studies. We expect the results from the additional preclinical studies in 2024.

HT-TBI

In October 2022, we filed a provisional patent application with the United States Patent and Trademark Office for the use of the active ingredient of HT-001 to treat traumatic brain injury and ischemic stroke. We intend to develop HT-ALZ for use in patients following the Section 505(b)(2) regulatory pathway of the FDA rules pursuant to which we will be able to rely upon publicly available data with respect to our active ingredient in our NDA submission to the FDA for marketing approval.

HT-TBI injection is being developed as a ready-to-inject autoinjector for intramuscular injection to be used in both traumatic brain injuries and ischemic stroke. The same dose and formulation can be used across both TBI and stroke indications in age two years through adult. Our focus of development is for point-of-care use in ambulatory and emergency room settings. HT-TBI's active ingredient targets substance P/NK-1 pathway, identified as a leading cause of post-brain injury inflammation and edema. Preclinical data has shown an NK-1 Antagonist significantly reduces brain edema and blood brain barrier disruption post-TBI and post-stroke.

The BioLexa Platform

We have obtained an exclusive license from the University of Cincinnati to make, use, have made, import, offer for sale, and sell products based upon or involving the use of (i) topical compositions comprising a zinc chelator and gentamicin and (ii) zinc chelators to inhibit biofilm formation (the "BioLexa Platform" or "BioLexa"). The license enables us to develop the platform for any indications in humans. The BioLexa Platform is a proprietary, patented, drug compound platform for the treatment of eczema. It combines an FDA approved zinc chelator with one or more approved antibiotics in a topical dosage form to address unchecked eczema flare-ups by preventing the formation of infectious biofilms and the resulting clogging of sweat ducts. We intend to develop the BioLexa Platform for use in patients following the Section 505(b)(2) regulatory pathway of the FDA rules. Proceeding under this regulatory pathway, we will be able to rely upon publicly available data with respect to gentamicin and the zinc chelator in our NDA submission to the FDA for marketing approval.

In December 2020, we received approval from the Belberry Human Research Ethics Committee in Australia to conduct our Phase 1b clinical trial of BioLexa, and we have engaged Novotech (Australia) Pty Limited as our local clinical research organization in Australia to provide clinical management, data management, biostatistical, medical monitoring, pharmacovigilance, and other related services to support the first in human clinical trial of BioLexa. Phase 1b of the trial was initiated in 2021 and final dosing of patients concluded in September 2022. At this time, we do not anticipate conducting any

further trials in Australia.

We believe that the key elements for our market success with respect to BioLexa include:

- the proprietary formulation of two FDA-approved drugs to treat bacterial proliferation which may reduce development time and costs by giving us the ability to rely on safety and efficacy data from the two approved drugs;
- our proprietary formulation is not a topical corticosteroid, and provides a novel mechanism of action and potentially a preferred safety profile as a market differentiator; and
- the literature set forth below reaffirms the critical role that *S. aureus* plays in the development of atopic dermatitis flare-ups within the international medical community, supporting the targeted mechanism of action of BioLexa.

Shi et al, "MRSA Colonization is Associated with Decreased Skin Commensal Bacteria in Atopic Dermatitis," Invest Dermatol. 2018.

Blicharz, et al, "Staphylococcus aureus: an underestimated factor in the pathogenesis of atopic dermatitis?," Adv Dermatol Allergol 2019.

Preclinical Development

HT-003

On July 30, 2020 (the "Isoprene Effective Date"), we entered into a Sublicense Agreement (the "Isoprene Sublicense Agreement") with Isoprene Pharmaceuticals, Inc. ("Isoprene") pursuant to the commercial evaluation sublicense and option agreement dated March 8, 2019, by and among us, the University of Maryland, Baltimore and Isoprene. Pursuant to the Isoprene Sublicense Agreement, Isoprene granted us an exclusive sublicense to certain intellectual property (i) to make, have made, use, sell, offer to sell and import certain licensed products, (ii) in connection therewith, to use certain inventions and licensed materials and (iii) to practice certain patent rights for the treatment of dermatological conditions or diseases, referred to as HT-003. HT-003 is a novel retinoic acid metabolism blocking agents ("RAMBAs") under investigation for topical treatment in acne and psoriasis applications.

In December 2019, we entered into a research collaboration agreement with Weill Cornell Medicine for the completion of pre-clinical studies investigating the mechanism of action of HT-003 that was renewed in January 2021 as a result of positive preclinical results. Dr. Jonathan Zippin, M.D., Ph.D., FAAD, Associate Professor of Dermatology at Weill Cornell Medicine and our Senior Scientific Advisor, was the principal investigator for such pre-clinical studies.

RAMBAs have the potential to be developed as a platform for multiple inflammatory-based indications. Accordingly, we entered into a Sublicense Agreement with Isoprene on July 2, 2021 pursuant to the option agreement dated December 22, 2020 to expand the therapeutic indication of the sublicensed RAMBAs from Isoprene to include inflammatory bowel diseases, including Crohn's disease and ulcerative colitis. Preclinical proof-of-concept studies were conducted in 2021 for the investigation of RAMBAs for treatment of inflammatory bowel diseases, including Crohn's disease and ulcerative colitis.

HT-004

On November 20, 2019, we entered into a license agreement with NC State pursuant to which NC State granted us an exclusive license to, among other things, develop, make, use, offer and sell certain licensed products throughout the world with respect to HT-004 for treating allergic diseases. HT-004 is a potential disease-modifying agent that uses exon-skipping oligonucleotide-targeted methods to reduce mast cell responses to immunoglobulin E (IgE)-directed antigens, which is one of the key mechanisms in the pathophysiology of asthma, atopic dermatitis and other allergic diseases. HT-004 is currently under investigation for the treatment of asthma and allergies using inhalational administration.

In December 2019, we entered a sponsored research agreement with NC State for proof of principle in targeting allergic inflammation in the airways. Preclinical proof-of-concept data was generated in October 2020 supporting efficacy of HT-004 after inhalational delivery in a mouse model. Critical proof-of-concept studies in a humanized mouse model were completed in 2023. Further preclinical studies are underway at NC State to study HT-004 in different animal models.

We believe that the key elements for our market success with respect to HT-004 include:

- To our knowledge, there are currently no disease-modifying agents for asthma or allergy diseases;
- The active pharmaceutical ingredient in HT-004 is a novel molecular class that we believe would prevent generic competition after commercialization;
- HT-004 is being developed for inhalational administration by either inhaler or nebulizer for easy access at home by patients; and
- HT-004 is applicable for both adult and pediatric patient populations with asthma and/or allergies.

Product Development Pipeline

The following table summarizes our product development pipeline.

	PRODUCT	DISEASE	PROOF OF CONCEPT	PRECLINICAL	IND-ENABLING	PHASE 1	PHASE 2	PHASE 3	LAUNCH
Oncology	HT-KIT	Mast-Cell Derived Cancers							
Neurology	HT-TBI HT-ALZ	Traumatic Brain Injury/Ischemic Stroke Alzheimer's Disease							
Dermatology	HT-001 BioLexa HT-003D	Skin Toxicity Associated with EGFR Inhibitors Atopic Dermatitis Acne							
Inflammatory	HT-004 HT-003IBD	Asthma Inflammatory Bowel Diseases							

Other Interests

We have interests in certain other assets being developed by third parties. Specifically, in December 2021, we entered into a license agreement with Zylö Therapeutics, Inc. ("Zylö") with respect to the development of HT-005. We had previously entered into a sublicense agreement with Zylö pursuant to which we had advanced the development of HT-005 for patients with lupus. (See Note 5 to the consolidated financial statements for a discussion of our agreement with Zylö). In addition, in March 2020, we entered into a Royalty and Development Agreement (the "Voltron Agreement") with Voltron Therapeutics, Inc. ("Voltron") with respect to the development of potential product candidates for the prevention of COVID-19. (See Note 5 to the consolidated financial statements for a discussion of our agreement with Voltron).

Competition

The biopharmaceutical industry utilizes rapidly advancing technologies and is characterized by intense competition. There is also a strong emphasis on intellectual property and proprietary products. In our segment of the biopharmaceutical industry, competition from different sources including major biopharmaceutical companies, academic institutions, government agencies, and public and private research institutions will continue. Many of our competitors have significantly greater financial resources and expertise in product candidate development and may have progressed further toward approval and marketing. In addition, smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies.

Manufacturing and Supply

We do not have any manufacturing capability and therefore we currently rely on and intend to continue to rely on contract manufacturing organizations to produce our product candidates in accordance with regulatory requirements.

Commercialization

Our success depends not only on the successful development and approval of our products candidates but also on the commercialization of our potential products. If and when our product candidates receive regulatory approval, we intend to engage third-parties such as pharmaceutical and biotechnology companies for the commercialization of our products.

Intellectual Property Portfolio

Our goal is to obtain, maintain and enforce patent protection for our products, formulations, processes, methods and other proprietary technologies, preserve our trade secrets, and operate without infringing on the proprietary rights of other parties, both in the U.S. and in other countries. Our policy is to actively seek the broadest intellectual property protection possible for our products, proprietary information and proprietary technology through a combination of contractual arrangements and patents, both in the U.S. and elsewhere in the world. In addition, we intend to actively pursue product life-cycle management initiatives to extend our market exclusivity.

We intend to cement our market exclusivity in conjunction with our formulation-development partners through additional patents based on the pharmaceutical and clinical characteristics of our product candidates in the proprietary formulation and through the introduction of line extensions such as combination drugs and new formulations.

In addition to any granted patents, our products may be eligible for market exclusivity to run concurrently with the term of the patent for three and a half years in the U.S. pursuant to the Hatch-Waxman Act and pediatric exclusivity guideline and up to ten years of market exclusivity in the E.U. which includes eight years of data exclusivity and two years of market exclusivity from the date we file an NDA or the European equivalent referred to as Marketing Authorization Application.

We currently have licenses to six U.S. patents and one pending U.S. patent application, and we have licenses to three patents issued in Europe and Australia and five pending patent applications in foreign jurisdictions including Europe, Brazil, Canada and Hong Kong. Hoth also holds two pending U.S. patent applications, one European application and one pending PCT patent application.

In addition to patents, we rely on trade secrets and know-how and continuing technological innovation to develop and maintain our competitive position. However, trade secrets and know-how can be difficult to protect. We take measures to protect and maintain the confidentiality of proprietary information in order to protect aspects of the business that are not amenable to, or that we do not consider appropriate for, patent protection. We require employees, consultants, outside scientific partners, sponsored researchers and other advisors to execute confidentiality agreements with us on or prior to the commencement of employment or consulting relationships with us.

Government Regulations

Governmental authorities in the U.S. and other countries extensively regulate the research, development, testing, manufacture, labeling, promotion, advertising, distribution and marketing of pharmaceutical products, including biological products, and medical devices, such as those being developed by us. In the U.S., the FDA regulates such products under the FDCA and the Public Health Services Act and implements related regulations. Failure to comply with applicable FDA requirements, both before and after approval, may subject us to administrative and judicial sanctions, such as a delay in approving or refusal by the FDA to approve pending applications, warning letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions and/or criminal prosecution.

U.S. Food and Drug Administration Regulations

In the United States, the FDA regulates drugs (including biological products, such as vaccines), medical devices and combinations of drugs and devices, or combination products, under the FDCA and its implementing regulations. These products are also 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 after approval, may subject an applicant to administrative or judicial sanctions. These sanctions could include, among other actions, the FDA's refusal to approve pending applications, withdrawal of an approval, a clinical hold, untitled or warning letters, requests for voluntary product recalls or withdrawals from the market, product seizures, total or partial suspension of production or distribution injunctions, fines, refusals of government contracts, restitution, disgorgement, or civil or criminal penalties. Any agency or judicial enforcement action could have a material adverse effect on us.

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

- completion of extensive pre-clinical laboratory tests, animal studies and formulation studies in accordance with applicable regulations, including the FDA's Good Laboratory Practice regulations;
- submission to the FDA of an IND, which must become effective before human clinical trials may begin;
- performance of adequate and well-controlled human clinical trials in accordance with an applicable IND and other clinical study related regulations, referred to as good clinical practice ("GCP"), to establish the safety and efficacy of the proposed drug for its proposed indication;
- submission to the FDA of an NDA or biologics license application ("BLA");
- satisfactory completion of an FDA pre-approval inspection of the manufacturing facility or facilities at which the product, or components thereof, are produced to assess compliance with the FDA's current good manufacturing practice ("cGMP") requirements;
- potential FDA audit of the clinical trial sites that generated the data in support of the NDA or BLA; and
- FDA review and approval of the NDA or BLA prior to any commercial marketing or sale.

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

- Phase 1. The product is initially introduced into a small number of healthy human subjects or patients and tested for safety, dosage tolerance, absorption, metabolism, distribution and excretion and, if possible, to gain early evidence on effectiveness. In the case of some products for severe or life-threatening diseases, especially when the product is suspected or known to be unavoidably toxic, the initial human testing may be conducted in patients.
- Phase 2. Involves clinical trials in a limited patient population to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted diseases and to determine dosage tolerance and optimal dosage and schedule.
- Phase 3. Clinical trials are undertaken to further evaluate dosage, clinical efficacy and safety in an expanded patient population at geographically dispersed clinical trial sites. These clinical trials are intended to establish the overall risk/benefit relationship of the product and provide an adequate basis for product labeling.

Post-approval trials, sometimes referred to as Phase 4 clinical trials, 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, the FDA may mandate the performance of Phase 4 trials. Phase 1, Phase 2 and Phase 3 clinical trials may not be completed successfully within any specified period, if at all. The FDA or the clinical trial sponsor may suspend or terminate a clinical trial 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 Institutional Review Board ("IRB"), which oversees the conduct of clinical trials, can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the product has been associated with unexpected serious harm to patients. Additionally, some clinical trials are overseen by an independent group of qualified experts organized by the clinical trial sponsor, known as a data safety monitoring board or committee. This group provides authorization for whether a trial may move forward at designated check points based on access to certain data from the study. The clinical trial sponsor may also suspend or terminate a clinical trial based on evolving business objectives and/or competitive climate.

FDA Review Process

The results of product development, pre-clinical studies and clinical trials, along with descriptions of the manufacturing process, analytical tests conducted on the drug, proposed labeling and other relevant information, are submitted to the FDA as part of an NDA for a new drug, or BLA for a biological product, requesting approval to market the product. The submission of an NDA or BLA is subject to the payment of a substantial user fee, and the sponsor of an approved NDA or BLA is also subject to an annual program user fee; although a waiver of such fee may be obtained under certain limited circumstances.

The FDA reviews all NDAs submitted before it accepts them for filing and may request additional information rather than accepting an NDA for filing. Under the goals and policies agreed to by the FDA under the Prescription Drug User Fee Act ("PDUFA"), the FDA's goal to complete its substantive review of a standard NDA and respond to the applicant is ten months from the receipt of the NDA. The FDA does not always meet its PDUFA goal dates, and the review process is often significantly extended by FDA requests for additional information or clarification and may go through multiple review cycles.

The review and evaluation of an NDA or BLA by the FDA is extensive and time consuming and may take longer than originally planned to complete, and we may not receive a timely approval, if at all.

Before approving an NDA, the FDA will conduct a pre-approval inspection of the manufacturing facilities for the new product to determine

whether they comply with cGMPs. The FDA will not approve the product unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. In addition, before approving an NDA, the FDA may also audit data from clinical trials to ensure compliance with GCP requirements.

There is no assurance that the FDA will ultimately approve a product for marketing in the United States, and we may encounter significant difficulties or costs during the review process. If a product receives marketing approval, the approval may be significantly limited to specific diseases and dosages or the indications for use may otherwise be limited, which could restrict the commercial value 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 or BLA on other changes to the proposed labeling, development of adequate controls and specifications, or a commitment to conduct post-market testing or clinical trials and surveillance to monitor the effects of approved products. For example, the FDA may require Phase 4 clinical trials to further assess drug safety and effectiveness and may require testing and surveillance programs to monitor the safety of approved products that have been commercialized. The FDA may also place other conditions on approvals, including the requirement for a risk evaluation and mitigation strategy ("REMS"), to assure the safe use of the drug.

Section 505(b)(2) Regulatory Approval Pathway

Section 505(b)(2) of the FDCA provides an alternate regulatory pathway for approval of a new drug by allowing the FDA to rely on data not developed by the applicant. Specifically, Section 505(b)(2) permits the submission of an NDA where one or more of the investigations relied upon by the applicant for approval was not conducted by or for the applicant and for which the applicant has not obtained a right of reference. The applicant may rely upon published literature and/or the FDA's findings of safety and effectiveness for an approved drug already on the market. Approval or submission of a 505(b)(2) application, like those for abbreviated new drugs ("ANDAs"), may be delayed because of patent and/or exclusivity rights that apply to the previously approved drug.

A 505(b)(2) application may be submitted for a new chemical entity ("NCE") when some part of the data necessary for approval is derived from studies not conducted by or for the applicant and when the applicant has not obtained a right of reference.

Section 505(b)(2) applications also may be entitled to marketing exclusivity if supported by appropriate data and information. Three-year new data exclusivity may be granted to the 505(b)(2) application if one or more clinical investigations conducted in support of the application, other than bioavailability/bioequivalence studies, were essential to the approval and conducted or sponsored by the applicant. Five years of marketing exclusivity may be granted if the application is for an NCE, and pediatric exclusivity is likewise available.

Orange Book Listing and Paragraph IV Certification

For NDA submissions, including those under Section 505(b)(2), applicants are required to list with the FDA certain patents with claims that cover the applicant's product. Upon approval, each of the patents listed in the application is published in *Approved Drug Products with Therapeutic Equivalence Evaluations*, commonly referred to as the Orange Book. Any applicant who subsequently files an ANDA or 505(b)(2) NDA that references a drug listed in the Orange Book must certify to the FDA that (1) no patent information on the drug product that is the subject of the application has been submitted to the FDA; (2) such patent has expired; (3) the date on which such patent expires; or (4) such patent is invalid or will not be infringed upon by the manufacture, use or sale of the drug product for which the application is submitted. This last certification is known as a Paragraph IV Certification.

If an applicant has provided a Paragraph IV Certification to the FDA, the applicant must also send notice of the Paragraph IV Certification to the holder of the NDA for the approved drug and the patent owner once the application has been accepted for filing by the FDA. The NDA holder or patent owner may then initiate a patent infringement lawsuit in response to notice of the Paragraph IV Certification. The filing of a patent infringement lawsuit within 45 days of the receipt of a Paragraph IV Certification prevents the FDA from approving the ANDA or 505(b)(2) application until the earlier of 30 months from the date of the lawsuit, the applicant's successful defense of the suit, or expiration of the patent.

Reimbursement

Potential sales of any of our product candidates, if approved, will depend, at least in part, on the extent to which such products will be covered by third-party payors, such as government health care programs, commercial insurance and managed healthcare organizations. These third-party payors are increasingly limiting coverage and/or reducing reimbursements for medical products and services. A third-party payor's decision to provide coverage for a drug product does not imply that an adequate reimbursement rate will be approved. Further, one payor's determination to provide coverage for a drug product does not assure that other payors will also provide coverage for the drug product. In addition, the U.S. government, state legislatures and foreign governments have continued implementing cost-containment programs, including price controls, restrictions on reimbursement and requirements for substitution of generic products. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit our future revenues and results of operations. Decreases in third-party reimbursement or a decision by a third-party payor to not cover a product candidate, if approved, or any future approved products could reduce physician usage of our products, and have a material adverse effect on our sales, results of operations and financial condition.

In the United States, the Medicare Part D program provides a voluntary outpatient drug benefit to Medicare beneficiaries for certain products. We do not know whether our product candidates, if approved, will be eligible for coverage under Medicare Part D, but individual Medicare Part D plans offer coverage subject to various factors such as those described above. Furthermore, private payors often follow Medicare coverage policies and payment limitations in setting their own coverage policies.

Orphan Drug Designation

Under the Orphan Drug Act, the FDA may grant orphan designation to a drug or biologic intended to treat a rare disease or condition, which is a disease or condition that affects fewer than 200,000 individuals in the United States, or more than 200,000 individuals in the United States for which there is no reasonable expectation that the cost of developing and making available in the United States a drug or biologic for this type of disease or condition will be recovered from sales in the United States for that drug or biologic. Orphan drug designation must be requested before submitting an NDA or BLA. After the FDA grants orphan drug designation, the generic identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. The orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review or approval process.

If a product that has orphan drug designation subsequently receives the first FDA approval for the disease for which it has such designation, the product is entitled to orphan drug exclusive approval (or exclusivity), which means that the FDA may not approve any other applications, including a full NDA or BLA, to market the same drug for the same indication for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity. Orphan drug exclusivity does not prevent the FDA from approving a different drug or biologic for the same disease or condition, or the same drug or biologic for a different disease or condition. Among the other benefits of orphan drug designation are tax credits for certain research and a waiver of the application user fee.

A designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan designation. In addition, exclusive marketing rights in the United States may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantities of the product to meet the needs of patients with the rare disease or condition.

Healthcare Laws and Regulations

Sales of our product candidates, if approved, or any other future product candidate will be subject to healthcare regulation and enforcement by the federal government and the states and foreign governments in which we might conduct our business. The healthcare laws and regulations that may affect our ability to operate include the following:

- The federal Anti-Kickback Statute makes it illegal for any person or entity to knowingly and willfully, directly or indirectly, solicit, receive, offer, or pay any remuneration that is in exchange for or to induce the referral of business, including the purchase, order, lease of any good, facility, item or service for which payment may be made under a federal healthcare program, such as Medicare or Medicaid. The term "remuneration" has been broadly interpreted to include anything of value.
- Federal false claims and false statement laws, including the federal civil False Claims Act, prohibits, among other things, any person or entity from knowingly presenting, or causing to be presented, for payment to, or approval by, federal programs, including Medicare and Medicaid, claims for items or services, including drugs, that are false or fraudulent.
- Health Insurance Portability and Accountability Act of 1996 ("HIPAA") created additional federal criminal statutes that prohibit among other actions, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, including private third-party payors or making any false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services.
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 and their implementing regulations, impose obligations on certain types of individuals and entities regarding the electronic exchange of information in common healthcare transactions, as well as standards relating to the privacy and security of individually identifiable health information.
- The federal Physician Payments Sunshine Act requires certain manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program, with specific exceptions, to report annually to the Centers for Medicare & Medicaid Services information related to payments or other transfers of value made to physicians and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members.

Also, many states have similar laws and regulations, such as anti-kickback and false claims laws that may be broader in scope and may apply regardless of payor, in addition to items and services reimbursed under Medicaid and other state programs. Additionally, we may be subject to state laws that require pharmaceutical companies to comply with the federal government's and/or pharmaceutical industry's voluntary compliance guidelines, state laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures, as well as state and foreign laws governing the privacy and security of health information, many of which differ from each other in significant ways and often are not preempted by HIPAA.

Additionally, to the extent that our product is sold in a foreign country, we may be subject to similar foreign laws.

Employees

We have a total of 2 full-time employees, 3 employee consultants, and 1 part-time employee. We are not a party to any collective bargaining agreements. We believe that we maintain good relations with our employees.

Our Corporate Information and History

We were incorporated as a Nevada corporation on May 16, 2017. Our principal executive offices are located at 590 Madison Ave, 21st FL, New York, New York 10022 and our telephone number is (646) 756-2997.

MANAGEMENT

Executive Officers and Directors

Set forth below is certain information with respect to the individuals who are our directors and executive officers as of April 1, 2024:

Name	Age	Positions
Robb Knie	55	President Chief Executive Officer and Director
David Briones	47	Chief Financial Officer
Wayne Linsley	67	Director
David B. Sarnoff	56	Director
Graig Springer	44	Director
Jeff Pavell	57	Director

Robb Knie

Robb Knie has served as President and Chief Executive Officer and as a director of the Company since May 2017 and served as our principal financial and accounting officer from June 2018 until March 2019. From October 2020 to January 2023, Mr. Knie served as the Chief Executive Officer, Chief Financial Officer and chairman of the board of directors of FoxWayne Enterprises Acquisition Corp. ("FoxWayne"), a special purpose acquisition corporation. Mr. Knie served as the President of Lifeline Industries Inc. since its inception in 1995. From 2002 to 2010 he was a Semiconductor Analyst for PAW Partners. From 1993 until 1995, Mr. Knie served as Northeast Regional Manager of American Express Financial Advisors. Mr. Knie has served as a board member for Nasdaq-listed companies. He has been featured on Bloomberg, The Wall Street Journal and Forbes Magazine as an Independent Equity Analyst. Mr. Knie has over 20 years of equity markets experience. Mr. Knie has been a member of the American Chemical Society, Institute of

Electrical and Electronics Engineers, as well as The National Alliance for Youth Sports. We believe that Mr. Knie is qualified to serve as a director because of his business and leadership experience and experience as a board member of public companies in the healthcare industry.

David Briones

David Briones has served as Chief Financial Officer of the Company since March 2019 and has over 24 years of public accounting and executive level experience. He consults with various public companies in financial reporting, internal control development and evaluation, budgeting and forecasting. Since September 2021, Mr. Briones has served as Chief Financial Officer, Treasurer and Secretary and a member of the board of directors of Larkspur Healthcare Acquisition Corp. (Nasdaq: LSPR), a special purpose acquisition corporation. Since October 2010, he has served as the managing member and founder of Brio Financial Group, LLC, a full-service financial consulting firm that brings experienced finance and accounting expertise to both public and private companies. Since 2010, Mr. Briones has served over 75 companies as well as numerous banks, hedge funds, venture capital funds and private equity firms. In addition, from May 2018 until its dissolution in April 2021, Mr. Briones served as Executive Chair of Zovis Pharmaceuticals, and from August 2013 to January 2020, Mr. Briones served as Chief Financial Officer of Petro River Oil Corp. ("PTRC"), an independent energy company focused on the exploration and development of conventional oil and gas assets. Mr. Briones also served as interim Chief Financial Officer of Aditx Therapeutics, Inc. (Nasdaq: ADTX), a pre-clinical stage, life sciences company with a mission to prolong life and enhance life quality of transplanted patients from January 2018 to July 2020 (until the company's initial public offering). From October 2017 to May 2018, Mr. Briones served as the Chief Financial Officer of Bitzumi, Inc., a Bitcoin exchange and marketplace. Prior to founding Brio Financial Group, LLC, Mr. Briones was an auditor with Bartolomei Pucciarelli, LLC in Lawrenceville, New Jersey and PricewaterhouseCoopers LLP in New York, New York. Since May 2020, Mr. Briones has served as a member of the board of directors of Unique Logistics International Inc (OTC Pink: UNQL). Mr. Briones received a bachelors of science degree in accounting from Fairfield University.

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Wayne Linsley

Wayne D. Linsley has served as a director of the Company since April 2020. Mr. Linsley has been in business management for over 40 years. He possesses a wide and varied skillset including sales and sales management, finance (for both public and private companies), accounting, audit support and financial reporting. He has a bachelor's in business administration from Siena College in Loudonville, NY. From 2009 to September 2021 he worked for a financial reporting firm that works with publicly traded companies. He has extensive knowledge of financial statements, MD&A, SEC Filings (10-K, 10-Q, 8-K, etc.) Edgar, etc. He often negotiated on behalf of clients in such areas as audit fees, transfer agents, Edgar companies, etc. He currently serves as an independent director for DatChat Inc. (Nasdaq: DATS), serving as the chair of its audit committee, compensation committee and nominating and corporate governance committee, and Silo Pharma, Inc. (Nasdaq: SILO) serving as the chair of its audit committee and compensation committee. We believe Mr. Linsley is qualified to serve as a member of the board because of his business management experience.

David B. Sarnoff

David Sarnoff has served as a director of the Company since August 2018. Since May 2015, Mr. Sarnoff has served as the founder and Principal of Sarnoff Group, LLC, and since January 2019, he has served as the Director of Strategic Partnerships and Executive Leadership Coach at Loeb Leadership. In addition, since December 2021, Mr. Sarnoff has served as Adjunct Faculty at iCoach Global (formerly known as iCoach New York) with respect to a professional coaching program affiliated with the Zicklin School of Business at Baruch College. From October 2003 until May 2015, Mr. Sarnoff served as the co-founder and Principal of Morandi, Taub & Sarnoff LLC, an executive search firm, and from July 1998 until October 2003 he served as a Legal Recruiter for Schneider Legal Search, Inc. From August 1994 until July 1998, Mr. Sarnoff served as a litigation associate attorney at Wachtel Missry LLP (formerly known as Gold & Wachtel LLP). Since July 2018, Mr. Sarnoff has served as a member of the advisory committee of the New Jersey Association of School Resource Officers. From January 2015 until January 2018, Mr. Sarnoff served as board President of Fort Lee Board of Education and served as a board member from January 2013 through January 2019. In September of 2020, Mr. Sarnoff was appointed to a three year term on the Diversity, Equity & Inclusion Committee of the New York City Bar Association, and in September 2022, he was appointed as Co-Chair of that committee. Mr. Sarnoff received his Juris Doctor from Rutgers University School of Law and his bachelor of arts from Hofstra University. Mr. Sarnoff is admitted to the New York and New Jersey (retired status) state bars. We believe that Mr. Sarnoff is qualified to serve as a director because of his legal experience as well as his extensive experience in executive leadership and business development.

Graig Springer

Graig Springer has served as a director of the Company since February 2020. Since April 2021, Mr. Springer has served as Vice President for Brookfield Oaktree Wealth Solutions LLC ("Brookfield") in their Legal and Regulatory Department, and from August 2020 to April 2021, he served as a consultant to Brookfield Public Securities Group LLC. From May 2019 to August 2019, Mr. Springer assisted with product development and governance at Invesco U.S., an investment management company, and from December 2013 to May 2019, he served in various capacities at OppenheimerFunds, Inc., an investment management company acquired by Invesco U.S., including distribution compliance and product development. In addition, Mr. Springer served on the Sub-Adviser Oversight Committee at OppenheimerFunds, Inc. Mr. Springer received his bachelor of arts from Columbia University and his Juris Doctor from Fordham University School of Law. Mr. Springer also holds a Series 7 and a Series 24 license. We believe that Mr. Springer is qualified to serve as a director because of his fifteen years of experience within the financial services industry overseeing and advising firms' compliance with federal rules and regulations.

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Jeff Pavell

Jeff Pavell has served as a director of the Company since December 2022. Since January 2017, Dr. Pavell has served as Chief of Rehabilitation Medicine at Englewood Health, and since November 2021, he has been on the teaching staff at New York-Presbyterian. In addition, since December 2020 he has been on the teaching staff at Hackensack Meridian School of Medicine at Seton Hall. Furthermore, since 2010, Dr. Pavell has served as a partner at Patient Care Associates, an outpatient surgical center, and since 2002, he has served as a Partner at the Physical Medicine and Rehabilitation Center, a private medical practice serving patients with spine, sports and occupational injuries. Dr. Pavell is a Board Certified physician specializing in the field of physical medicine and rehabilitation. Dr. Pavell is also certified in pain medicine and specializes in the most advanced non-operative treatments for spine, sports and interventional pain medicines. Dr. Pavell received his bachelor of arts from Johns Hopkins University and his D.O. degree with honors from the New York College of Osteopathic Medicine. From January 2021 to January 2023, Dr. Pavell served as a member of the board of directors as well as chairman of the audit committee and a member of the compensation committee of FoxWayne, a special purpose acquisition corporation. Furthermore, since September 2022, Dr. Pavell has served as a director of Silo Pharma, Inc. (Nasdaq: SILO) ("Silo") as well as a member of the audit committee, compensation committee and chair of the nominating and corporate governance committee. We believe that Dr. Pavell is qualified to serve as a director due to his extensive experience practicing in the healthcare industry as well as his prior experience serving as a director for other

public companies.

Family Relationships

There are no family relationships among any of our executive officers or directors.

Arrangements between Officers and Directors

Except as set forth herein, to our knowledge, there is no arrangement or understanding between any of our officers or directors and any other person pursuant to which the officer or director was selected to serve as an officer or director.

Involvement in Certain Legal Proceedings

We are not aware of any of our directors or officers being involved in any legal proceedings in the past ten years relating to any matters in bankruptcy, insolvency, criminal proceedings (other than traffic and other minor offenses), or being subject to any of the items set forth under Item 401(f) of Regulation S-K.

Committees of Our Board of Directors

Our board of directors directs the management of our business and affairs, as provided by Nevada law, and conducts its business through meetings of the board of directors and its standing committees. We have a standing audit committee, compensation committee and nominating and corporate governance committee. In addition, from time to time, special committees may be established under the direction of the board of directors when necessary to address specific issues.

Our board of directors has determined that all of the members of the audit committee, the compensation committee and the nominating and corporate governance committee are independent as defined under the applicable rules of Nasdaq, including, in the case of all of the members of our audit committee, the independence requirements contemplated by Rule 10A-3 under the Exchange Act. In making such determination, the board of directors considered the relationships that each director has with our Company and all other facts and circumstances that the board of directors deemed relevant in determining director independence, including the beneficial ownership of our capital stock by each director.

Audit Committee

Our audit committee is responsible for, among other things:

- approving and retaining the independent registered public accounting firm to conduct the annual audit of our consolidated financial statements;
- reviewing the proposed scope and results of the audit;
- reviewing and pre-approval of audit and non-audit fees and services;
- reviewing accounting and financial controls with the independent registered public accounting firm and our financial and accounting staff;
- reviewing and approving transactions between us and our directors, officers and affiliates;
- establishing procedures for complaints received by us regarding accounting matters;
- overseeing internal audit functions, if any; and
- preparing the report of the audit committee that the rules of the Securities and Exchange Commission require to be included in our annual meeting proxy statement.

Our audit committee consists of Wayne Linsley, David Sarnoff and Graig Springer, with Wayne Linsley serving as chair. Each member of our audit committee meets the financial literacy requirements of the Nasdaq rules. In addition, our board of directors has determined that Wayne Linsley qualifies as an "audit committee financial expert," as such term is defined in Item 407(d)(5) of Regulation S-K.

Our board of directors adopted a written charter for the audit committee which is available on our website at www.hoththerapeutics.com.

Compensation Committee

Our compensation committee is responsible for, among other things:

- reviewing and recommending the compensation arrangements for management, including the compensation for our president and chief executive officer;
- establishing and reviewing general compensation policies with the objective to attract and retain superior talent, to reward individual performance and to achieve our financial goals;
- administering our stock incentive plans; and
- preparing the report of the compensation committee that the rules of the Securities and Exchange Commission require to be included in our annual meeting proxy statement.

Our compensation committee currently consists of Wayne Linsley, Graig Springer and Jeff Pavell, with Wayne Linsley serving as chair.

Our board of directors adopted a written charter for the compensation committee which is available on our website at www.hoththerapeutics.com.

Nominating and Governance Committee

Our nominating and governance committee is responsible for, among other things:

- identifying and nominating members of the board of directors;
- developing and recommending to the board of directors a set of corporate governance principles applicable to our Company; and
- overseeing the evaluation of our board of directors.

Our nominating and corporate governance committee consists of Wayne Linsley, Graig Springer and David Sarnoff, with Graig Springer serving as chair.

Our board of directors adopted a written charter for the nominating and corporate governance committee which is available on our website at www.hoththerapeutics.com.

Scientific Advisory Board

In July 2017, the board of directors formed a Scientific Advisory Board (formerly known as the Technology Advisory Board). The members of such board are as follows: (i) Dr. Mario Lacouture, Dr. William Weglicki, and Dr. Adam Friedman as Medical Doctor members and (ii) Dr. Glenn Cruse, Dr. Carla Yuede, Dr. John Cirrito, and Sergio Traversa as Non-Medical Doctor members.

Code of Business Code and Ethics Conduct

We have adopted a written code of business conduct and ethics that applies to our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. A copy of the code is posted on our website at www.hoththerapeutics.com. Disclosure regarding any amendments to, or waivers from, provisions of the code of conduct and ethics that apply to our directors, principal executive and financial officers will be posted on the "Investors-Corporate Governance" section of our website at www.hoththerapeutics.com or will be included in a Current Report on Form 8-K, which we will file within four business days following the date of the amendment or waiver.

EXECUTIVE COMPENSATION

Summary Compensation Table

The following table sets forth the compensation paid or accrued during the fiscal year ended December 31, 2023 and 2022 to our principal executive officer and an additional officer (collectively, the "named executive officers"):

- Robb Knie, Chief Executive Officer and President; and
- Stefanie Johns, former Chief Scientific Officer.

Name and Principal Position	Year	Salary (\$)	Bonus (\$)(1)	Stock Awards (\$)	Option Awards (\$)(2)	Non-Equity Incentive Plan Compensation (\$)	Nonqualified deferred compensation earnings (\$)	All Other Compensation (\$)(3)	Total (\$)
Robb Knie	2023	450,000	200,000	-	103,601	-	-	115,222	868,823
Chief Executive Officer and President	2022	450,000	300,000	-	216,361	-	-	94,009	1,060,370
Stefanie Johns	2022	382,443	20,000	-	108,181	-	-	185,263	695,886
Former Chief Scientific Officer									

(1) Represents payments of discretionary bonuses for performance during the applicable years as determined by the board, and as further described below Bonus Arrangements.

(2) Represents the aggregate grant date fair value of options granted for the fiscal year ended December 31, 2023 and December 31, 2022 as determined in accordance with FASB ASC Topic 718, rather than the amount paid to or realized by Robb Knie and Stefanie Johns. See Note 6, "Stockholders' Equity" in the notes to the Company's consolidated financial statements for the fiscal year ended December 31, 2023 and December 31, 2022 included in this Annual Report on Form 10-K for more information regarding the Company's accounting for share-based compensation plans.

(3) All other compensation represents the employer matching contributions to each Robb Knie's and Stefanie Johns' 401(k) accounts and the amounts received for their executive health or supplemental health insurance premiums. Mr. Knie received (i) an employer 401(k) contribution in the amounts of \$19,800 and \$18,000 for fiscal years 2023 and 2022, respectively, and (ii) payments for executive health or supplemental medical insurance premiums in the amounts of \$95,422 and \$76,009 for fiscal years 2023 and 2022, respectively. Ms. Johns received (A) an employer 401(k) contribution in the amounts of \$0 and \$18,300 for fiscal years 2023 and 2022, respectively, and (B) payments for executive health or supplemental medical insurance premiums in the amounts of \$0 and \$34,463 for fiscal years 2023 and 2022, respectively. For 2022, all other compensation for Ms. Johns includes the following in connection with payments received under the Stefanie Johns Separation Agreement and General Release, dated December 9, 2022, pursuant to which Ms. Johns was entitled to the following payments for the fiscal year ended on December 31, 2022:

Name	Separation Payment	Total of All Other Compensation
Stefanie Jones	\$ 132,500	\$ 132,500

Employment Agreements

Robb Knie Employment Agreement

On March 28, 2023, we entered into an employment agreement (the “2023 Knie Employment Agreement”) with Robb Knie, pursuant to which Mr. Knie continues to serve as our Chief Executive Officer. The term of the 2023 Knie Employment Agreement will continue for a period of three years from the date of execution and automatically renews for successive one-year periods at the end of each term until either party delivers written notice of their intent not to review at least six months prior to the expiration of the then effective term. Mr. Knie's base salary is \$450,000 per year. Mr. Knie is eligible to receive an annual bonus of up to \$350,000 per year at the discretion of the compensation committee of the Company, based upon the achievement of Company and individual performance targets established by the compensation committee. Under the 2023 Knie Employment Agreement, Mr. Knie is also entitled to receive equity-based compensation awards. In addition, the 2023 Knie Employment Agreement contains standard non-competition and non-solicitation provisions. Mr. Knie is also eligible to receive additional equity-based compensation awards as the Company may grant from time to time. The 2023 Knie Employment Agreement further provides for standard expense reimbursement, vacation time and other standard executive benefits.

Pursuant to the 2023 Knie Employment Agreement, in the event Mr. Knie's employment is terminated without Cause (as defined in the 2023 Knie Employment Agreement), due to a non-renewal by the Company, he voluntarily resigns, or if he resigns for Good Reason (as defined in the 2023 Knie Employment Agreement), Mr. Knie is entitled to (i) a cash payment equal to the sum of (x) 24 months of his base salary at the then current rate (or 36 months if such termination occurs within 12 months of a Change in Control (as defined in the 2023 Knie Employment Agreement)) and (y) annual bonus in effect on his last day of employment; (ii) continuation of health benefits for a period of 24 months (or 36 months if such termination occurs within 12 months of a Change in Control); (iii) a lump sum payment equal to the amount of any annual bonus earned with respect to a prior fiscal year, but unpaid as of the date of termination; (iv) a lump sum payment equal to the amount of annual bonus that was accrued through the date of termination for the year in which employment ends; and (v) subject to Mr. Knie's compliance with his restrictive covenants, the outstanding and unvested portion of any equity award will accelerate and immediately vest on the date of Mr. Knie's termination.

In the event that Mr. Knie's employment is terminated due to his death or disability, he will be entitled to receive (i) a lump sum payment equal to the amount of any annual bonus earned with respect to a prior fiscal year, but unpaid as of the date of termination; (ii) a lump sum payment equal to the amount of annual bonus that was accrued for the year in which employment ends; and (iii) the treatment of any equity awards in accordance with their respective equity award agreements.

In the event that Mr. Knie's employment is terminated due to his non-renewal or resignation without Good Reason, he will be entitled to receive a lump sum payment equal to the amount of any annual bonus earned with respect to a prior fiscal year, but unpaid as of the date of termination.

Equity Grant Practices

2018 Equity Incentive Plan

On May 4, 2018, the Company's board of directors adopted the Hoth Therapeutics, Inc. 2018 Omnibus Equity Incentive Plan (the “2018 Plan”). The 2018 Plan became effective on May 4, 2018 upon approval of the 2018 Plan by the Company's shareholders at the Company's annual meeting of shareholders. Pursuant to the 2018 Plan, the Company can grant stock options, stock appreciation rights, restricted stock, restricted stock units, deferred stock units, annual or long-term performance awards or other stock-based awards. As of December 31, 2023, the outstanding option awards under the 2018 Plan total 79,360, as described in the table “Option Awards” below.

2022 Equity Incentive Plan

On March 24, 2022, the Company's board of directors adopted the Hoth Therapeutics, Inc. 2022 Omnibus Equity Incentive Plan (the “2022 Plan”) initially reserving 96,000 shares of the Company's common stock for issuance thereunder. The 2022 Plan became effective on June 23, 2022 upon approval of the 2022 Plan by the Company's shareholders at the Company's annual meeting of shareholders. On June 2, 2023, the Company's board of directors approved the Hoth Therapeutics, Inc. Amended and Restated 2022 Omnibus Equity Incentive Plan (the “Amended and Restated 2022 Plan”) which was approved by stockholders on August 18, 2023. Pursuant to the Amended and Restated 2022 Plan, the Company can grant stock options, stock appreciation rights, restricted stock, restricted stock units, deferred stock units, annual or long-term performance awards or other stock-based awards. As of December 31, 2023, the outstanding option awards under the Amended and Restated 2022 Plan total 90,000, as described in the table “Option Awards” below.

Bonus Arrangements

Pursuant to the terms of the executive employment agreements described above, the Company, through the board, has the discretion to determine the amounts of the annual incentive bonus payments which executives may receive. Based on the review of the Company's performance for calendar year 2023, the board, in its sole discretion, determined to pay the bonuses to the named executive officers listed in the summary compensation table above.

401(k) Plan

The Company maintains a defined contribution employee retirement plan, or 401(k) plan, for its employees. The 401(k) plan is intended to qualify as a tax-qualified plan under Section 401(k) of the Code so that contributions to the 401(k) plan, and income earned on such contributions, are not taxable to participants until withdrawn or distributed from the 401(k) plan. The Company will match a participant's contribution 100% up to 6% of their compensation, subject to statutory limits.

Perquisites

Perquisites are not a material component of compensation. In general, named executive officers do not receive reimbursements for meals, airlines, and travel costs, other than those costs allowed for all employees. During 2023, no named executive officers received an allowance from the Company or any of the above or a reimbursement for any expense incurred for non-business purposes.

Outstanding Equity Awards at December 31, 2023

The following table provides information regarding option awards held by each of our named executive officers that were outstanding as of December 31, 2023. There were no stock awards or other equity awards outstanding as of December 31, 2023.

Name	Option Awards			
	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price (\$)	Option Expiration Date
Robb Knie	10,000(1)	-	\$ 131.50	12/24/2029
	3,201(2)	-	\$ 76.25	7/21/2030
	9,000(3)	-	\$ 52.75	1/29/2031
	20,000(4)	-	\$ 14.75	3/16/2032
	40,000(5)	-	\$ 2.59	7/17/2033

(1) Stock options granted to Robb Knie vested in full immediately upon grant.

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(2) Stock options granted to Robb Knie vested in full immediately upon grant.

(3) Stock options granted to Robb Knie vested in full immediately upon grant.

(4) Stock options granted to Robb Knie vested in full immediately upon grant.

(5) Stock options granted to Robb Knie vested in full immediately upon grant.

Non-Employee Director Compensation

The following table presents the total compensation for each person who served as a non-employee member of our board of directors and received compensation for such service during the fiscal year ended December 31, 2023. Other than as set forth in the table and described more fully below, we did not pay any compensation, make any equity awards or non-equity awards to, or pay any other compensation to any of the non-employee members of our board of directors in 2023.

Name	Fees earned or paid in cash (\$)	Stock Awards (\$)	Option Awards (\$)(1)(2)	Non-Equity Incentive Plan Compensation (\$)	Nonqualified deferred compensation earnings (\$)	All Other Compensation (\$)	Total (\$)
Jeff Pavell	50,000	-	15,210	-	-	-	65,210
David Sarnoff	50,000	-	15,210	-	-	-	65,210
Graig Springer	50,000	-	15,210	-	-	-	65,210
Wayne Linsley	50,000	-	15,210	-	-	-	65,210

(1) Amounts reported represent the aggregate grant date fair value for option awards granted in each respective year in accordance with FASB ASC Topic 718, excluding the effect of forfeitures. See Note 6, "Stockholders' Equity" in the notes to the Company's consolidated financial statements for the fiscal year ended 2023 included in this Annual Report on Form 10-K for the year ended 2023 for more information regarding the Company's accounting for share-based compensation plans.

(2) On July 17, 2023, Jeff Pavell was granted ten-year options to purchase up to 7,500 shares of the Company's common stock at an exercise price of \$2.59, which options vested in full upon grant.

On July 17, 2023, David Sarnoff was granted ten-year options to purchase up to 7,500 shares of the Company's common stock at an exercise price of \$2.59, which options vested in full upon grant.

On July 17, 2023, Graig Springer was granted ten-year options to purchase up to 7,500 shares of the Company's common stock at an exercise price of \$2.59, which options vested in full upon grant.

On July 17, 2023, Wayne Linsley was granted ten-year options to purchase up to 7,500 shares of the Company's common stock at an exercise price of \$2.59, which options vested in full upon grant.

Non-Employee Director Compensation Policy

Our directors receive \$50,000 cash compensation per year for their service on the board of directors, as well as reimbursement for out-of-pocket expenses with respect to such directors' attendance at meetings of the board of directors of the Company.

Committee chairs receive an additional one-time \$6,000 cash compensation upon appointment for their added services in such roles.

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CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE

Except as described below and except for employment arrangements which are described under "executive compensation," since January 1, 2019, there has not been, nor is there currently proposed, any transaction in which we are or were a participant, the amount involved exceeds the lesser of \$120,000 or 1% of the average of the total assets at December 31, 2023 and 2022, and any of our directors, executive officers, holders of more than 5% of our Common Stock or any immediate family member of any of the foregoing had or will have a direct or indirect material interest.

Related Person Transaction Policy

We have adopted a formal policy regarding approval of transactions with related parties. For purposes of our policy only, a related person transaction is a transaction, arrangement or relationship, or any series of similar transactions, arrangements or relationships, in which we and any related person are, were or will be participants in which the amount involved exceeds the lesser of \$120,000 or 1% of our total assets at the end of our last completed fiscal year. Transactions involving compensation for services provided to us as an employee or director are not covered by this policy. A related person is any executive officer, director or beneficial owner of more than 5% of any class of our voting securities, including any of their immediate family members and any entity owned or controlled by such persons.

Under the policy, if a transaction has been identified as a related person transaction, including any transaction that was not a related person transaction when originally consummated or any transaction that was not initially identified as a related person transaction prior to consummation, our management must present information regarding the related person transaction to our audit committee, or, if audit committee approval would be inappropriate, to another independent body of our board of directors, for review, consideration and approval or ratification. The presentation must include a description of, among other things, the material facts, the interests, direct and indirect, of the related persons, the benefits to us of the transaction and whether the transaction is on terms that are comparable to the terms available to or from, as the case may be, an unrelated third-party or to or from employees generally. Under the policy, we will collect information that we deem reasonably necessary from each director, executive officer and, to the extent feasible, significant shareholder to enable us to identify any existing or potential related-person transactions and to effectuate the terms of the policy. In addition, under our code of business conduct and ethics, our employees and directors will have an affirmative responsibility to disclose any transaction or relationship that reasonably could be expected to give rise to a conflict of interest. In considering related person transactions, our audit committee, or other independent body of our board of directors, will take into account the relevant available facts and circumstances including, but not limited to:

- the risks, costs and benefits to us;
- the impact on a director's independence in the event that the related person is a director, immediate family member of a director or an entity with which a director is affiliated;
- the availability of other sources for comparable services or products; and
- the terms available to or from, as the case may be, unrelated third parties or to or from employees generally.

The policy requires that, in determining whether to approve, ratify or reject a related person transaction, our audit committee, or other independent body of our board of directors, must consider, in light of known circumstances, whether the transaction is in, or is not inconsistent with, our best interests and those of our shareholders, as our audit committee, or other independent body of our board of directors, determines in the good faith exercise of its discretion.

Director Independence

Our board of directors determined that a majority of the board during the year ended December 31, 2023 consisted of members who were "independent" as that term is defined under Nasdaq Listing Rule 5605(a)(2). The Board considered Wayne Linsley, David Sarnoff, Graig Springer and Jeff Pavell to be "independent."

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The following table sets forth certain information regarding beneficial ownership of shares of our common stock as of April 1, 2024 based on 4,888,804 shares issued and outstanding by (i) each person known to beneficially own more than 5% of our outstanding common stock, (ii) each of our directors, (iii) our executive officers and (iv) all directors and executive officers as a group. Shares are beneficially owned when an individual has voting and/or investment power over the shares or could obtain voting and/or investment power over the shares within 60 days of April 1, 2024. Except as otherwise indicated, the persons named in the table have sole voting and investment power with respect to all shares beneficially owned, subject to community property laws, where applicable.

Beneficial Owner ⁽¹⁾	Shares of Common Stock Beneficially Owned	Percentage ⁽²⁾
Directors and Named Executive Officers:		
Robb Knie	340,331(3)	7.22%
Wayne Linsley	36,154(4)	*
David Sarnoff	38,420(5)	*
Graig Springer	177,067(6)	3.87%
Jeff Pavell	35,882(7)	*
All Named Executive Officers and Directors as a Group (5 persons)	629,545	12.61%
5% or Greater Shareholders:		
Armistice Capital, LLC (8) 510 Madison Avenue, 7th Floor New York, New York 10022	713,278(9)	14.59%

* Represents beneficial ownership of less than 1%.

(1) The address of each person is c/o Hoth Therapeutics, Inc., 590 Madison Ave, 21st Floor, New York, New York 10022 unless otherwise indicated herein.

(2) The calculation in this column is based upon 4,888,804 shares of common stock outstanding on April 1, 2024. Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to the subject securities. Shares of common stock that are currently exercisable or convertible within 60 days of April 1, 2024 are deemed to be beneficially owned by the person holding such securities for the purpose of computing the percentage beneficial ownership of such person, but are not treated as outstanding for the purpose of computing the percentage beneficial ownership of any other person.

(3) Includes options to purchase up to 307,200 shares of the Company's common stock.

- (4) Includes options to purchase up to 36,020 shares of the Company's common stock.
- (5) Includes options to purchase up to 37,4204 shares of the Company's common stock.
- (6) Includes (i) 134 shares of the Company's common stock held by Graig Springer, (ii) options to purchase up to 36,020 shares of the Company's common stock held by Graig Springer, (iii) 1,113 shares of the Company's common stock held by Mr. Springer's spouse and (iv) options to purchase up to 139,800 shares of the Company's common stock held by Mr. Springer's spouse. Mr. Springer's spouse is an employee of the Company.
- (7) Excludes 1,693 shares of the Company's common stock that are subject to vesting.
- (8) Armistice Capital, LLC ("Armistice Capital") is the investment manager of Armistice Capital Master Fund Ltd. (the "Master Fund"), and shares voting and investment power with respect to these shares in this capacity. As manager of Armistice Capital, Steven Boyd also shares voting and investment power on behalf of Master Fund. Each of Armistice Capital and Mr. Boyd disclaims beneficial ownership over the securities listed except to the extent of their pecuniary interest therein. Amount of shares beneficially owned by Master Fund prior to the offering is based upon the Schedule 13G/A filed by the Master Fund on February 14, 2024.
- (9) Includes warrants to purchase 228,278 shares of the Company's common stock. The warrants are subject to a beneficial ownership limitation of 4.99%, which such limitation restricts the holder from exercising that portion of the warrants that would result in the holder and its affiliates owning, after exercise, a number of shares of common stock in excess of the beneficial ownership limitation.

DESCRIPTION OF CAPITAL STOCK

General

The following description of our capital stock summarizes the material terms and provisions of our common stock and preferred stock. While the terms we have summarized below will apply generally to any future common stock or preferred stock that we may offer, we will describe the particular terms of any class or series of these securities in more detail in the applicable prospectus supplement. For the complete terms of our common stock and preferred stock, please refer to our Articles of Incorporation, as amended (as amended, "Articles of Incorporation"), and our Amended and Restated Bylaws, as amended (as amended, "Bylaws") that are incorporated by reference into the registration statement of which this prospectus is a part or may be incorporated by reference in this prospectus or any applicable prospectus supplement. The terms of these securities may also be affected by the Nevada Revised Statutes. The summary below and that contained in any applicable prospectus supplement or any related free writing prospectus are qualified in their entirety by reference to our Articles of Incorporation and our Bylaws.

As of the date of this prospectus, our authorized capital stock consisted of 50,000,000 shares of common stock, \$0.0001 par value per share, and 10,000,000 shares of preferred stock, \$0.0001 par value per share. Our Board may establish the rights and preferences of the preferred stock from time to time. As of April 1, 2024, there were 4,888,804 shares of our common stock and no shares of our preferred stock issued and outstanding. As of April 1, 2024, 5,000,000 shares of our preferred stock have been designated as Series A Convertible Preferred Stock and 2,000,000 shares of preferred stock have been designated as Series B Preferred Stock of which there were no shares of Series A Convertible Preferred Stock and no shares of Series B Preferred Stock issued and outstanding.

Common Stock

Holders of our common stock are entitled to one vote per share on all matters voted on by our shareholders, including the election of directors. Our Articles of Incorporation and Bylaws do not provide for cumulative voting in the election of directors. Holders of our common stock are entitled, subject to the rights, privileges, restrictions and conditions attaching to any other class of shares ranking in priority to our common stock, to receive any dividend declared by our Board of Directors. If we are voluntarily or involuntarily liquidated, dissolved or wound-up, the holders of our common stock will be entitled to receive, after distribution in full of the preferential amounts, if any, all of the remaining assets available for distribution ratably in proportion to the number of shares of our common stock held by them.

Preferred Stock

Our Board of Directors has the authority, without further action by our shareholders, to issue up to 10,000,000 shares of preferred stock in one or more series and to fix the designations, powers, preferences, privileges, and relative participating, optional, or special rights as well as the qualifications, limitations, or restrictions of the preferred stock, including dividend rights, conversion rights, voting rights, terms of redemption, and liquidation preferences, any or all of which may be greater than the rights of the common stock. Our Board of Directors, without shareholder approval, can issue preferred stock with voting, conversion, or other rights that could adversely affect the voting power and other rights of the holders of common stock. Preferred stock could be issued quickly with terms calculated to delay or prevent a change of control or make removal of management more difficult. Additionally, the issuance of preferred stock may have the effect of decreasing the market price of our common stock, and may adversely affect the voting and other rights of the holders of common stock. At present, we have no plans to issue any shares of preferred stock following this offering.

Applicable Anti-Takeover Law

Set forth below is a summary of the provisions of our Articles of Incorporation and Bylaws that could have the effect of delaying or preventing a change in control of our Company. The following description is only a summary, and it is qualified by reference to the Articles of Incorporation, Bylaws and relevant provisions of the Nevada Revised Statutes.

Board of Directors Vacancies

Our Bylaws authorize only our Board of Directors to fill vacant directorships. In addition, the number of directors constituting our Board of Directors may be set only by resolution of the majority of the incumbent directors.

Special Meeting of Shareholders

Our Bylaws provide that special meetings of our shareholders may be called by our president, our Board of Directors or a committee of our Board of Directors that has been duly designated by our Board of Directors and whose powers and authority include the power to call such meetings.

Our Bylaws provide that shareholders seeking to bring business before our annual meeting of shareholders, or to nominate candidates for election as directors at our annual meeting of shareholders, must provide timely notice of their intent in writing. To be timely, a shareholder's notice must be delivered to our secretary at our principal executive offices not later than the close of business on the 90th day nor earlier than the close of business on the 120th day prior to the first anniversary of the preceding year's annual meeting; provided, however, that in the event the date of the annual meeting is not within 25 days before or after such anniversary date, notice by the shareholder to be timely must be so delivered not later than the close of business on the 10th day following the day on which such notice of the date of annual meeting was mailed or public disclosure of the date of the annual meeting was made, whichever occurs first. These provisions may preclude our shareholders from bringing matters before our annual meeting of shareholders or from making nominations for directors at our annual meeting of shareholders.

Authorized but Unissued Share

Our authorized but unissued shares of common stock and preferred stock are available for future issuance without shareholder approval and may be utilized for a variety of corporate purposes, including future public offerings to raise additional capital, corporate acquisitions and employee benefit plans. The existence of authorized but unissued and unreserved common stock and preferred stock could render more difficult or discourage an attempt to obtain control of our Company by means of a proxy contest, tender offer, merger or otherwise.

Exclusive Forum

Our Bylaws provide that unless we consent in writing to the selection of an alternative forum, the Eighth Judicial District Court of Clark County, Nevada shall be the sole and exclusive forum for state law claims with respect to: (i) any derivative action or proceeding brought in the name or right of our Company or on our behalf, (ii) any action asserting a claim for breach of any fiduciary duty owed by any director, officer, employee or agent of our Company to us or our shareholders, (iii) any action arising or asserting a claim arising pursuant to any provision of Nevada Revised Statutes Chapters 78 or 92A or any provision of our Articles of Incorporation or Bylaws or (iv) any action asserting a claim governed by the internal affairs doctrine, including, without limitation, any action to interpret, apply, enforce or determine the validity of our Articles of Incorporation or Bylaws. This exclusive forum provision would not apply to suits brought to enforce any liability or duty created by the Securities Act or the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction. To the extent that any such claims may be based upon federal law claims, Section 27 of the Exchange Act creates exclusive federal jurisdiction over all suits brought to enforce any duty or liability created by the Exchange Act or the rules and regulations thereunder. Furthermore, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all suits brought to enforce any duty or liability created by the Securities Act or the rules and regulations thereunder. The enforceability of similar exclusive forum provisions in other corporations' bylaws has been challenged in legal proceedings, and it is possible that a court could rule that this provision in our Bylaws is inapplicable or unenforceable.

Listing

Our Common Stock is traded on Nasdaq Capital Market under the trading symbol "HOTH".

Transfer Agent and Registrar

The Company's transfer agent and registrar is Continental Stock Transfer & Trust Company whose address is 1 State Street, 30th Floor, New York, NY 10004.

Warrants

The shares of Common Stock issuable upon the exercise of Warrants (the "Warrant Shares") are being registered under the Securities Act, and are hereby being offered pursuant to this prospectus. Accordingly, the holders may exercise the Warrants and sell the Warrant Shares issuable upon the exercise of such security pursuant to this registration statement under the Securities Act covering the resale of those shares.

If a Fundamental Transaction (as defined in the Warrant) occurs, then, upon any subsequent exercise of the Warrant, the holder shall have the right to receive, for each Warrant Share that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction, at the option of the holder (without regard to any beneficial ownership limitation), the number of shares of Common Stock of the successor or acquiring corporation or of our Company, if we are the surviving corporation, and any additional consideration ("Alternative Consideration") receivable as a result of such Fundamental Transaction. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the holder shall be given the same choice as to the Alternate Consideration it receives upon any exercise of the Warrant following such Fundamental Transaction. Additionally, as more fully described in the form of Warrant, in the event of certain Fundamental Transactions, the holders of the Warrants will be entitled to receive consideration in an amount equal to the Black Scholes Value (as defined in the Warrant).

A holder of Warrants will not have the right to exercise any portion thereof if the holder, together with its affiliates, would beneficially own in excess of 4.99% (or, at the election of a holder prior to the date of issuance, 9.99%) of the number of shares of our Common Stock outstanding immediately after giving effect to such exercise; provided, however, that upon notice to the Company, the holder may increase or decrease such beneficial ownership limitation, provided that in no event shall such beneficial ownership limitation exceed 9.99% and any increase in the beneficial ownership limitation will not be effective until 61 days following notice of such increase from the holder to us.

Except as otherwise provided in the Warrants or by virtue of such holder's ownership of shares of our Common Stock, the holders of the Warrants do not have the rights or privileges of holders of our Common Stock, including any voting rights, until they exercise their Warrants, as applicable.

The Warrants are not and will not be listed for trading on any national securities exchange.

SELLING STOCKHOLDERS

The Common Stock being offered by the Selling Stockholders are those issuable to the Selling Stockholders, upon exercise of the Warrants. We

are registering the shares of Common Stock in order to permit the Selling Stockholders to offer the shares for resale from time to time. Except for the ownership of the Warrants and as noted below, the Selling Stockholders have not had any material relationship with us within the past three years.

The table below lists the Selling Stockholders and other information regarding the beneficial ownership of the shares of Common Stock by each of the Selling Stockholders. The second column lists the number of shares of Common Stock beneficially owned by each Selling Stockholder, based on its ownership of the shares of Common Stock and Warrants, as of April 1, 2024, assuming exercise of the Warrants held by the Selling Stockholders on that date, without regard to any limitations on exercises.

The third column lists the shares of Common Stock being offered by this prospectus by the Selling Stockholders.

In accordance with the terms of a registration rights agreement with the Selling Stockholders, this prospectus generally covers the resale of the maximum number of shares of Common Stock issuable upon exercise of the Warrants, determined as if the outstanding Warrants were exercised in full as of the trading day immediately preceding the date this registration statement was initially filed with the SEC, each as of the trading day immediately preceding the applicable date of determination and all subject to adjustment as provided in the registration rights agreement, without regard to any limitations on the exercise of the Warrants. The fourth column assumes the sale of all of the shares offered by the Selling Stockholders pursuant to this prospectus.

Under the terms of the Warrants, a Selling Stockholder may not exercise the Warrants to the extent such exercise would cause such Selling Stockholder, together with its affiliates and attribution parties, to beneficially own a number of shares of Common Stock which would exceed 4.99% of our then outstanding Common Stock following such exercise, excluding for purposes of such determination shares of Common Stock issuable upon exercise of such Warrants which have not been exercised. The number of shares in the second and fourth columns do not reflect this limitation. The Selling Stockholders may sell all, some or none of their shares in this offering. See "Plan of Distribution."

Name of Selling Stockholder	Number of Shares of Common Stock Beneficially Owned Prior to Offering⁽¹⁾	Maximum Number of Shares of Common Stock to be Sold in this Offering	Number of Shares of Common Stock Beneficially Owned After Offering	Percentage of Shares Beneficially Owned after Offering⁽¹⁾
Armistice Capital, LLC ⁽²⁾	7,370,838	4,300,000	3,070,838	30.96%
3i, LP ⁽³⁾	550,000	550,000		
Craig Schwabe ⁽⁴⁾	9,450	6,075	3,375	*
Charles Worthman ⁽⁴⁾	2,800	1,800	1,000	*
Michael Vasinkevich ⁽⁴⁾	179,550	115,425	64,125	*
Noam Rubinstein ⁽⁴⁾	88,200	56,700	31,500	*

* less than 1%

- (1) The ability to exercise the Warrants held by the Selling Stockholders is subject to a beneficial ownership limitation that, at the time of initial issuance of the Warrants was capped at 4.99% beneficial ownership of the Company's issued and outstanding Common Stock (post-exercise). These beneficial ownership limitations may be adjusted up or down, subject to providing advanced notice to the Company. Beneficial ownership as reflected in the selling stockholder table reflects the total number of shares potentially issuable underlying the Warrants and does not give effect to these beneficial ownership limitations. Accordingly, actual beneficial ownership, as calculated in accordance with Section 13(d) and Rule 13d-3 thereunder may be lower than as reflected in the table.
- (2) The securities are directly held by Armistice Capital Master Fund Ltd., a Cayman Islands exempted company (the "Master Fund"), and may be deemed to be beneficially owned by: (i) Armistice Capital, LLC ("Armistice Capital"), as the investment manager of the Master Fund; and (ii) Steven Boyd, as the Managing Member of Armistice Capital. As of April 1, 2024, this includes an aggregate of: (1) 303,660 shares of Common Stock; (2) 2,538,900 shares of Common Stock underlying pre-funded warrants (such pre-funded warrants are subject to a beneficial ownership limitation of 9.99%); and (3) 4,300,000 shares of Common Stock underlying Warrants. The Warrants are subject to a beneficial ownership limitation of 4.99%, which such limitation restricts the Selling Stockholder from exercising that portion of the Warrants that would result in the Selling Stockholder and its affiliates owning, after exercise, a number of shares of Common Stock in excess of the beneficial ownership limitation. The address of Armistice Capital Master Fund Ltd. is c/o Armistice Capital, LLC, 510 Madison Avenue, 7th Floor, New York, NY 10022.
- (3) 3i Management, LLC ("3i Management") is the general partner of 3i, LP ("3i") and shares voting and investment power with respect to these shares in this capacity. As manager of 3i Management, Maier Joshua Tarlow also shares voting and investment power on behalf of 3i Management. Each of 3i Management and Mr. Tarlow disclaims beneficial ownership over the securities listed except to the extent of their pecuniary interest therein.
- (4) Each of the selling shareholders is affiliated with H.C. Wainwright & Co., LLC, a registered broker dealer and has a registered address of c/o H.C. Wainwright & Co., 430 Park Ave, 3rd Floor, New York, NY 10022, and has sole voting and dispositive power over the securities held. The number of shares beneficially owned prior to this offering consist of (a) shares of Common Stock issuable upon exercise of placement agent warrants, which were received as compensation in connection with the private placement consummated by us in January 2023. The Selling Stockholder acquired the Placement Agent Warrants in the ordinary course of business and, at the time the Placement Agent Warrants were acquired, the Selling Stockholder had no agreement or understanding, directly or indirectly, with any person to distribute such securities. The Selling Shareholders acquired the Placement Agent Warrants in the ordinary course of business and, at the time the Placement Agent Warrants were acquired, the selling shareholder had no agreement or understanding, directly or indirectly, with any person to distribute such securities.

PLAN OF DISTRIBUTION

Each Selling Stockholder of the securities and any of their pledgees, assignees and successors-in-interest may, from time to time, sell any or all of their securities covered hereby on the principal Trading Market or any other stock exchange, market or trading facility on which the securities are traded or in private transactions. These sales may be at fixed or negotiated prices. A Selling Stockholder may use any one or more of the following methods when selling securities:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;

- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- settlement of short sales;
- in transactions through broker-dealers that agree with the Selling Stockholders to sell a specified number of such securities at a stipulated price per security;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- a combination of any such methods of sale; or
- any other method permitted pursuant to applicable law.

The Selling Stockholders may also sell securities under Rule 144 or any other exemption from registration under the Securities Act of 1933, as amended (the "Securities Act"), if available, rather than under this prospectus. Broker-dealers engaged by the Selling Stockholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the Selling Stockholders (or, if any broker-dealer acts as agent for the purchaser of securities, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with FINRA Rule 2121; and in the case of a principal transaction a markup or markdown in compliance with FINRA Rule 2121.

In connection with the sale of the securities or interests therein, the Selling Stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the securities in the course of hedging the positions they assume. The Selling Stockholders may also sell securities short and deliver these securities to close out their short positions, or loan or pledge the securities to broker-dealers that in turn may sell these securities. The Selling Stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or create one or more derivative securities which require the delivery to such broker-dealer or other financial institution of securities offered by this prospectus, which securities such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The Selling Stockholders and any broker-dealers or agents that are involved in selling the securities may be deemed to be "underwriters" within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the securities purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Each Selling Stockholder has informed us that it does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the securities.

We are required to pay certain fees and expenses incurred by us incident to the registration of the securities. We have agreed to indemnify the Selling Stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

We agreed to keep this prospectus effective until the earlier of (i) the date on which the securities may be resold by the Selling Stockholders without registration and without regard to any volume or manner-of-sale limitations by reason of Rule 144, without the requirement for us to be in compliance with the current public information under Rule 144 under the Securities Act or any other rule of similar effect or (ii) all of the securities have been sold pursuant to this prospectus or Rule 144 under the Securities Act or any other rule of similar effect. The resale securities will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the resale securities covered hereby may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the resale securities may not simultaneously engage in market making activities with respect to the Common Stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the Selling Stockholders will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of the Common Stock by the Selling Stockholders or any other person. We will make copies of this prospectus available to the Selling Stockholders and have informed them of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale (including by compliance with Rule 172 under the Securities Act).

LEGAL MATTERS

Sheppard, Mullin, Richter & Hampton LLP, New York, New York, will pass upon the validity of the shares of our Common Stock offered hereby.

EXPERTS

WithumSmith+Brown, PC, an independent registered public accounting firm, has audited our financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2023, as set forth in their report, which is incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on WithumSmith+Brown, PC's report, given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the securities offered by this prospectus. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement, some of which is contained in exhibits to the registration statement as permitted by the rules and regulations of the SEC. For further information with respect to us and our securities, we refer you to the registration statement, including the exhibits filed as a part of the registration statement. Statements contained in this prospectus concerning the contents of any contract or any other document is not necessarily complete. If a contract or document has been filed as an exhibit to the registration statement, please see the copy of the contract or document that has been filed. Each statement in this prospectus relating to a contract or document filed as an exhibit is qualified in all respects by the filed exhibit. We are subject to the informational requirements of the Exchange Act and in accordance therewith file annual, quarterly and current reports, proxy statements and other

information with the SEC. The SEC maintains an Internet website that contains reports, proxy statements and other information about issuers, like us, that file electronically with the SEC. The address of that website is www.sec.gov. The registration statement and the documents referred to below under "Incorporation of Documents By Reference" are also available on our website, www.astrotechcorp.com. We have not incorporated by reference into this prospectus the information on our website, and you should not consider it to be a part of this prospectus.

INCORPORATION OF DOCUMENTS BY REFERENCE

This prospectus is part of the registration statement but the registration statement includes and incorporates by reference additional information and exhibits. The SEC permits us to "incorporate by reference" the information contained in documents we file with the SEC, which means that we can disclose important information to you by referring you to those documents rather than by including them in this prospectus. Information that is incorporated by reference is considered to be part of this prospectus and you should read it with the same care that you read this prospectus. Information that we file later with the SEC will automatically update and supersede the information that is either contained, or incorporated by reference, in this prospectus, and will be considered to be a part of this prospectus from the date those documents are filed. We have filed with the SEC, and incorporate by reference in this prospectus:

- Annual Report on [Form 10-K](#) for the year ended December 31, 2023 filed with the SEC March 28, 2024; and
- the description of our common stock contained in our Registration Statement on [Form 8-A](#) filed with the SEC on February 6, 2019 including any amendments or reports filed with the SEC for the purposes of updating such description.

In addition, all documents subsequently filed by us pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, prior to the termination of the offering (excluding any information furnished rather than filed) shall be deemed to be incorporated by reference into this prospectus.

Notwithstanding the statements in the preceding paragraphs, no document, report or exhibit (or portion of any of the foregoing) or any other information that we have "furnished" to the SEC pursuant to the Securities Exchange Act of 1934, as amended shall be incorporated by reference into this prospectus.

You may request, and we will provide you with, a copy of these filings, at no cost, by calling us at (646) 756-2997 or by writing to us at the following address:

Hoth Therapeutics, Inc.
590 Madison Ave., 21st Floor
New York, NY 10022
Phone: (646) 756-2997

You also may access these filings on our website at www.hoththerapeutics.com. We do not incorporate the information on our website into this prospectus or any supplement to this prospectus and you should not consider any information on, or that can be accessed through, our website as part of this prospectus or any supplement to this prospectus (other than those filings with the SEC that we specifically incorporate by reference into this prospectus or any supplement to this prospectus).

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus will be deemed modified, superseded or replaced for purposes of this prospectus to the extent that a statement contained in this prospectus modifies, supersedes or replaces such statement. Any statement contained herein or in any document incorporated or deemed to be incorporated by reference shall be deemed to be modified or superseded for purposes of the registration statement of which this prospectus forms a part to the extent that a statement contained in any other subsequently filed document which also is or is deemed to be incorporated by reference modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed to constitute a part of the registration statement of which this prospectus forms a part, except as so modified or superseded.

Hoth Therapeutics, Inc.

5,030,000 Shares of Common Stock

PRELIMINARY PROSPECTUS

Part II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution.

We estimate that expenses in connection with the distribution described in this registration statement (other than brokerage commissions, discounts or other expenses relating to the sale of the shares in this offering) will be as set forth below. We will pay all of the expenses with respect to the distribution, and such amounts, with the exception of the SEC registration fee and FINRA fee, are estimates.

SEC expenses	\$ 1,039.40
Legal fees and expenses	*
Accounting fees and expenses	*
Miscellaneous expenses	*
Total offering expenses (other than placement agent's fees)	\$ *

* These fees and expenses depend on the securities offered and the number of issuances and accordingly cannot be estimated at this time. The applicable prospectus supplement will set forth the estimated amount of expenses of any offering of securities.

Item 14. Indemnification of Directors and Officers

Section 78.7502(1) of the Nevada Revised Statutes provides that a corporation may indemnify any person who was or is a party, or is threatened to be made a party, to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (except in an action brought by or on behalf of the corporation) if that person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation or enterprise, against expenses, including attorneys' fees, judgments, fines and amounts paid in settlement actually and reasonably incurred by that person in connection with such action, suit or proceeding, if that person acted in good faith and in a manner which that person reasonably believed to be in, or not opposed to, the best interests of the corporation, and, with respect to any criminal action or proceedings, had no reasonable cause to believe his conduct was unlawful. The termination of any action, suit or proceeding by judgment, order, settlement, conviction or upon a plea of nolo contendere or its equivalent, alone, does not create a presumption that the person did not act in good faith and in a manner which the person reasonably believed to be in, or not opposed to, the best interests of the corporation, and that, with respect to any criminal action or proceeding, the person had reasonable cause to believe his action was unlawful.

Section 78.7502(2) of the Nevada Revised Statutes provides that a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit brought by or on behalf of the corporation to procure a judgment in its favor because the person acted in any of the capacities set forth above, against expenses, including amounts paid in settlement and attorneys' fees, actually and reasonably incurred by that person in connection with the defense or settlement of such action or suit, if the person acted in accordance with the standard set forth above, except that no indemnification may be made in respect of any claim, issue or matter as to which such person shall have been adjudged by a court of competent jurisdiction after exhaustion of all appeals therefrom to be liable to the corporation or for amounts paid in settlement to the corporation unless and only to the extent that the court in which such action or suit was brought or other court of competent jurisdiction determines that, in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses as the court deems proper.

Section 78.7502(3) of the Nevada Revised Statutes further provides that, to the extent a director or officer of a corporation has been successful on the merits or otherwise in the defense of any action, suit or proceeding referred to in subsections 1 and 2 thereof, or in the defense of any claim, issue or matter therein, that person shall be indemnified by the corporation against expenses (including attorneys' fees) actually and reasonably incurred by that person in connection therewith.

Item 15. Recent Sales of Unregistered Securities

None.

Item 16. Exhibits and Financial Statement Schedules.

(a) Exhibits.

Exhibit Number	Exhibit
3.1	Articles of Incorporation (Incorporated by reference to Exhibit 3.1 to the Company's Form S-1/A filed on December 14, 2018)
3.2	Amendment to Articles of Incorporation (Incorporated by reference to Exhibit 3.2 to the Company's Form S-1/A filed on December 14, 2018)
3.3	Certificate of Designations, Preferences and Rights of the Series A Convertible Preferred Stock (Incorporated by reference to Exhibit 3.3 to the Company's Form S-1/A filed on December 14, 2018)
3.4	Amendment to Articles of Incorporation (Incorporated by reference to Exhibit 3.1 to the Company's Form 8-K filed on February 20, 2019)
3.5	Amended and Restated Bylaws (Incorporated by reference to Exhibit 3.2 to the Company's Form 8-K filed on February 20, 2019)
3.6	Amendment to the Amended and Restated Bylaws of Hoth Therapeutics, Inc. (Incorporated by reference to Exhibit 3.1 to the Company's Form 8-K filed on August 22, 2022)

3.7	<u>Certificate of Change dated October 20, 2022 (Incorporated by reference to Exhibit 3.1 to the Company's Form 8-K filed on October 24, 2022)</u>
3.8	<u>Certificate of Designation dated November 2, 2022 (Incorporated by reference to Exhibit 3.1 to the Company's Form 8-K filed on November 3, 2022)</u>
3.9	<u>Certificate of Amendment (Incorporated by reference to Exhibit 3.1 to the Company's Form 8-K filed on December 13, 2022)</u>
4.1	<u>Specimen Stock Certificate evidencing the shares of common stock (Incorporated by reference to Exhibit 4.1 to the Company's Form S-1/A filed on December 14, 2018)</u>
4.2	<u>Form of Underwriter Warrant (Incorporated by reference to Exhibit 4.2 to the Company's Form S-1/A filed on January 11, 2019)</u>
4.3	<u>Form of Warrant (Incorporated by reference to Exhibit 4.1 to the Company's Form 8-K filed on March 25, 2020)</u>
4.4	<u>Form of Warrant (Incorporated by reference to Exhibit 4.1 to the Company's Form 8-K filed on May 22, 2020)</u>
4.5	<u>Form of Warrant (Incorporated by reference to Exhibit 4.1 to the Company's Form 8-K filed on March 28, 2024)</u>
4.6	<u>Description of the Registrant's Securities (Incorporated by reference to Exhibit 4.5 to the Company's Form 10-K filed on March 28, 2024)</u>
5.1*	<u>Opinion of Sheppard, Mullin, Richter & Hampton LLP</u>
10.1+	<u>Amended and Restated Employment Agreement between Hoth Therapeutics, Inc. and Robb Knie (Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on February 20, 2019)</u>
10.2	<u>Office Service Agreement with Regus dated June 26, 2017 (Incorporated by reference to Exhibit 10.7 to the Company's Form S-1/A filed on December 14, 2018)</u>
10.3	<u>Form of Warrant (Incorporated by reference to Exhibit 10.8 to the Company's Form S-1/A filed on December 14, 2018)</u>
10.4+	<u>2018 Equity Incentive Plan (Incorporated by reference to Exhibit 10.1 to the Company's Form S-8 filed on February 4, 2022)</u>
10.5	<u>Renewal Agreement with Regus dated July 22, 2022 (Incorporated by reference to Exhibit 10.5 to the Company's Form 10-K filed on March 28, 2024)</u>

10.6	<u>Form of Registration Rights Agreement (Incorporated by reference to Exhibit 10.14 to the Company's Form S-1/A filed on December 14, 2018)</u>
10.7+	<u>Employment Agreement between Hoth Therapeutics, Inc. and David Briones (Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on March 7, 2019)</u>
10.8	<u>Form of Warrant (Incorporated by reference to Exhibit 10.3 to the Company's Form 8-K filed on August 21, 2019)</u>
10.9	<u>Form of Registration Rights Agreement (Incorporated by reference to Exhibit 10.4 to the Company's Form 8-K filed on August 21, 2019)</u>
10.10	<u>Form of Placement Agent Warrant (Incorporated by reference to Exhibit 10.5 to the Company's Form 8-K filed on August 21, 2019)</u>
10.11	<u>License Agreement with North Carolina State University dated November 20, 2019 (Incorporated by reference to Exhibit 10.22 to the Company's Form 10-K filed on March 2, 2020)</u>
10.12	<u>Development and Royalty Agreement by and between the Company and Voltron Therapeutics, Inc. dated March 23, 2020 (Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on March 23, 2020)</u>
10.13#	<u>Exclusive License Agreement between the Company and Virginia Commonwealth University Intellectual Property Foundation dated May 18, 2020 (Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on May 19, 2020)</u>
10.14#	<u>Sublicense Agreement by and between the Company and Isoprene Pharmaceuticals, Inc. dated July 30, 2020 (Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on August 5, 2020)</u>
10.15	<u>License Agreement by and between the University of Cincinnati and Chelexa BioSciences, Inc. dated February 27, 2013 assigned to the Company on May 14, 2020 (Incorporated by reference to Exhibit 10.3 to the Company's Form 10-Q filed on August 13, 2020)</u>
10.16	<u>First Amendment to Exclusive License Agreement by and between the University of Cincinnati and Chelexa BioSciences, Inc. dated April 17, 2013 assigned to the Company on May 14, 2020 (Incorporated by reference to Exhibit 10.4 to the Company's Form 10-Q filed on August 13, 2020)</u>
10.17	<u>Second Amendment to Exclusive License Agreement by and between the University of Cincinnati and Chelexa BioSciences, Inc. dated February 27, 2013 assigned to the Company on May 14, 2020 (Incorporated by reference to Exhibit 10.5 to the Company's Form 10-Q filed on August 13, 2020)</u>
10.18	<u>Assignment and Assumption Agreement by and between the Company and Chelexa BioSciences, Inc. dated May 14, 2020 (Incorporated by reference to Exhibit 10.6 to the Company's Form 10-Q filed on August 13, 2020)</u>
10.19	<u>Royalty Agreement by and between the Company and Chelexa BioSciences, Inc. dated May 14, 2020 (Incorporated by reference to Exhibit 10.7 to the Company's Form 10-Q filed on August 13, 2020)</u>
10.20	<u>Novation Agreement by and among the Company, Chelexa BioSciences, Inc. and the University of Cincinnati dated May 14, 2020 (Incorporated by reference to Exhibit 10.8 to the Company's Form 10-Q filed on August 13, 2020)</u>

10.21	Patent License Agreement by and between the Company and the George Washington University dated August 7, 2020 (Incorporated by reference to Exhibit 10.9 to the Company's Form 10-Q filed on August 13, 2020)
10.22+	Employment Agreement by and between the Company and Stefanie Johns dated August 28, 2020 (Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on August 31, 2020)
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10.23	Form of Warrant (Incorporated by reference to Exhibit 10.2 to the Company's Form 8-K filed on January 8, 2021)
10.24	Form of Registration Rights Agreement (Incorporated by reference to Exhibit 10.3 to the Company's Form 8-K filed on January 8, 2021)
10.25	Form of Placement Agent Warrant (Incorporated by reference to Exhibit 10.4 to the Company's Form 8-K filed on January 8, 2021)
10.26+	First Amendment to the Employment Agreement between Hoth Therapeutics, Inc. and Stefanie Johns (Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on January 29, 2021)
10.27	Form of Common Stock Warrants (Incorporated by reference to Exhibit 10.2 to the Company's Form 8-K filed on March 9, 2021)
10.28	Form of Pre-Funded Warrants (Incorporated by reference to Exhibit 10.3 to the Company's Form 8-K filed on March 9, 2021)
10.29	Form of Registration Rights Agreement (Incorporated by reference to Exhibit 10.4 to the Company's Form 8-K filed on March 9, 2021)
10.30	Form of Placement Agent Warrants (Incorporated by reference to Exhibit 10.5 to the Company's Form 8-K filed on March 9, 2021)
10.31+	First Amendment to the Amended and Restated Employment Agreement between the Company and Robb Knie dated June 25, 2021 (Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on June 30, 2021)
10.32+	Second Amendment to the Employment Agreement between the Company and Stefanie Johns dated June 25, 2021 (Incorporated by reference to Exhibit 10.2 to the Company's Form 8-K filed on June 30, 2021)
10.33+	Hoth Therapeutics, Inc. 2022 Omnibus Equity Incentive Plan (Incorporated by reference to Appendix A to the Company's Definitive Proxy Statement on Schedule 14A filed with the SEC on April 27, 2022)
10.34+	Third Amendment to Employment Agreement by and between the Company and Stefanie Johns dated November 10, 2022 (Incorporated by reference to Exhibit 10.1 of the Company's Form 10-Q filed on November 10, 2022)
10.35+	Separation Agreement and General Release by and between the Company and Stefanie Johns dated December 9, 2022 (Incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on December 13, 2022)
10.36+	Employment Agreement by and between the Company and Robb Knie dated as of March 28, 2023 (Incorporated by reference to the Company's Form 10-K filed on March 28 2024)
10.37	Form of Inducement Letter (Incorporated by reference to the Company's Form 8-K filed on March 28, 2024)
23.1*	Consent of WithumSmith+Brown, PC
23.2*	Consent of Sheppard, Mullin, Richter & Hampton LLP (included in Exhibit 5.1)
24.1*	Power of Attorney (included on the signature page hereto)
107*	Filing Fee Table

* Filed herewith

† Executive Compensation Plan or Agreement

Portions of this exhibit (indicated by asterisks) have been redacted in compliance with Regulation S-K Item 601(b)(10)(iv).

Item 17. Undertakings.

The undersigned registrant hereby undertakes:

1. To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement to:
 - i. Include any prospectus required by Section 10(a)(3) of the Securities Act.
 - ii. Reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and
 - iii. Include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (1)(i), (ii) and (iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

2. That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to securities offered therein, and the offering of the securities at that time shall be deemed to be the initial bona fide offering thereof;
3. To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering;
4. That, for the purpose of determining liability under the Securities Act to any purchaser, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this Registration Statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized in the City of New York, State of New York, on the 11th day of April, 2024.

HOTH THERAPEUTICS, INC.

By: /s/ Robb Knie
Name: Robb Knie
Title: Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each individual whose signature appears below constitutes and appoints Robb Knie, his/her true and lawful attorney-in-fact and agent with full power of substitution and re-substitution, for him/her and in his/her name, place and stead, in any and all capacities to sign any or all amendments (including, without limitation, post-effective amendments) to this Registration Statement, any related Registration Statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, and any or all pre- or post-effective amendments thereto, and to file the same, with all exhibits thereto, and all other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully for all intents and purposes as he or she might or could do in person, hereby ratifying and confirming that said attorney-in-fact and agent, or any substitute or substitutes for him, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement on Form S-1 has been signed by the following persons in the capacities and on the dates indicated below.

Signature	Title	Date
<u>/s/ Robb Knie</u> Robb Knie	Chief Executive Officer, President and Director (Principal Executive Officer)	April 11, 2024
<u>/s/ David Briones</u> David Briones	Chief Financial Officer (Principal Financial and Accounting Officer)	April 11, 2024
<u>/s/ Wayne Linsley</u> Wayne Linsley	Director	April 11, 2024
<u>/s/ David B. Sarnoff</u> David B. Sarnoff	Director	April 11, 2024
<u>/s/ Graig Springer</u> Graig Springer	Director	April 11, 2024
<u>/s/ Jeff Pavell</u>	Director	April 11, 2024



Sheppard, Mullin, Richter & Hampton LLP
 30 Rockefeller Plaza
 New York, New York 10112-0015
 212.653.8700 main
 212.653.8701 fax
 www.sheppardmullin.com

April 11, 2024

VIA EDGAR

Hoth Therapeutics, Inc.
 1 Rockefeller Plaza, Suite 1039
 New York, NY 10020

Re: Registration Statement on Form S-1

Ladies and Gentlemen:

We have acted as counsel to Hoth Therapeutics, Inc., a Nevada corporation (the "Company"), in connection with the issuance of this opinion that relates to a Registration Statement on Form S-1 (the "Registration Statement") filed by the Company with the United States Securities and Exchange Commission (the "SEC") under the Securities Act of 1933, as amended (the "Securities Act"). The Registration Statement covers the resale, by the selling stockholders listed therein (collectively, the "Selling Stockholders"), from time to time pursuant to Rule 415 under the Securities Act as set forth in the Registration Statement, of shares (the "Shares") of the Company's common stock, par value \$0.0001 per share (the "Common Stock"), which consist of (i) 1,100,000 shares of Common Stock that are issuable upon exercise of warrants (the "September Warrants") issued pursuant to a securities purchase agreement entered into by and between us and the Selling Stockholders dated September 13, 2023 (the "Purchase Agreement"), (ii) up to 55,000 shares of Common Stock issuable upon exercise of warrants (the "September Placement Agent Warrants") issued pursuant to the engagement agreement dated as of September 13, 2023, by and between the Company and H.C. Wainwright & Co., LLC (the "Placement Agent"), (iii) 3,750,000 shares of Common Stock issuable upon exercise of warrants (the "Inducement Warrants", together with the September Warrants, the "Common Warrants") issued pursuant to an inducement offer letter agreement by and between us and a certain Selling Stockholder dated March 27, 2024 (the "Inducement Letter") and (iv) up to 125,000 shares of Common Stock issuable upon exercise of warrants (the "Inducement Placement Agent Warrants", together with the September Placement Agent Warrants, the "Placement Agent Warrants") issued to the Placement Agent pursuant to the Inducement Letter. The Common Warrants and Placement Agent Warrants are collectively referred to herein as the "Warrants". This opinion letter is being delivered in accordance with the requirements of Item 601(b)(5)(i) of Regulation S-K under the Securities Act, and no opinion is expressed herein as to any matter pertaining to the contents of the Registration Statement.

In connection with the issuance of this opinion letter, we have examined originals or copies, certified or otherwise identified to our satisfaction, of such records of the Company and such agreements, certificates and receipts of public officials, certificates of officers or other representatives of the Company and others, and such other documents as we have deemed necessary or appropriate as a basis for the opinions stated below. As to any facts relevant to the opinions stated herein that we did not independently establish or verify, we have relied upon statements and representations of officers and other representatives of the Company and of public officials.

In our examination, we have assumed (a) the genuineness of all signatures, including endorsements, (b) the legal capacity and competency of all natural persons, (c) the authenticity of all documents submitted to us as originals, (d) the conformity to original documents of all documents submitted to us as facsimile, electronic, certified or photostatic copies, and the authenticity of the originals of such copies; and (e) the accuracy, completeness and authenticity of certificates of public officials.

Based upon the foregoing and subject to the qualifications and assumptions stated herein, we are of the opinion that:

1. The Shares have been duly authorized by all requisite corporate action on the part of the Company under the Nevada Revised Statutes (the "NRS") and are validly issued, fully paid, and non-assessable.

2. The Warrants Shares have been duly authorized by all requisite corporate action on the part of the Company under the NRS and, when the Warrant Shares are delivered and paid for in accordance with the terms of the Warrants and when evidence of the issuance thereof is duly recorded in the Company's books and records, the Warrant Shares will be validly issued, fully paid, and non-assessable.

3. The Placement Agent Warrant Shares have been duly authorized by all requisite corporate action on the part of the Company under the NRS and, when the Placement Agent Warrant Shares are delivered and paid for in accordance with the terms of the Placement Agent Warrants and when evidence of the issuance thereof is duly recorded in the Company's books and records, the Placement Agent Warrant Shares will be validly issued, fully paid, and non-assessable.

Our opinion is expressly limited to the matters set forth above, and we render no opinion, whether by implication or otherwise, as to any other matters relating to the Company, the Shares, the Warrants, the Placement Agent Warrants, the Warrant Shares, the Placement Agent Warrant Shares, the Agreement or any other agreements or transactions that may be related thereto or contemplated thereby. We are expressing no opinion as to any obligations that parties other than the Company may have under or in respect of the Shares, the Warrant Shares, the Placement Agent Warrant Shares or as to the effect that their performance of such obligations may have upon any of the matters referred to above. No opinion may be implied or inferred beyond the opinion expressly stated above.

The opinion we render herein is limited to those matters governed by the NRS as of the date hereof and we disclaim any obligation to revise or supplement the opinion rendered herein should the above-referenced laws be changed by legislative or regulatory action, judicial decision, or otherwise. We express no opinion as to whether, or the extent to which, the laws of any particular jurisdiction apply to the subject matter hereof.

This opinion letter is rendered as of the date first written above, and we disclaim any obligation to advise you of facts, circumstances, events, or developments that hereafter may be brought to our attention or that may alter, affect, or modify the opinion expressed herein.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement. We also hereby consent to the reference to our firm under the heading "Legal Matters" in the Registration Statement. In giving this consent, we do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the General Rules and Regulations under the Securities Act. It is understood that this opinion is to be used only in connection with the offer and sale of the Shares, the Pre-Funded Warrant Shares, the Warrants Shares and the Placement Agent Warrant Shares being registered while the Registration Statement is effective under the Securities Act.

Respectfully submitted,

/s/ Sheppard, Mullin, Richter & Hampton LLP

SHEPPARD, MULLIN, RICHTER & HAMPTON LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-1 of our report dated March 28, 2024, relating to the consolidated financial statements of Hoth Therapeutics, Inc. as of and for the years ended December 31, 2023 and 2022.

We also consent to the reference to our firm under the caption "Experts" in the Registration Statement.

/s/ WithumSmith+Brown, PC

New York, New York
April 11, 2024

HOTH THERAPEUTICS, INC.
(Exact Name of Registrant as Specified in its Charter)

[illegible]

(1) Pursuant to Rule 416 under the Securities Act of 1933, as amended, or the Securities Act, this registration statement also covers any additional securities that may be offered, issued or become issuable in connection with any stock split, stock dividend or similar transaction or pursuant to anti-dilution provisions of any of the securities.

(2) Estimated solely for the purpose of calculation of the registration fee pursuant to Rule 457(c) under the Securities Act based on a per share price of \$1.40, the average of the high and low reported sales prices of the registrant's common stock on the Nasdaq Capital Market on April 5, 2024.