UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2020

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 FOR THE TRANSITION PERIOD FROM TO**

Commission File Number 001-36003

Histogen Inc.

(Exact name of Registrant as specified in its Charter)

Delaware	**20-3183915**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
10655 Sorrento Valley Road, Suite 200, San Diego CA	**92121**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code: (858) 526-3100

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.0001 par value	HSTO	The Nasdaq Capital Market

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

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

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

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

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

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

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

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

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

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). YES ☐ NO ☒

As of June 30, 2020, the last day of the Registrant's most recently completed second quarter, the aggregate market value of the common stock held by non-affiliates of the Registrant was approximately $28.2 million, based on the closing price of the shares of common stock on The NASDAQ Global Market on June 30, 2020 of $3.81 per share.

The number of shares of Registrant's Common Stock outstanding as of March 5, 2021 was 35,683,457.

DOCUMENTS INCORPORATED BY REFERENCE

The following documents are incorporated by reference into the following parts of the Annual Report on Form 10-K: Certain information required in Part III of this Annual Report on Form 10-K is incorporated from the Registrant's Proxy Statement for the 2021 Annual Meeting of Stockholders.

Table of Contents

PART I

Cautionary Note Regarding Forward-Looking Statements

This Annual Report contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). All statements other than statements of historical facts contained in this Annual Report are forward-looking statements, including statements regarding:

- *any impact of the COVID-19 pandemic, or responses to the pandemic, on our business, collaborations, clinical trials or personnel;*
- *our expectations regarding the potential benefits of our strategy and technology;*
- *our expectations regarding the operation of our product candidates, collaborations and related benefits;*
- *our beliefs regarding our industry;*
- *our beliefs regarding the success, cost and timing of our product candidate development and collaboration activities and current and future clinical trials and studies;*
- *our beliefs regarding the potential markets for our product candidates, collaborations and our collaborators' ability to serve those markets;*
- *our ability to attract and retain key personnel;*
- *our ability to obtain funding for our operations, including funding necessary to complete further development and any commercialization of our product candidates; and*
- *regulatory developments in the United States and foreign countries, with respect to our product candidates.*

These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance and achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

In some cases, you can identify forward-looking statements by terminology such as "may," "will," "should," "could," "expects," "intends," "plans," "anticipates," "believes," "estimates," "predicts," "potential," "continue," or the negative of these terms or other comparable terminology. These forward-looking statements are only predictions. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our business, financial condition and results of operations. These forward-looking statements speak only as of the date of this Annual Report and are subject to a number of risks, uncertainties and assumptions, including those described in Part I, Item 1A, "Risk Factors." The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Moreover, we operate in an evolving environment. New risk factors and uncertainties may emerge from time to time, and it is not possible for management to predict all risk factors and uncertainties. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise.

We have common law trademark rights in the unregistered marks "Histogen Inc.," "Histogen Therapeutics Inc.," "Histogen," and the Histogen logo in certain jurisdictions. Solely for convenience, trademarks and tradenames referred to in this Annual Report appear without the ® and ™ symbols, but those references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or that the applicable owner will not assert its rights, to these trademarks and tradenames.

Item 1. Business.

Overview

We are a clinical-stage therapeutics company focused on developing potential first-in-class restorative therapeutics that ignite the body's natural process to repair and maintain healthy biological function.

Our technology is based on the discovery that growing fibroblast cells under simulated embryonic conditions induces them to become multipotent with stem cell like properties. The environment created by our proprietary process mimics the conditions within the womb — very low oxygen and suspension. When cultured under these conditions, the fibroblast cells generate biological materials, growth factors and proteins, that have the potential to stimulate a person's own stem cells to activate and replace/regenerate damaged cells and tissue. Our proprietary, reproducible manufacturing process provides targeted solutions that harness the body's inherent regenerative power across a broad range of therapeutic indications including hair growth, joint cartilage regeneration, spinal disc repair and dermal rejuvenation.

Our reproducible manufacturing process yields multiple biologic products from a single bioreactor, including cell conditioned medium (CCM), human extracellular matrix (hECM) and hair stimulating complex (HSC), creating a spectrum of products for a variety of markets from one core technology.

- *Human Multipotent Cell Conditioned Media, or CCM*: A soluble multipotent CCM that is the starting material for products for skin care and other applications. The liquid complex produced through Histogen's manufacturing process contains soluble biologicals with a diverse range of embryonic-like proteins. Because the cells produce and secrete these factors while developing the extracellular matrix, or ECM, these proteins are naturally infused into the liquid media in a stabilized form. The CCM contains a diverse mixture of cell-signaling materials, including human growth factors such as Keratinocyte Growth Factor, soluble human ECM proteins such as collagen, and vital proteins which support the epidermal stem cells that renew skin throughout life.
- *Human Extracellular Matrix, or hECM*: An insoluble hECM for applications such as orthopedics and soft tissue augmentation, which can be fabricated into a variety of structural or functional forms for tissue engineering and clinical applications. The hECM produced through our proprietary process is a novel, all-human, naturally secreted material. It is most similar to early embryonic structural tissue which provides the framework and signals necessary for cell in-growth and tissue development. By producing similar ECM materials to those that aided in the original formation of these tissues in the embryo, regenerative cells are supported in vitro and have shown potential as therapeutics in vivo.
- *Hair Stimulating Complex, or HSC*: A soluble biologic comprised of growth factors involved in the signaling of cells in the body, particularly those factors known to be important in hair formation and the stimulation of resting hair follicles.

Under the hECM and HSC core technology platforms, we have three product candidates in development intended to address what we believe to be underserved, multibillion-dollar global markets, HST-001, a treatment for hair loss, HST-003, a treatment for joint cartilage repair and an asset previously developed by Conatus Pharmaceuticals Inc. ("Conatus") that we retained development and commercialization rights to, emricasan, which is being jointly developed with our collaboration partner, Amerimmune, for the potential treatment of COVID-19:

- **HST-001** is a hair stimulating complex, or HSC, intended to be a physician-administered therapeutic for androgenic alopecia (hair loss). HST-001 treatment is minimally-invasive and has been shown in early studies to stimulate resting hair follicles to produce new cosmetically-relevant hair. In May of 2020, we initiated its Phase 1b/2a clinical trial of HST-001, designed to assess the safety, tolerability and indicators of efficacy for HST-001 in the treatment of androgenic alopecia in men. In December of 2020, we announced preliminary week 18 results for the primary efficacy endpoint which, while not statistically significant, supported that patients treated with HST-001 demonstrated separation from placebo patients for absolute change from baseline in total hairs (terminal and vellus) within the target area (TAHC) of the vertex as measured by Canfield's Hairmetrix macrophotography system. HST-001 was also shown to be safe and well tolerated at week 18 as compared to placebo with no reports of serious adverse events. In February of 2021, we announced the final results from the week 26 assessments. The final results continued to support that HST-001 was shown to be safe and well tolerated as compared to placebo with

no reports of serious adverse events and did not achieve statistical significance at week 26 as compared to placebo. Additional observations at week 26 included that patients treated with HST-001 as compared to baseline, demonstrated a statistically significant change in total hairs (terminal and vellus) within the target area (TAHC) of the vertex as measured by Canfield's Hairmetrix macrophotography system. We are currently preparing for the next HST-001 clinical trial in men with androgenic alopecia based on the results of the previous Phase 1b/2a clinical trial. We anticipate the trial will commence in the second half of 2021, subject to review and approval by the FDA.

- HST-003 is a human extracellular matrix, or hECM, intended for regenerating hyaline cartilage for the treatment of articular cartilage defects in the knee, with a novel, malleable scaffold that stimulates the body's own stem cells. In September 2020, we were awarded a $2.0 million grant by the Peer Reviewed Orthopedic Research Program (PRORP) of the U.S. Department of Defense ("DoD") to partially fund a Phase 1/2 clinical trial of HST-003 for regeneration of cartilage in the knee. The U.S. Army Medical Research Acquisition Activity, 820 Chandler Street, Fort Detrick MD 21702, is the awarding and administering acquisition office. The views expressed in this filing are ours and may not reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government. In December of 2020, we filed an investigational new drug application ("IND") for the initiation of a Phase 1/2 clinical trial to evaluate the safety and efficacy of for HST-003, implanted within microfracture interstices and the cartilage defect in the knee to regenerate hyaline cartilage in combination with a microfracture procedure. In January of 2021, we announced that the FDA had notified the company that the IND for planned Phase 1/2 clinical trial of HST-003 was placed on clinical hold. The hold is due to additional CMC information required for the FDA to complete their review. Following the receipt of the written clinical hold letter on February 3, 2021, Histogen submitted a complete response letter to the FDA on February 19, 2021 and will continue to work with the FDA to release the clinical hold. We anticipate initiating the HST-003 trial in the second quarter of 2021, pending FDA release of the clinical hold.
- **Emricasan** is an orally active pan-caspase inhibitor being jointly developed with our partner Amerimmune for the potential treatment of COVID-19. On October 26, 2020, we entered into a Collaborative Development and Commercialization Agreement with Amerimmune, pursuant to which Amerimmune, at its expense and in collaboration with us, shall use commercially reasonable efforts to lead the development activities for emricasan. We filed and received permission from the FDA for an IND to initiate a Phase 1 study of emricasan in mild COVID-19 patients to assess safety and tolerability and anticipate initiating the trial in the first quarter of 2021.

Additionally, Histogen has two pre-clinical programs, HST-004 and HST-002:

- **HST-004** is a CCM solution intended to be administered through an interdiscal injection for spinal disc repair. Initial preclinical research has shown that the growth- and repair-factor enriched HST-004 stimulates stem cells from spinal disc to proliferate and secrete aggrecan and collagen II, regenerate normal matrix and cell tissue structure, and restore disc height. HST-004 was shown to both reduce inflammation and protease activity and upregulate aggrecan production in an ex vivo spinal disc model.
- **HST-002** is a human-derived collagen and extracellular matrix dermal filler intended to be injected into the dermis for the treatment of facial folds and wrinkles. HST-002 provides the natural proteins found in young, healthy skin all-human and naturally produced collagen with dermal matrix proteins.

We have also developed a non-prescription topical skin care ingredient utilizing CCM that we believe harnesses the power of growth factors and other cell signaling molecules to support our epidermal stem cells, which renew skin throughout life. The CCM ingredient for skin care currently generates product revenue from Allergan Sales LLC ("Allergan"), who formulates the ingredient into their skin care product lines in spas and professional offices.

Merger

On January 28, 2020, the Company, then operating as Conatus, entered into an Agreement and Plan of Merger and Reorganization, as amended (the "Merger Agreement"), with privately-held Histogen Inc. ("Private Histogen") and Chinook Merger Sub, Inc., a wholly-owned subsidiary of Conatus ("Merger Sub"). Under the Merger Agreement, Merger Sub merged with and into Private Histogen, with Private Histogen surviving as a wholly-owned subsidiary of

the Company (the "Merger"). On May 26, 2020, the Merger was completed. Conatus changed its name to Histogen Inc., and Private Histogen, which remains as a wholly-owned subsidiary of the Company, changed its name to Histogen Therapeutics Inc. On May 27, 2020, the combined Company's common stock began trading on The Nasdaq Capital Market under the ticker symbol "HSTO".

Pursuant to the terms of the Merger Agreement, each outstanding share of Private Histogen common stock immediately prior to the closing of the Merger was converted into approximately 0.14342 shares of Company common stock (the "Exchange Ratio"), after taking into account the Reverse Stock Split, as defined below. Immediately prior to the closing of the Merger, all shares of Private Histogen preferred stock then outstanding were exchanged into shares of common stock of Private Histogen. In addition, all outstanding options exercisable for common stock of Private Histogen and warrants exercisable for common stock of Private Histogen became options and warrants exercisable for the same number of shares of common stock of the Company multiplied by the Exchange Ratio. Immediately following the Merger, stockholders of Private Histogen owned approximately 71.3% of the outstanding common stock for the combined company.

On May 26, 2020, in connection with, and prior to the completion of the Merger, the Company effected a one-for-ten reverse stock split of its then outstanding common stock (the "Reverse Stock Split"). The par value and the authorized shares of the common stock were not adjusted as a result of the Reverse Stock Split. All of the Company's issued and outstanding common stock have been retroactively adjusted to reflect this Reverse Stock Split for all periods presented. All issued and outstanding Private Histogen common stock, convertible preferred stock, options and warrants prior to the effective date of the Merger have been retroactively adjusted to reflect the Exchange Ratio for all periods presented.

Market and Commercial Opportunity

Our proprietary, reproducible manufacturing process provides targeted solutions that harness the body's inherent regenerative power across a broad range of therapeutic indications including hair growth, joint cartilage regeneration, spinal disc repair and dermal rejuvenation.

We currently have three product candidates in development intended to address what we believe to be underserved, multibillion-dollar global markets, HST-001, a treatment for hair loss, HST-003, a treatment for joint cartilage repair and the emricasan asset, which we are jointly developing with our partner, Amerimmune, for the potential treatment for COVID-19:

- **HST-001** is an HSC intended to be a physician-administered therapeutic for androgenic alopecia (hair loss). The hair loss market is both large and underserved. We believe this is largely due to the ineffectiveness of currently available options, and the hesitation of many affected to seek invasive surgical treatments. Patients seek a safe, minimally-invasive treatment to achieve cosmetically relevant new hair growth. The development of HST-001 has the potential to expand the hair restoration market by offering an option to those that currently have none, and a potentially more effective option to anyone presently using or considering Rogaine or Propecia.
- HST-003 is hECM intended for regenerating hyaline cartilage for the treatment of articular cartilage defects in the knee, with a novel, malleable scaffold that stimulates the body's own stem cells.

  According to our market research, 0.2 million people in the United States receive joint cartilage repair annually and 17.5 million are considering joint cartilage repair. Physicians, and their patients, are seeking treatments that reverse cartilage degeneration and we believe that the market is growing and share can be obtained with our product.
- Emricasan is an orally active, pan-caspase inhibitor being jointly developed with Histogen's partner Amerimmune for the potential treatment of COVID-19. We believe that by reducing the activity of these enzymes, caspase inhibitors have the potential to interrupt a variety of diseases and their progression. To date, emricasan has been studied in over 950 patients in 19 completed clinical trials across a broad range of different indications, such as liver disease, where it is generally found to be safe and well-tolerated. In NASH cirrhosis patients in multiple clinical Phase II trials conducted by Conatus, emricasan demonstrated rapid and sustained reductions in elevated levels of key biomarkers of inflammation and cell death. Similarly, elevated biomarkers are also believed to play a role in the severity and progression of COVID-19 disease and sequela.

Strategic Agreements

Amerimmune Collaborative Development and Commercialization Agreement

We retained rights to emricasan, an orally active pan-caspase inhibitor, which was an asset previously developed by Conatus. We have been evaluating several alternatives to create opportunities for increasing shareholder value from this asset. On October 26, 2020, we entered into a Collaborative Development and Commercialization Agreement (the "Collaboration Agreement") with Amerimmune pursuant to which we agreed to jointly develop emricasan for the potential treatment of COVID-19. We filed and received approval for an IND from the United States Food and Drug Administration ("FDA") to initiate a Phase 1 study of emricasan in mild Covid-19 patients to assess safety and tolerability. Until such time as a strategic partner assumes responsibility, we, in collaboration with Amerimmune, shall be responsible for and shall control all regulatory interactions relating to emricasan. Under the Collaboration Agreement, Amerimmune, at its expense and in collaboration with us, shall use commercially reasonable efforts to lead the development activities for emricasan. Amerimmune shall be responsible for conducting clinical trials and Histogen shall provide reasonable quantities of emricasan for such purpose. We believe our current supply of emricasan is sufficient to support clinical trials through Phase 2. The parties have established a joint development committee to oversee the development of emricasan and a joint partnering committee to oversee commercialization activities for emricasan. Each party shall retain ownership of their legacy intellectual property and responsibility for ongoing patent application prosecution and maintenance costs. In addition, we granted Amerimmune an option, subject to certain terms and conditions related to partnering emricasan, to an exclusive license to develop and commercialize emricasan throughout the world during the term. After exercise of the option, Amerimmune, alone or in conjunction with one or more strategic partners, will use its commercially reasonable efforts to develop, manufacture and commercialize emricasan and we will equally share the profits with Amerimmune.

Allergan License and Supply Agreements

In July 2017, we entered into a letter agreement to transfer Suneva Medical, Inc.'s Amended and Restated License and Supply Agreements (collectively the "Allergan Agreements") to Allergan, which grants an exclusive license, including the right to sublicense to third parties, to use and commercialize our CCM skin care ingredient in the medical aesthetics market on a worldwide basis, excluding South Korea, China and India, in exchange for royalty payments to us based on Allergan's sales of product including the licensed ingredient. Through December 31, 2020, we entered into several amendments to the Allergan Agreements to, among other things, expand Allergan's license rights to certain sales channels where it's products containing the CCM ingredient can be sold, identify exclusive and non-exclusive fields of use and clarify responsibilities with response to regulatory filings. For these amendments to the License Agreements, we have received cash payments of $19.5 million through December 31, 2020. The Allergan Agreements also include a potential future milestone payment of $5.5 million if Allergan's net sales of products containing our CCM skin care ingredient exceeds $60 million in any calendar year through December 31, 2027. From time to time, we may improve our CCM skin care ingredient, and to the extent that these are within the field of use in the Allergan Agreements, we will provide the improvements to Allergan. The remaining performance obligations related to the Allergan Agreements from 2017 were our obligations to supply CCM and provide potential future improvements to Allergan, for which our obligation to supply CCM was satisfied during the fourth quarter of 2019. On January 17, 2020, we amended the Allergan Agreements, further clarifying the fields of use, the product definition and rights to certain improvements, as well as us agreeing to supply additional CCM and provide further technical assistance to Allergan (the cost of which shall be reimbursed to us), for a one-time payment of $1.0 million to us. Allergan may terminate the agreement for convenience upon one business days' notice to us. Under the Amended and Restated License Agreement, as amended, Allergan will indemnify us for third party claims arising from Allergan's breach of the agreement, negligence or willful misconduct, or the exploitation of products by Allergan or its sublicensees. We will indemnify Allergan for third party claims arising from its breach of the agreement, negligence or willful misconduct, or the exploitation of products by us prior to the effective date.

Huapont License and Supply Agreement

On September 30, 2016, concurrent with the purchase of 4,000,000 shares of Series D convertible preferred stock and 190,377 shares of common stock by Pineworld Capital Limited (or "Huapont") on August 10, 2016, Private Histogen and Huapont entered into an Exclusive License and Supply Agreement ("LSA") that had been negotiated simultaneously with and in anticipation of the closing for the Huapont investment transaction. The LSA, among other provisions, grants limited exclusive license and sublicense rights to Huapont for the commercialization and sale of

HST-001 in the People's Republic of China (the "territory"); and a limited, non-exclusive, non-assignable right to our Trademarks in the territory. The agreement contains provisions for us to supply HST-001 to Huapont upon request for use in clinical trials and following regulatory approval in the defined territory, for which Huapont will reimburse us up to $150,000 in manufacturing costs. To date, no development activities have occurred and no supply of HST-001 has been requested by Huapont pursuant to the LSA.

We have a right to terminate the LSA upon failure by Huapont to achieve certain diligence or sales milestones or its abandonment of commercialization of the product, certain changes of control of Huapont, Huapont's material breach of the LSA, Huapont's failure to purchase certain volumes of product under the LSA, or Huapont's sale of the product outside the territory or sale of a competing product, subject to certain cure rights. Huapont may terminate the agreement if further commercialization of the product is not commercially feasible, upon our material breach of the LSA or if we sell a competing product in the territory. Huapont will indemnify us for third-party claims arising from Huapont's distribution, marketing and promotion of products in or for the territory, Huapont's breach of the agreement or Huapont's intentional acts or omissions or negligence. We will indemnify Huapont for the development, manufacture or supply of product by or under the control of us, our breach of our obligations or warranties, intellectual property infringement in connection with the using, importing or selling of products by Huapont, infringement of trademark rights in connection with the use of our trademarks, or our intentional acts or omissions or negligence.

Upon the adoption of ASC 606, we determined that as no up-front consideration was attributable to the LSA, there was no impact to the historical accounting for the arrangement, and therefore, no transition adjustment was required. The LSA includes development milestone payments of up to $5.0 million in aggregate; $0.8 million upon the approval of the IND by the China Food and Drug Administration ("CFDA"); $1.8 million upon the completion of all clinical trials required for a New Drug Filing ("NDA") with the CFDA; $1.2 million upon NDA filing with the CFDA; and $1.2 million upon NDA approval by the CFDA. In accordance with ASC 606, we excluded the development milestones from the transaction price as it considered such payments to be fully constrained under ASC 606 due to the inherent uncertainty in the achievement of such milestone payments, which are highly susceptible to factors outside of our control. We will recognize revenue for development milestone as it becomes probable that a significant reversal in the amount of cumulative revenue recognized will not occur using the most likely method. For the years ended December 31, 2020 and 2019, we have not recognized any milestone revenue under the LSA. The arrangement also includes tiered royalty payments based on net sales of HST-001, consisting of 4% up to the first $50 million of net sales, 5.5% for net sales above $50.0 million and up to and inclusive of $125.0 million, 6.5% for net sales above $125.0 million and up to and inclusive of $200 million, and 7.5% above $200.0 million. Sales-based royalties promised in exchange for the license will be recognized as revenue in the period when subsequent sales occur. For the years ended December 31, 2020 and 2019, we did not recognize any royalty revenue under the LSA.

PUR

PUR was formed to develop and market applications and products in the surgical/orthopedic and device markets. On April 5, 2019, Private Histogen entered into a Settlement, Release and Termination Agreement with PUR and its members ("PUR Settlement"), which terminated the License, Supply and Operating Agreements between Histogen and PUR, eliminated Private Histogen's membership interest in PUR and returned all in-process research and development assets to Private Histogen (the "Development Assets"). The agreement also provided indemnification and complete release by all parties. As consideration for the reacquisition of the Development Assets, Private Histogen compensated PUR with both equity and cash components, including 1,166,667 shares of Series D convertible preferred stock with a fair value of $1.75 million and a potential cash payout of up to $6.25 million (the "Cap Amount"). Private Histogen paid PUR $0.5 million in upfront cash, forgave approximately $22 thousand of accounts receivable owed by PUR to Histogen, and settled an outstanding payable by PUR of approximately $23,000 owed to a third-party. We are also obligated to make milestone and royalty payments, including (a) $0.4 million upon the unconditional acceptance and approval of a New Drug Application or Pre-Market Approval Application by the US FDA related to the Development Assets, (b) $0.4 million commercialization milestone upon reaching gross sales (by Histogen or licensee) of the $0.5 million of products incorporating the Development Assets, and (c) a five percent (5%) royalty on net revenues collected by us from commercial sales (by us or licensee) of products incorporating the Development Assets. The aforementioned cash payments, along with any future milestone and royalty payments, are all applied against the Cap Amount.

Governmental Regulation

FDA Regulation and Marketing Approval

In the U.S., the FDA regulates drug products, biological products, and medical devices under the Federal Food, Drug, and Cosmetic Act (FDCA), the Public Health Service (PHS) Act, and other federal regulations. These FDA-regulated products are also subject to state and local statutes and regulations, as well as applicable laws or regulations in foreign countries. The FDA, and comparable regulatory agencies in state and local jurisdictions and in foreign countries, impose substantial requirements on the research, development, testing, manufacture, quality control, labeling, packaging, storage, distribution, record-keeping, approval, post-approval monitoring, advertising, promotion, marketing, sampling and import and export of FDA-regulated products. Failure to comply with the applicable requirements at any time during the drug development process, approval process or after approval may subject an applicant to administrative or judicial sanctions or non-approval of product candidates. These sanctions could include a clinical hold on clinical trials, FDA's refusal to approve pending applications or related supplements, withdrawal of an approval, untitled or warning letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, restitution, disgorgement, civil penalties or criminal prosecution. Such actions by government agencies could also require us to expend a large number of resources to respond to the actions. Any agency or judicial enforcement action could have a material adverse effect on us.

IND and Clinical Trials of Drug and Biological Products

Prior to commencing a human clinical trial of a drug or biological product, an IND application, which contains the results of preclinical studies along with other information, such as information about product chemistry, manufacturing and controls and a proposed protocol, must be submitted to the FDA. An IND is a request for authorization from the FDA to administer an investigational drug or biological product to humans. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA within the 30-day time period raises concerns or questions about the conduct of the clinical trial. In such a case, the IND sponsor must resolve any outstanding concerns with the FDA before the clinical trial may begin. A separate submission to the existing IND must be made for each successive clinical trial to be conducted during drug development.

An independent Institutional Review Board (IRB) for each site proposing to conduct the clinical trial must review and approve the investigational plan for the trial before it commences at that site. Informed written consent must be obtained from each trial subject.

Human clinical trials for drug and biological products typically are conducted in sequential phases that may overlap:

- *Phase I*—the investigational drug/biologic is given initially to healthy human subjects or patients with the target disease or condition in order to determine metabolism and pharmacologic actions of the drug in humans, side effects and, if possible, to gain early evidence on effectiveness. During Phase I clinical trials, sufficient information about the investigational drug/biologic's pharmacokinetics and pharmacologic effects may be obtained to permit the design of well-controlled and scientifically valid Phase II clinical trials.
- Phase II—clinical trials are conducted to evaluate the effectiveness of the drug/biologic for a particular indication or in a limited number of patients in the target population to identify possible adverse effects and safety risks, to determine the efficacy of the drug/biologic for specific targeted diseases and to determine dosage tolerance and optimal dosage. Multiple Phase II clinical trials may be conducted by the sponsor to obtain information prior to beginning larger and more expensive Phase III clinical trials.
- Phase III—when Phase II clinical trials demonstrate that a dosage range of the drug/biologic appears effective and has an acceptable safety profile, and provide sufficient information for the design of Phase III clinical trials, Phase III clinical trials in an expanded patient population at multiple clinical sites may begin. They are intended to further evaluate dosage, effectiveness and safety, to establish the overall benefit-risk relationship of the investigational drug/biologic and to provide an adequate basis for product labeling and approval by the FDA. In most cases, the FDA requires two adequate and well-controlled Phase III clinical trials to demonstrate the efficacy of the drug in an expanded patient population at multiple clinical trial sites.

All clinical trials must be conducted in accordance with FDA regulations, including good clinical practice (GCP) requirements, which are intended to protect the rights, safety and well-being of trial participants, define the roles of clinical trial sponsors, administrators and monitors and ensure clinical trial data integrity. Regulatory authorities, including the FDA, an IRB, a data safety monitoring board or the sponsor, may suspend or terminate a clinical trial at any time on various grounds, including a finding that the participants are being exposed to an unacceptable health risk or that the clinical trial is not being conducted in accordance with FDA requirements.

During the development of a new drug or biologic, sponsors are given opportunities to meet with the FDA at certain points. These points may be prior to submission of an IND, at the end of Phase II clinical trials, and before an NDA/BLA is submitted. Meetings at other times may be requested. These meetings can provide an opportunity for the sponsor to share information about the data gathered to date, for the FDA to provide advice and for the sponsor and the FDA to reach agreement on the next phase of development. Sponsors typically use the end-of-Phase II clinical trials meetings to discuss their Phase II clinical trials results and present their plans for the pivotal Phase III registration trial that they believe will support approval of the new drug/biologic.

An investigational drug product that is a combination of two different drugs in the same dosage form must comply with an additional rule that requires that each component make a contribution to the claimed effects of the drug product. This typically requires larger studies that test the drug against each of its components.

Disclosure of Clinical Trial Information

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

The New Drug Application (NDA) Approval Process

Our drug products must be approved by the FDA through the NDA approval process before they may be legally marketed in the U.S. The process required by the FDA before drugs may be marketed in the U.S. generally involves the following:

- completion of non-clinical laboratory tests, animal studies and formulation studies conducted according to good laboratory practice or other applicable regulations;
- submission of an IND application;
- performance of adequate and well-controlled human clinical trials to establish the safety and efficacy of the proposed drug for its intended use or uses conducted in accordance with GCP;
- submission to the FDA of an NDA after completion of all pivotal clinical trials;
- FDA pre-approval inspection of manufacturing facilities and audit of clinical trial sites; and
- FDA approval of an NDA.

In order to obtain approval to market a drug in the U.S., a marketing application must be submitted to the FDA that provides data establishing to the FDA's satisfaction the safety and effectiveness of the investigational drug for the proposed indication. Each NDA submission requires a substantial user fee payment (exceeding $2.5 million in fiscal year 2019) unless a waiver or exemption applies. The application includes all relevant data available from pertinent non-clinical studies, or preclinical studies and clinical trials, including negative or ambiguous results as well as positive findings, together with detailed information relating to the product's chemistry, manufacturing, controls and proposed labeling, among other information. Data can come from company-sponsored clinical trials intended to test the safety and effectiveness of a use of a product, or from a number of alternative sources, including studies initiated by investigators that meet GCP requirements.

Companies also must develop additional information about the chemistry and physical characteristics of the drug and finalize a process for the NDA sponsor's manufacturing the product in compliance with current good manufacturing practice (cGMP) requirements. The manufacturing process must be capable of consistently producing quality batches of the product candidate, and the manufacturer must develop methods for testing the identity, strength, quality and purity of the finished drug product. Additionally, appropriate packaging must be selected and tested, and stability studies must be conducted to demonstrate that the product candidate does not undergo unacceptable deterioration over its shelf-life.

The results of drug development, non-clinical studies and clinical trials, along with descriptions of the manufacturing process, analytical tests conducted on the chemistry of the drug, proposed labeling and other relevant information are submitted to the FDA as part of an NDA requesting approval to market the product.

The FDA reviews all NDAs submitted to ensure that they are sufficiently complete for substantive review before it accepts them for filing. FDA may request additional information rather than accept an NDA for filing. In this event, the NDA must be resubmitted with the additional information. The resubmitted application also is subject to review before the FDA accepts it for filing. The FDA has 60 days from its receipt of an NDA to conduct an initial review to determine whether the application will be accepted for filing.

If the NDA submission is accepted for filing, the FDA reviews the NDA to determine, among other things, whether the proposed product is safe and effective for its intended use, and whether the product is being manufactured in accordance with cGMP to ensure the product's identity, strength, quality and purity. The FDA has agreed to specific performance goals on the review of NDAs and seeks to review standard NDAs within 12 months from submission of the NDA. The review process may be extended by the FDA for three additional months to consider certain late submitted information or information intended to clarify information already provided in the submission.

After the FDA evaluates the NDA, it will issue either an approval letter or a Complete Response Letter. An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications. A Complete Response Letter indicates that the application is not ready for approval. A Complete Response Letter may require additional clinical data and/or an additional pivotal clinical trial(s), and/or other significant, expensive and time-consuming requirements related to clinical trials, preclinical studies or manufacturing. Even if such additional information is submitted, the FDA may ultimately decide that the NDA does not satisfy the criteria for approval. The FDA may refer applications for novel drug products or drug products that present difficult questions of safety or effectiveness to an advisory committee, typically a panel that includes clinicians and other experts, for review, evaluation and a recommendation as to whether the application should be approved and, if so, under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

Before approving an NDA, BLA or PMA, the FDA typically will inspect the facilities where the product is manufactured. 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. We currently have manufacturing facilities at our corporate headquarters, but we intend to facilitate a technology transfer of such functions and obligations to third party contract research organizations, for its clinical materials, and certain of its commercial partners for their commercial supply. Until such time as we no longer manufacture any clinical or commercial supply of product, we must ensure that our facilities satisfy FDA manufacturing requirements. Additionally, before approving an NDA, BLA or PMA, the FDA may inspect one or more clinical sites for compliance with GCP regulations.

If the FDA determines the application, manufacturing process or manufacturing facilities are not acceptable, it typically will outline the deficiencies and often will request additional testing or information. This may significantly delay further review of the application. If the FDA finds that a clinical site did not conduct the clinical trial in accordance with GCP regulations, the FDA may determine the data generated by the clinical site should be excluded from the primary efficacy analyses provided in the NDA. Additionally, notwithstanding the submission of any requested additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval.

As a condition of approval, the FDA may require, additional clinical trials after a product is approved. These so-called Phase IV or post-approval clinical trials may be a condition for continuing drug approval. The results of Phase IV clinical trials can confirm the effectiveness of a product candidate and can provide important safety information. In addition, the FDA now has express statutory authority to require sponsors to conduct post-marketing trials to specifically address safety issues identified by the agency.

The FDA also has authority to require a Risk Evaluation and Mitigation Strategy ("REMS") to ensure that the benefits of a drug outweigh its risks. A sponsor may also voluntarily propose a REMS as part of the NDA submission. The need for a REMS is determined as part of the review of the NDA. Elements of a REMS may include "dear doctor letters," a medication guide, more elaborate targeted educational programs, and in some cases elements to assure safe use ("ETASU"), which is the most restrictive REMS. ETASU can include, but are not limited to, special training or certification for prescribing or dispensing, dispensing only under certain circumstances, special monitoring and the use of patient registries. These elements are negotiated as part of the NDA approval, and in some cases the approval date may be delayed. Once implemented, REMS are subject to periodic assessment and modification.

Changes to some of the conditions established in an approved application, including changes in indications, labeling, manufacturing processes or facilities, may require submission and FDA approval of a new NDA or NDA supplement before the change can be implemented. An NDA supplement for a new indication typically requires clinical data similar to that in the original application, and the FDA uses the same procedures and actions in reviewing NDA supplements as it does in reviewing NDAs.

Even if a product candidate receives regulatory approval, the approval may be limited to specific disease states, patient populations and dosages, or might contain significant limitations on use in the form of warnings, precautions or contraindications, or in the form of onerous risk management plans, restrictions on distribution or post-marketing trial requirements. Further, even after regulatory approval is obtained, later discovery of previously unknown problems with a product may result in restrictions on the product or even complete withdrawal of the product from the market. Delay in obtaining, or failure to obtain, regulatory approval for our products, or obtaining approval but for significantly limited use, would harm our business. Also, new government requirements, including those resulting from new legislation, may be established, or the FDA's policies may change, which could delay or prevent regulatory approval of our products in development. In addition, we cannot predict what adverse governmental regulations may arise from future U.S. or foreign governmental action.

The Hatch-Waxman Amendments

Under the Drug Price Competition and Patent Term Restoration Act of 1984, as amended, commonly known as the Hatch-Waxman Amendments, a portion of a product's U.S. patent term that was lost during clinical development and regulatory review by the FDA may be restored. The Hatch-Waxman Amendments also provide a process for listing patents pertaining to approved products in the FDA's Approved Drug Products with Therapeutic Equivalence Evaluations (commonly known as the Orange Book) and for a competitor seeking approval of an application that references a product with listed patents to make certifications pertaining to such patents. In addition, the Hatch-Waxman Amendments provide for a statutory protection, known as non-patent exclusivity, against the FDA's acceptance or approval of certain competitor applications.

Patent Term Restoration

Patent term restoration can compensate for time lost during drug development and the regulatory review process by returning up to five years of patent life for a patent that covers a new product or its use. This period is generally one-half the time between the effective date of an IND (falling after issuance of the patent) and the submission date of an NDA, plus the time between the submission date of an NDA and the approval of that application, provided the sponsor acted with diligence. Patent term restorations, however, cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval and only one patent applicable to an approved drug may be extended and the extension must be applied for prior to expiration of the patent. The USPTO, in consultation with the FDA, reviews and approves the application for any patent term extension or restoration.

Orange Book Listing

In seeking approval for a drug through an NDA, applicants are required to list with the FDA each patent whose claims cover the applicant's product. Upon approval of a drug, each of the patents listed by the NDA holder in the drug's application or otherwise are published in the FDA's Orange Book. Drugs listed in the Orange Book can, in turn, be cited by potential generic competitors in support of approval of an abbreviated new drug application (ANDA). An ANDA permits marketing of a drug product that has the same active ingredient(s) in the same strengths and dosage form as the listed drug and has been shown through bioequivalence testing to be therapeutically equivalent to the listed drug. Other than the requirement for bioequivalence testing, ANDA applicants are not required to conduct, or submit results of, preclinical studies or clinical trials to prove the safety or effectiveness of their drug product. Drugs approved under and ANDA are commonly referred to as "generic equivalents" to the listed drug and can often be substituted by pharmacists under prescriptions written for the original listed drug.

Section 505(b)(2) of the FDCA provides an alternate regulatory pathway to FDA approval for new or improved formulations or new uses of previously approved drug products. Specifically, Section 505(b)(2) permits the filing of an NDA 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.

Any applicant who files an ANDA seeking approval of a generic equivalent version of a drug listed in the Orange Book or a 505(b)(2) NDA referencing a drug listed in the Orange Book must certify to the FDA that (i) no patent information on the drug product that is the subject of the application has been submitted to the FDA; (ii) such patent has expired; (iii) the date on which such patent expires; or (iv) 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. A notice of the paragraph IV certification must be provided to each owner of the patent that is the subject of the certification and to the holder of the approved NDA to which the ANDA or 505(b)(2) application refers. The applicant also may elect to submit a "section viii" statement certifying that its proposed label does not contain (or carves out) any language regarding the patented method-of-use rather than certify to a listed method-of-use patent. If the reference NDA holder and patent owners assert a patent challenge directed to one of the Orange Book listed patents within 45 days of the receipt of the paragraph IV certification notice, the FDA is prohibited from approving the application until the earlier of 30 months from the receipt of the paragraph IV certification expiration of the patent, settlement of the lawsuit or a decision in the infringement case that is favorable to the applicant. The ANDA or 505(b)(2) application also will not be approved until any applicable non-patent exclusivity listed in the Orange Book for the branded reference drug has expired.

Market Exclusivity

Market exclusivity provisions under the FDCA also can delay the submission or the approval of certain drug applications. The FDCA provides a five-year period of non-patent marketing exclusivity within the U.S. to the first applicant to gain approval of an NDA for a new chemical entity. A drug is a new chemical entity if the FDA has not previously approved any other new drug containing the same active moiety, which is the molecule or ion responsible for the action of the drug substance. During the exclusivity period, the FDA may not accept for review an ANDA or a 505(b)(2) NDA submitted by another company for another version of such drug where the applicant does not own or have a legal right of reference to all the data required for approval. However, an application may be submitted after four years if it contains a Paragraph IV certification.

The FDCA also provides three years of marketing exclusivity for an NDA, 505(b)(2) NDA or supplement to an existing NDA if new clinical investigations, other than bioavailability studies, were conducted or sponsored by the applicant deemed by the FDA to be essential to the approval of the application, for example, for new indications, dosages or strengths of an existing drug. This three-year exclusivity covers only the conditions associated with the new clinical investigations and does not prohibit the FDA from approving ANDAs for drugs containing the original active ingredient. Five-year and three-year exclusivity will not delay the submission or approval of a full NDA; however, an applicant submitting a full NDA is required to conduct or obtain a right of reference to all of the non-clinical studies and adequate and well-controlled clinical trials necessary to demonstrate safety and effectiveness.

The Biologics License Application (BLA) Approval Process

Our biological products must be approved by the FDA through the BLA approval process before they may be legally marketed in the U.S. The process is similar to the NDA process and generally involves the completion of non-clinical laboratory tests, submission of an IDA application, performance of human clinical trials in accordance with GCP to establish and safety and efficacy of the biological product, submission to the FDA of a BLA after completion of all pivotal clinical trials, FDA pre-approval inspection of manufacturing facilities and audit of clinical trial sites; and FDA approval of a BLA.

The cost of preparing and submitting a BLA is substantial. Each BLA submission requires a user fee payment (exceeding $2.5 million in fiscal year 2019), unless a waiver or exemption applies. The manufacturer or sponsor of an approved BLA is also subject to annual establishment fees.

The FDA has 60 days from its receipt of a BLA to determine whether the application will be accepted for filing based on the agency's threshold determination that it is sufficiently complete to permit substantive review. Once the submission is accepted for filing, the FDA begins an in-depth review. The FDA has agreed to certain performance goals in the review of BLAs. Most applications for standard review biologics products are reviewed within twelve months of submission, and most applications for priority review biologics are reviewed within eight months of submission. The review process may be extended by the FDA for three additional months to consider certain late-submitted information, or information intended to clarify information already provided in the submission. Even if such additional information is submitted, the FDA may ultimately decide that the NDA does not satisfy the criteria for approval.

The FDA may also refer applications for novel biologics products or biologics products that present difficult questions of safety or efficacy, to an advisory committee, typically a panel that includes clinicians and other experts, for review, evaluation and a recommendation as to whether the application should be approved. The FDA is not bound by the recommendation of an advisory committee, but it generally follows such recommendations.

Before approving a BLA, the FDA will typically inspect one or more clinical sites to assure compliance with GCP. Additionally, the FDA will inspect the facility or the facilities at which the biologic product is manufactured. The FDA will not approve the BLA unless compliance with cGMP is satisfactory, and the BLA contains data that provide substantial evidence that the biologic is safe and effective for the indication studied. Manufacturers of biologics also must comply with the FDA's general rules on biological products.

After the FDA evaluates the BLA and the manufacturing facilities, it issues either an approval letter or a complete response letter. A complete response letter outlines the deficiencies in the submission and may require substantial additional testing, including additional large-scale clinical testing or information in order for the FDA to reconsider the application. If, or when, those deficiencies have been addressed to the FDA's satisfaction in a resubmission of the BLA, the FDA will issue an approval letter. The FDA has committed to reviewing such resubmissions in two or six months depending on the type of information included.

An approval letter authorizes commercial marketing and distribution of the biologic with specific prescribing information for specific indications. As a condition of BLA approval, the FDA may require substantial post-approval testing and surveillance to monitor the product's safety or efficacy and may impose other conditions, including labeling restrictions, which can materially affect the product's potential market and profitability. Once granted, product approvals may be withdrawn if compliance with regulatory standards is not maintained or problems or safety issues are identified following initial marketing.

Changes to some of the conditions established in an approved application, including changes in indications, labeling, device components or manufacturing processes or facilities, require submission and FDA approval of a new BLA or BLA supplement before the change can be implemented. A BLA supplement for a new indication typically requires clinical data similar to that in the original application, and the FDA uses the same procedures and actions in reviewing BLA supplements as it does in reviewing BLAs.

Biosimilar Exclusivity

The Biologics Price Competition and Innovation Act of 2009 (BPCIA) creates an abbreviated approval pathway for biosimilar products. A biosimilar is a biological product that is highly similar to and has no clinically meaningful differences from an existing FDA-licensed reference product. Biosimilarity must be shown through analytical studies, animal studies, and at least one clinical study, absent a waiver. A biosimilar product may be deemed interchangeable with a prior licensed product if it is biosimilar and meets additional requirements under the BPCIA, including that it can be expected to produce the same clinical results as the reference product and, for products administered multiple times, the biologic and the reference biologic may be switched after one has been previously administered without increasing safety risks or risks of diminished efficacy relative to exclusive use of the reference biologic. An interchangeable product may be substituted for the reference product without the involvement of the prescriber.

A reference biologic is granted twelve years of exclusivity from the time of first licensure of the reference product, and no application for a biosimilar may be submitted for four years from the date of licensure of the reference product. The first biologic product submitted under the abbreviated approval pathway that is determined to be interchangeable with the reference product may obtain exclusivity against a finding of interchangeability for other biologics for the same condition of use for the lesser of (i) one year after first commercial marketing of the first interchangeable biosimilar; (ii) eighteen months after the first interchangeable biosimilar is approved if there is no patent challenge; (iii) eighteen months after resolution of a lawsuit over the patents of the reference biologic in favor of the first interchangeable biosimilar applicant; or (iv) 42 months after the first interchangeable biosimilar's application has been approved if a patent lawsuit is ongoing within the 42-month period.

FDA Regulation of Medical Devices

Medical devices are subject to extensive and rigorous regulation by the FDA under the FDCA, as well as other federal and state regulatory bodies in the United States, and laws and regulations of foreign authorities in other countries. FDA requirements specific to medical devices are wide ranging and govern, among other things:

- design, development and manufacturing;
- testing, labeling and storage;
- clinical trials in humans;
- product safety;
- marketing, sales and distribution;
- premarket clearance or approval;
- record keeping procedures;
- advertising and promotion;
- post-market surveillance, including reporting of deaths or serious injuries and malfunctions that, if they were to recur, could lead to serious injury or death; and
- product export.

Unless an exemption applies, medical devices distributed in the United States must receive either premarket clearance under Section 510(k) of the FDCA or premarket approval of a premarket application (PMA). Medical devices are classified into one of three classes—Class I, Class II, or Class III—depending on the degree or risk associated with each medical device and the extent of control needed to ensure safety and effectiveness. Medical devices deemed to pose relatively low risk are placed in either Class I or II, which generally requires the manufacturer to submit a premarket notification under Section 510(k) of the FDCA requesting permission for commercial distribution. Some low risk devices are exempted from this premarket requirement. Devices deemed by the FDA to pose the greatest risk, such as life-sustaining, life-supporting or implantable devices, or devices deemed not substantially equivalent to a previously 510(k) cleared device, or to a "preamendment device"—i.e., a device that was in commercial distribution before May 28, 1976 for which the FDA has not yet called for submission of PMA applications—are placed in Class III requiring PMA approval.

Clinical Studies of Medical Devices under an Investigational Device Exemption (IDE)

A clinical trial is almost always required to support a PMA. All clinical investigations of investigational devices must be conducted in accordance with the FDA's investigational device exemption (IDE) regulations, which govern investigational device labeling, prohibit promotion of the investigational device, and specify recordkeeping, reporting and monitoring responsibilities of study sponsors and study investigators.

If the device presents a "significant risk" to human health (as defined in the regulations), the FDA requires the device sponsor to submit an IDE application to the FDA, which must become effective prior to commencing human clinical trials. A significant risk device is one that presents a potential for serious risk to the health, safety or welfare of a patient and either is implanted, used in supporting or sustaining human life, substantially important in diagnosing, curing, mitigating or treating disease or otherwise preventing impairment of human health, or otherwise presents a potential for serious risk to a subject. A nonsignificant risk device does not require FDA approval of an IDE. Both significant risk and nonsignificant risk investigational devices require approval from institutional review boards (IRBs) at the study centers where the device will be used. There can be no assurance that submission of an IDE will result in the ability to commence clinical trials.

An IDE application must be supported by appropriate data, such as animal and laboratory test results, showing that it is safe to test the device in humans and that the testing protocol is scientifically sound. The IDE will automatically become effective 30 days after receipt by the FDA unless the FDA notifies the company that the investigation may not begin. If the FDA determines that there are deficiencies or other concerns with an IDE for which it requires modification, the FDA may permit a clinical trial to proceed under a conditional approval.

During the study, the sponsor must comply with the FDA's IDE requirements for investigator selection, trial monitoring, reporting and record keeping. The investigators must obtain patient informed consent, rigorously follow the investigational plan and study protocol, control the disposition of investigational devices, and comply with all reporting and record keeping requirements. The sponsor, the FDA or the IRB at each site at which a clinical trial is being conducted may suspend a clinical trial at any time for various reasons, including a belief that the risks to study subjects outweigh the benefits. Even if a trial is completed, the results of clinical testing may not demonstrate the safety and efficacy of the device, or may otherwise not be sufficient to obtain approval of the product.

The Premarket Application (PMA) Approval Pathway

A product not eligible for 510(k) clearance must follow the PMA approval pathway, which requires evidence of the safety and effectiveness of the device to the FDA's satisfaction. FDA aims to review PMAs within 12 months, but approval in practice could take much longer.

A PMA application must provide extensive preclinical and clinical trial data and information about the device and its components regarding, among other things, device design, manufacturing and labeling. As part of the PMA review, the FDA typically will inspect the manufacturer's facilities for compliance with Quality System Regulation (QSR) requirements, which impose requirements for design and development, manufacturing, testing, labeling, packaging, distribution, and documentation and other quality assurance procedures.

Upon submission, the FDA determines if the PMA application is sufficiently complete to permit a substantive review, and, if so, the application is accepted for filing. The FDA then commences an in-depth review of the PMA application, which typically takes one to three years, but may last longer. An advisory panel of experts from outside the FDA is typically convened to review and evaluate the PMA applications and provide recommendations to the FDA as to the approval of the device. Even after approval of a PMA, a new PMA or PMA supplement is required in the event of a modification to the device, its labeling or its manufacturing process.

Post-Marketing Requirements for FDA Regulated Products

Following approval of a new product, the company and the approved products are subject to continuing regulation by the FDA, state and foreign regulatory authorities including, among other things, monitoring and record-keeping activities, reporting adverse experiences to the applicable regulatory authorities, providing regulatory authorities with updated safety and efficacy information, manufacturing products in accordance with cGMP requirements, product

sampling and distribution requirements, and complying with promotion and advertising requirements, which include, among others, standards for direct-to-consumer advertising and restrictions on promoting products for uses or in patient populations that are not consistent with the drug's approved labeling (known as "off-label use"), limitations on industry-sponsored scientific and educational activities and requirements for promotional activities involving the internet, including social media. Although physicians may prescribe products for off-label uses, manufacturers may not market or promote such off-label uses. Modifications or enhancements to the product or its labeling or changes of the site of manufacture are often subject to the approval of the FDA and other regulators, who may or may not grant approval, or may include in a lengthy review process.

The FDA, state and foreign regulatory authorities have broad enforcement powers. Failure to comply with applicable regulatory requirements could result in enforcement action by the FDA, state or foreign regulatory authorities, which may include the following:

- untitled letters or warning letters;
- fines, disgorgement, restitution or civil penalties;
- injunctions (e.g., total or partial suspension of production) or consent decrees;
- product recalls, administrative detention, or seizure;
- customer notifications or repair, replacement or refunds;
- operating restrictions or partial suspension or total shutdown of production;
- delays in or refusal to grant requests for future product approvals or foreign regulatory approvals of new products, new intended uses, or modifications to existing products;
- withdrawals or suspensions of FDA product marketing approvals or foreign regulatory approvals, resulting in prohibitions on product sales;
- clinical holds on clinical trials;
- FDA refusal to issue certificates to foreign governments needed to export products for sale in other countries; and
- criminal prosecution.

Any of these sanctions could result in higher than anticipated costs or lower than anticipated sales and have a material adverse effect on our reputation, business, financial condition and results of operations. Such actions by government agencies could also require us to expend a large amount of resources to respond to the actions. Any agency or judicial enforcement action could have a material adverse effect on us.

In the U.S., after a product is approved, its manufacture is subject to comprehensive and continuing regulation by the FDA. The FDA regulations require that products be manufactured in registered facilities and in accordance with cGMP. We expect to rely on third parties for the production of clinical and commercial quantities of our products in accordance with cGMP regulations. cGMP regulations require, among other things, quality control and quality assurance as well as the corresponding maintenance of records and documentation and the obligation to investigate and correct deviations from cGMP. These regulations also impose certain organizational, procedural and documentation requirements with respect to manufacturing and quality assurance activities. Manufacturers and other entities involved in the manufacture and distribution of approved drugs, biologics and medical devices are required to register their establishments with the FDA and certain state agencies and are subject to periodic unannounced inspections by the FDA and state agencies for compliance with cGMP and other laws. Accordingly, manufacturers must continue to expend time, money and effort in the area of production and quality control to maintain cGMP compliance.

NDA/BLA/PMA holders using contract manufacturers, laboratories or packagers are responsible for the selection and monitoring of qualified firms and, in certain circumstances, suppliers to these firms. These firms and, where applicable, their suppliers are subject to inspections by the FDA at any time, and the discovery of violative conditions, including failure to conform to cGMP, could result in enforcement actions that can interrupt the operation of any such firm or result in restrictions on product supply, including, among other things, recall or withdrawal of the product from the market.

Newly-discovered or developed safety or effectiveness data may require changes to a product's approved labeling, including the addition of new warnings and contraindications, and also may require the implementation of other risk management measures.

Reimbursement, Anti-Kickback and False Claims Laws and Other Regulatory Matters

In the U.S., the research, manufacturing, distribution, sale and promotion of drug products and medical devices are potentially subject to regulation by various federal, state and local authorities in addition to the FDA, including the Centers for Medicare & Medicaid Services ("CMS"), other divisions of the U.S. Department of Health and Human Services (*e.g.*, the Office of Inspector General), the Drug Enforcement Administration, the Consumer Product Safety Commission, the Federal Trade Commission, the Occupational Safety & Health Administration, the Environmental Protection Agency, state Attorneys General and other state and local government agencies. For example, sales, marketing and scientific/educational grant programs must comply with the federal Anti-Kickback Statute, the federal False Claims Act, the privacy regulations promulgated under HIPAA, and similar state laws. Pricing and rebate programs must comply with the Medicaid Drug Rebate Program requirements of the Omnibus Budget Reconciliation Act of 1990, as amended, and the Veterans Health Care Act of 1992, as amended. If products are made available to authorized users of the Federal Supply Schedule of the General Services Administration, additional laws and requirements apply. The handling of any controlled substances must comply with the U.S. Controlled Substances Act and Controlled Substances Import and Export Act. Products must meet applicable child-resistant packaging requirements under the U.S. Poison Prevention Packaging Act. All of these activities are also potentially subject to federal and state consumer protection and unfair competition laws.

The Medicare Modernization Act (MMA) established the Medicare Part D program to provide a voluntary prescription drug benefit to Medicare beneficiaries. Under Part D, Medicare beneficiaries may enroll in prescription drug plans offered by private entities which will provide coverage of outpatient prescription drugs. Unlike Medicare Part A and B, Part D coverage is not standardized. Part D prescription drug plan sponsors are not required to pay for all covered Part D drugs, and each drug plan can develop its own drug formulary that identifies which drugs it will cover and at what tier or level. However, Part D prescription drug formularies must include drugs within each therapeutic category and class of covered Part D drugs, though not necessarily all the drugs in each category or class. Any formulary used by a Part D prescription drug plan must be developed and reviewed by a pharmacy and therapeutic committee. Government payment for some of the costs of prescription drugs may increase demand for products for which we receive regulatory approval. However, any negotiated prices for our products covered by a Part D prescription drug plan will likely be lower than the prices we might otherwise obtain. Moreover, 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 payment rates. Any reduction in payment that results from the MMA may result in a similar reduction in payments from non-government payors.

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

The American Recovery and Reinvestment Act of 2009 provides funding for the federal government to compare the effectiveness of different treatments for the same illness. A plan for the research will be developed by the Department of Health and Human Services, the Agency for Healthcare Research and Quality and the National Institutes for Health, and periodic reports on the status of the research and related expenditures will be made to Congress. Although the results of the comparative effectiveness studies are not intended to mandate coverage policies for public or private payors, it is not clear what effect, if any, the research will have on the sales of our product candidates, if any such product or the condition that it is intended to treat is the subject of a clinical trial. It is also possible that comparative effectiveness research demonstrating benefits in a competitor's product could adversely affect the sales of our product candidates. If third-party payors do not consider our products to be cost-effective compared to other available therapies, they may not cover our products after approval as a benefit under their plans or, if they do, the level of payment may not be sufficient to allow us to sell our products on a profitable basis.

In addition, in some foreign countries, the proposed pricing for a drug must be approved before it may be lawfully marketed. The requirements governing drug pricing vary widely from country to country. For example, the European Union provides options for its member states to restrict the range of medicinal products for which their national health

insurance systems provide reimbursement and to control the prices of medicinal products for human use. A member state may approve a specific price for the medicinal product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market. There can be no assurance that any country that has price controls or reimbursement limitations for pharmaceutical products will allow favorable reimbursement and pricing arrangements for any of our products. Historically, products launched in the European Union do not follow price structures of the U.S. and generally tend to be priced significantly lower than in the U.S.

As noted above, in the U.S., we are subject to complex laws and regulations pertaining to healthcare "fraud and abuse," including, but not limited to, the federal Anti-Kickback Statute, the federal False Claims Act, and other state and federal laws and regulations. The federal Anti-Kickback Statute makes it illegal for any person, including a prescription drug manufacturer, or a party acting on its behalf, to knowingly and willfully solicit, receive, offer or pay any remuneration that is intended to induce the referral of business, including the purchase, order or prescription of a particular drug, or other good or service for which payment in whole or in part may be made under a federal healthcare program, such as Medicare or Medicaid. Violations of this law are punishable by up to five years in prison, criminal fines, administrative civil money penalties and exclusion from participation in federal healthcare programs. In addition, many states have adopted laws similar to the federal Anti-Kickback Statute. Some of these state prohibitions apply to the referral of patients for healthcare services reimbursed by any insurer, not just federal healthcare programs such as Medicare and Medicaid. Due to the breadth of these federal and state anti-kickback laws, the absence of guidance in the form of regulations or court decisions and the potential for additional legal or regulatory change in this area, it is possible that our future sales and marketing practices or our future relationships with medical professionals might be challenged under anti-kickback laws, which could harm us.

The federal False Claims Act prohibits anyone from knowingly presenting, or causing to be presented, for payment to federal programs (including Medicare and Medicaid) claims for items or services, including drugs, that are false or fraudulent, claims for items or services not provided as claimed or claims for medically unnecessary items or services. Although we would not submit claims directly to payors, manufacturers can be held liable under these laws if they are deemed to "cause" the submission of false or fraudulent claims by, for example, providing inaccurate billing or coding information to customers or promoting a product off-label. In addition, our future activities relating to the reporting of wholesaler or estimated retail prices for our products, the reporting of prices used to calculate Medicaid rebate information and other information affecting federal, state and third-party reimbursement for our products, and the sale and marketing of our products, are subject to scrutiny under this law. For example, pharmaceutical companies have been found liable under the federal False Claims Act in connection with their off-label promotion of drugs. Penalties for a federal False Claims Act violation include three times the actual damages sustained by the government, plus mandatory civil penalties of between $11,181 and $22,363 for each separate false claim, the potential for exclusion from participation in federal healthcare programs and, although the federal False Claims Act is a civil statute, conduct that results in a federal False Claims Act violation may also implicate various federal criminal statutes. If the government were to allege that we were, or convict us of, violating these false claims laws, we could be subject to a substantial fine. In addition, private individuals have the ability to bring actions under the federal False Claims Act and certain states have enacted laws modeled after the federal False Claims Act.

There are also an increasing number of state laws that require manufacturers to make reports to states on pricing and marketing information. Many of these laws contain ambiguities as to what is required to comply with the laws. In addition, as discussed below, a similar federal requirement requires manufacturers to track and report to the federal government certain payments made to physicians and teaching hospitals in the previous calendar year. These laws may affect our sales, marketing and other promotional activities by imposing administrative and compliance burdens on us. In addition, given the lack of clarity with respect to these laws and their implementation, our reporting actions could be subject to the penalty provisions of the pertinent state, and soon federal, authorities.

The failure to comply with regulatory requirements subjects companies to possible legal or regulatory action. Depending on the circumstances, failure to meet applicable regulatory requirements can result in criminal prosecution, fines or other penalties, injunctions, recall or seizure of products, total or partial suspension of production, denial or withdrawal of product approvals or refusal to allow a company to enter into supply contracts, including government contracts.

Changes in regulations, statutes or the interpretation of existing regulations could impact our business in the future by requiring, for example: (1) changes to our manufacturing facility; (2) additions or modifications to product labeling;

(3) the recall or discontinuation of our products; or (4) additional record-keeping requirements. If any such changes were to be imposed, they could adversely affect the operation of our business.

Patient Protection and Affordable Care Act

In March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, collectively the PPACA, was enacted, which includes measures that have or will significantly change the way healthcare is financed by both governmental and private insurers. Among the provisions of the PPACA of greatest importance to the pharmaceutical industry are the following:

- The Medicaid Drug Rebate Program requires pharmaceutical manufacturers to enter into and have in effect a national rebate agreement with the Secretary of the Department of Health and Human Services as a condition for states to receive federal matching funds for the manufacturer's covered outpatient drugs furnished to Medicaid patients. Effective in 2010, the PPACA made several changes to the Medicaid Drug Rebate Program, including increasing pharmaceutical manufacturers' rebate liability by raising the minimum basic Medicaid rebate on most branded prescription drugs and biologic agents to 23.1% of the AMP and adding a new rebate calculation for "line extensions" (*i.e.*, new formulations, such as extended release formulations) of solid oral dosage forms of branded products, as well as potentially impacting their rebate liability by modifying the statutory definition of AMP. The PPACA also expanded the universe of Medicaid utilization subject to drug rebates by requiring pharmaceutical manufacturers to pay rebates on Medicaid managed care utilization and by expanding the population potentially eligible for Medicaid drug benefits. The CMS have proposed to expand Medicaid rebate liability to the territories of the U.S. as well. In addition, the PPACA provides for the public availability of retail survey prices and certain weighted average AMPs under the Medicaid program. The implementation of this requirement by the CMS may also provide for the public availability of pharmacy acquisition of cost data, which could negatively impact our sales.
- In order for a pharmaceutical product to receive federal reimbursement under the Medicare Part B and Medicaid programs or to be sold directly to U.S. government agencies, the manufacturer must extend discounts to entities eligible to participate in the 340B drug pricing program. The required 340B discount on a given product is calculated based on the AMP and Medicaid rebate amounts reported by the manufacturer. The PPACA expanded the types of entities eligible to receive discounted 340B pricing, although, under the current state of the law, with the exception of children's hospitals, these newly-eligible entities will not be eligible to receive discounted 340B pricing on orphan drugs when used for the orphan indication. In addition, as 340B drug pricing is determined based on AMP and Medicaid rebate data, the revisions to the Medicaid rebate formula and AMP definition described above could cause the required 340B discount to increase.
- The PPACA imposes a requirement on manufacturers of branded drugs and biologic agents to provide a 50% discount off the negotiated price of branded drugs dispensed to Medicare Part D patients in the coverage gap (i.e., "donut hole").
- The PPACA imposes 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, although this fee would not apply to sales of certain products approved exclusively for orphan indications.
- The PPACA requires pharmaceutical manufacturers to track certain financial arrangements with physicians and teaching hospitals, including any "transfer of value" made or distributed to such entities, as well as any investment interests held by physicians and their immediate family members. Manufacturers are required to track this information and were required to make their first reports in March 2014. The information reported is publicly available on a searchable website.
- As of 2010, a new Patient-Centered Outcomes Research Institute was established pursuant to the PPACA to oversee, identify priorities in and conduct comparative clinical effectiveness research, along with funding for such research. The research conducted by the Patient-Centered Outcomes Research Institute may affect the market for certain pharmaceutical products.

- The PPACA created the Independent Payment Advisory Board, which has the authority to recommend certain changes to the Medicare program to reduce expenditures by the program that could result in reduced payments for prescription drugs. Under certain circumstances, these recommendations will become law unless Congress enacts legislation that will achieve the same or greater Medicare cost savings.
- The PPACA established the Center for Medicare and Medicaid Innovation within CMS to test innovative payment and service delivery models to lower Medicare and Medicaid spending, potentially including prescription drug spending. Funding has been allocated to support the mission of the Center for Medicare and Medicaid Innovation from 2011 to 2019.

Many of the details regarding the implementation of the PPACA are yet to be determined, and, at this time, the full effect of the PPACA on our business remains unclear. Further, there have been recent public announcements by members of the federal government regarding their plans to repeal and replace the PPACA. For example, on December 22, 2017, former President Trump signed into law the Tax Cuts and Jobs Act of 2017, which, among other things, eliminated the individual mandate requiring most Americans (other than those who qualify for a hardship exemption) to carry a minimum level of health coverage, effective January 1, 2019. We cannot predict the ultimate form or timing of any repeal or replacement of the PPACA or the effect such a repeal or replacement would have on our business.

Chemistry, Manufacturing, and Controls

We have successfully developed production processes that are scalable and economically viable. All of the derivatives of the manufacturing process can be used, creating a spectrum of products for a variety of markets from one core technology.

We have established in-house research, development and manufacturing capabilities in our corporate headquarters; however, we do not intend to continue manufacturing commercial or clinical material in-house moving forward. We intend to secure manufacturing agreements with a contract manufacturing organization for our own clinical and commercial supply. Currently, we are not a party to any manufacturing agreements.

We currently manufacture commercial quantities of our CCM skin care ingredient for Allergan, who formulates the ingredient into their skin care product lines. However, we are in the process of conducting a technology transfer to Allergan, which will enable our commercial partner to utilize their own or third-party facilities. As of January 2021, we successfully completed the technology transfer to Allergan and our obligations to manufacture commercial quantities of CCM under the 2017 License and Supply Agreements.

Intellectual Property

As of February 1, 2021, we hold or control 11 issued U.S. patents, six pending U.S. patent applications, and 40 patents in various jurisdictions outside the United States related to our product candidates and core technology. Additionally, we are pursuing 24 corresponding patent applications that are pending in various foreign jurisdictions, including two applications that are pending in accordance with the Patent Cooperation Treaty (“PCT”). Further advancement of our intellectual property portfolio will require the filing of patent applications related to our proprietary manufacturing process and product candidates. We have patents extending into the late 2020s, and 2030 as well as trade secrets protecting our intellectual property. Our patent prosecution strategy includes exploration of opportunities to expand our patent life in order to broaden our existing patent portfolio.

Below is a further description of certain of our key issued patents, including the method of protection, expiration date, number of related patents issued in foreign jurisdictions and the product candidates to which each patent relates. We currently hold or control:

- three patents issued in the United States (U.S. Patent Nos. 10,538,736, 8,257,947 and 8,524,494) and thirty-one patents issued in foreign jurisdictions directed to the production and use of extracellular matrix compositions and more specifically to proteins obtained by culturing cells under hypoxic conditions on a microcarrier beads or a three-dimensional surface in a suitable growth medium. The culturing method

produces both soluble and non-soluble fractions, which may be used separately or in combination to obtain physiologically acceptable compositions useful in a variety of medical and therapeutic applications. These U.S. patents relate to HST-001, HST-002, HST-003, HST-004 and HST-005 and are expected to expire between January 2029 and 2030, while patents issued in foreign jurisdictions are expected to expire in July 2030;

- one patent issued in the United States (U.S. Patent Nos. 8,535,913), which is also directed to the production and use of extracellular matrix compositions and more specifically to proteins obtained by culturing cells under hypoxic conditions on a surface in a suitable growth medium useful for promoting hair growth. This U.S. patent relates to HST-001 and it is expected to expire in January 30, 2029;
- two patents issued in the United States (U.S. Patent Nos. 8,530,415 and 9,512,403), which are also directed to the production of a tissue patch for the repair and regeneration of cells and methods of use using of extracellular matrix compositions and more specifically to proteins obtained by culturing cells under hypoxic conditions on microcarrier beads or a three-dimensional a surface in a suitable growth medium. These U.S. patents relate to HST-003, HST-004 and HST-005 and are expected to expire January to March 2029; and
- four patents issued in the United States (U.S. Patent Nos. 8,852,637, 9,034,312, 9,506,038, 10,143,708) and fourteen patents issued in foreign jurisdictions related to extracellular matrix compositions for the treatment of cancer, which are scheduled to expire between January 2029 and November 2030, while patents issued in foreign jurisdictions are expected to expire in January 2029; and one pending U.S. application related to skin care.

In addition, as of February 1, 2021, we hold or control one United States patent and corresponding foreign patents directed to crystalline forms of emricasan. Foreign patents have been granted in Australia, Canada, China, Denmark, France, Germany, Great Britain, Hong Kong, Israel, Italy, Japan, Mexico, Netherlands, Singapore, South Korea, Spain, Sweden, Switzerland, and Taiwan. We expect that the crystalline forms and methods of use patent, if the appropriate maintenance, renewal, annuity or other governmental fees are paid, will expire in 2028 (United States) and 2027 (international). It is possible that the term of a crystalline forms patent in the United States could be extended up to five additional years under the provisions of the Hatch-Waxman Act. Patent term extension may be available in certain foreign countries upon regulatory approval. This patent portfolio also includes patent applications directed to composition of matter and methods of use for its internally developed caspase inhibitors, including CTS-2090.

Wherever possible, we seek to protect our inventions by filing U.S. patents as well as foreign counterpart applications in select other countries. Because patent applications in the U.S. are maintained in secrecy for at least eighteen months after the applications are filed, and since publication of discoveries in the scientific or patent literature often lags behind actual discoveries, we cannot be certain that we were the first to make the inventions covered by each of our issued or pending patent applications, or that we were the first to file for protection of inventions set forth in such patent applications. Our planned or potential products may be covered by third-party patents or other intellectual property rights, in which case continued development and marketing of its products would require a license. Required licenses may not be available to us on commercially acceptable terms, if at all. If we do not obtain these licenses, we could encounter delays in product introductions while we attempt to design around the patents, or we could find that the development, manufacture or sale of products requiring such licenses are not possible.

In addition to patent protection, we also rely on know-how, trade secrets and the careful monitoring of proprietary information, all of which can be difficult to protect. We seek to protect some of our proprietary technology and processes by entering into confidentiality agreements with our employees, consultants, and contractors. These agreements may be breached, we may not have adequate remedies for any breach and our trade secrets may otherwise become known or be independently discovered by competitors. To the extent that our employees or our consultants or contractors use intellectual property owned by others in their work for us, disputes may also arise as to the rights in related or resulting know-how and inventions.

Competition

Both the biopharmaceutical and cosmeceutical industries are highly competitive, and many of our competitors have substantially greater financial resources and experience in research and development, manufacturing, conducting clinical trials, obtaining regulatory approvals and marketing products.

While we believe our proprietary manufacturing process, focus on addressing underserved, multibillion-dollar global markets, in-house research and development, knowledge, experience, and scientific resources offer competitive advantages, we face competition in the biopharmaceutical and cosmeceutical industries. The key competitive factors affecting the success of HST-001, HST-003 and the emricasan asset are successful completion of clinical trials and timely regulatory approval in markets worldwide.

HST-001

Competition in the pharmaceutical market for the treatment of alopecia (hair loss), specifically androgenic alopecia, consists of the following:

- Although hair restoration treatments range in effectiveness and invasiveness, one thing all of the currently available treatments share is that they target the existing hair and hair follicles, and work to save them.
- Hair regrowth with topical options, such as Rogaine and Propecia, is minimal, and is lost upon discontinued use of the selected product.
- Hair loss products currently on the market or in active clinical development include: Allergan's setipriprant, RepliCel's RCH-01, Kerastem's Style, Samumed's SM-04554, Cassiopea's Breezula, Johnson & Johnson's Rogaine, Merck's Propecia, PhotoMedex's Tricomin and often as a last resort, a surgical hair transplant.
- Platelet-Rich Plasma (PRP) is an experimental therapy in which a patient's blood is drawn, processed and then injected into the scalp.
- The development of HST-001 has the potential to expand the hair restoration market by offering a successful option to those that currently have none, and a potentially more effective option to anyone presently using or considering current treatment options, such as Rogaine or Propecia.
- Certain treatment options may be limited in their effectiveness and only reduce hair loss, as opposed to growing new hair.

HST-003

Competition in the pharmaceutical market for regenerating hyaline cartilage for the treatment of articular cartilage defects, consists of the following:

- Physicians, and their patients, are seeking treatments that reverse cartilage degeneration.
- Less invasive procedures are preferred to preserve patient function and reduce surgical complications.
- Patients seek treatment options with shorter recovery periods and lasting treatment mechanisms that can promote more durable articular cartilage healing.
- Current treatment options fall into four key therapeutics categories, opioid, analgesic, cell/stem cell or disease modifying.
- Cartilage repair products currently on the market or in active clinical development include: Collegium's COL 003, Adhera's IT-102, Cytori's adipose derived stem cells, Stempeucetics' Stempeucel, Samumed's SM-04690 and Medivir AB's MIV-711.

Emricasan

Currently there is no competition in the pharmaceutical market for the treatment of COVID-19 using a pan-caspase inhibitor:

- COVID-19 is a multiple system disease that affects the lungs, circulatory system, the brain, kidney and other organs. Patients show a widespread of severity, some which remain asymptomatic, and others that progress all the way to rapid health deterioration, including death due to organ failure.
- Patients that show greater morbidity and mortality are typically characterized by lymphopenia, a rapid decline in white blood cells. Preliminary studies indicate that lymphopenia is associated with more severe disease and outcomes. Emricasan targets Caspase-1 which is believes to be a key enzyme that when activated leads to lymphopenia.
- Physicians, and their patients, are seeking treatment options that will shorten recovery periods and prevent progression of the disease and its severity.
- Current non-vaccine treatment options fall into several therapeutic categories geared toward interfering with different aspects of the disease, including RNA polymerase to prevent replication of the virus, general anti-inflammatory drugs, and monoclonal antibodies to interfere with cellular receptors to prevent uptake of the virus.
- Currently, there are no caspase inhibitors that are targeting the same mechanism of action, such as prevention of lymphopenia.

Other treatments which aim to interfere with different aspects of the disease that are currently on the market as FDA approved drugs, under a FDA EUA or in active clinical development include: Remdesivir/Veklury (approved RNApol inhibitor), Dexamethasone (corticosteroid, anti-inflammatory), Bamlanivimab (Lilly, anti-COVID mAbs), and Casirivmab/Imdevimab (Regeneron, anti-COVID mAbs), Bamlaniviman/etesevimab combination (Lilly, anti-COVID mAbs combination), baricitinib/remdesivir combination (Lilly; combination treatment of remdesivir with a janus kinase inhibitor).

Human Capital

As of December 31, 2020, we had 19 full-time employees and 15 of our employees are engaged in research and development activities. None of our employees are represented by labor unions or covered by collective bargaining agreements. We consider our relationship with our employees to be good.

We recognize that attracting, motivating and retaining talent at all levels is vital to our continued success. Our employees are a significant asset and we aim to create an equitable, inclusive and empowering environment in which our employees can grow and advance their careers, with the overall goal of developing, expanding and retaining our workforce to support our current pipeline and future business goals. By focusing on employee

retention and engagement, we also improve our ability to support our clinical trials, our pipeline, our platform technologies, business and operations, and also protect the long-term interests of our securityholders. Our success also depends on our ability to attract, engage and retain a diverse group of employees. Our efforts to recruit and retain a diverse and passionate workforce include providing competitive compensation and benefits packages and ensuring we listen to our employees.

We value innovation, passion, data-driven decision making, persistence and honesty, and are building a diverse environment where our employees can thrive and be inspired to make exceptional contributions to bring novel and more effective therapies to patients.

Our human capital resources objectives include, as applicable, identifying, recruiting, retaining, motivating and integrating our existing and future employees. The principal purposes of our equity incentive plans are to attract, retain and motivate selected employees, consultants and directors through grants of stock-based compensation awards and payments of cash-based performance bonus awards, in order to increase stockholder value and the success of our company by motivating our employees to perform to the best of their abilities and achieve our objectives. We are

committed to providing a competitive and comprehensive benefits package to our employees. Our benefits package provides a balance of protection along with the flexibility to meet the individual health and wellness needs of our employees. We plan to continue to refine our efforts related to optimizing our use of human capital as we grow, including improvements in the way we hire, develop, motivate and retain employees.

Corporate History and Reorganization

We were incorporated under the laws of Delaware under the name Conatus Pharmaceuticals, Inc. as a private company in July 2005. We completed our initial public offering in July 2013. In May 2020, we acquired Histogen Therapeutics, Inc. (formerly known as Histogen, Inc.) through its merger with a wholly owned subsidiary of ours, with Histogen Therapeutics surviving as our wholly-owned subsidiary. As part of that transaction, Conatus Pharmaceuticals, Inc. changed its name to Histogen Inc. Our principal executive offices are located at 10655 Sorrento Valley Road, Suite 200, San Diego, CA 92121 and our telephone number is (858) 526-3100. Our website is www.histogen.com. Information contained on, or that can be accessed through, our website is not incorporated by reference into this Annual Report, and you should not consider information on our website to be part of this Annual Report on Form 10-K. We have included our website address as an inactive textual reference only.

Item 1A. Risk Factors.

Summary of Risk Factors

We are providing the following summary of the risk factors contained in this Annual Report on Form 10-K to enhance the readability and accessibility of our risk factor disclosures. This summary does not address all of the risks that we face. We encourage you to carefully review the full risk factors contained in this Annual Report on Form 10-K in their entirety for additional information regarding the material factors that make an investment in our securities speculative or risky. The primary categories by which we classify risks include those related to: (i) our business and FDA Regulation, (ii) our intellectual property, and (iii) owning our common stock. Set forth below within each of these categories is a summary of the principal factors that make an investment in our common stock speculative or risky.

Risks Related to Our Business, Industry, and FDA Regulation

- We are a clinical-stage company, have a very limited operating history, are not currently profitable, do not expect to become profitable in the near future and may never become profitable.
- We are dependent on the success of one or more of our current product candidates, which are in early stages of clinical development, and we cannot be certain that any of them will receive regulatory approval or be commercialized.
- Clinical drug development involves uncertain outcomes, and results of earlier studies and trials may not be predictive of future trial results.
- If development of our product candidates does not produce favorable results, we and our collaborators, may be unable to commercialize these products.
- We expect to continue to incur significant research and development expenses, which may make it difficult for us to attain profitability.
- We will need to raise additional capital; however, it may be unavailable to us or, even if capital is obtained, may cause dilution or place significant restrictions on our ability to operate our business, including progressing development of our pipeline candidates.
- Our product candidates are subject to extensive regulation under the FDA or comparable foreign authorities, which can be costly and time consuming, cause unanticipated delays or prevent the receipt of the required approvals to commercialize our product candidates.

Risks Related to Our Intellectual Property

- We may not be successful in obtaining or maintaining necessary rights to our product candidates through acquisitions and in-licenses.
- We may not be able to protect our proprietary or licensed technology in the marketplace.
- Obtaining and maintaining patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and our patent protection for licensed patents, pending patent applications and potential future patent applications and patents could be reduced or eliminated for non-compliance with these requirements.
- We may infringe the intellectual property rights of others, which may prevent or delay our drug development efforts and prevent us from commercializing or increase the costs of commercializing our products, if approved.

Risks Related to Owning Our Common Stock

- The market price of our common stock has been and may continue to be volatile.
- Raising additional capital may cause dilution to our existing stockholders, restrict our operations or require us to relinquish rights to our technologies or product candidate.
- Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of us more difficult and may prevent attempts by our stockholders to replace or remove our management.
- Our pre-Merger net operating loss carryforwards and certain other tax attributes may be subject to limitations. The pre-Merger net operating loss carryforwards and certain other tax attributes of us may also be subject to limitations as a result of ownership changes resulting from the Merger.

RISK FACTORS

Investing in our securities involves a high degree of risk. You should consider carefully the following risks factors, together with all of the other information included or incorporated by reference in this Annual Report on Form 10-K, including our consolidated financial statements and the related notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations." The risks described below are material risks currently known, expected or reasonably foreseeable by us. However, the risks described below are not the only ones that we face. Additional risks not presently known to us or that we currently deem immaterial may also affect our business, operating results, prospects or financial condition. If any of these risks actually materialize, our business, prospects, financial condition, and results of operations could be seriously harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment.

Risks Related to Our Business, Industry and FDA Regulation

We are a clinical-stage company, have a very limited operating history, are not currently profitable, do not expect to become profitable in the near future and may never become profitable.

We are a clinical-stage biopharmaceutical company, have no approved products and have generated minimal revenues from the sale of products. Following the Merger described above under "*Business – Merger*", we are focused primarily on the development of patented, innovative technologies that replace and regenerate tissues in the body for aesthetic and therapeutic markets.

Our operations to date have been limited to organizing, staffing and financing our company, applying for patent rights, manufacturing on a clinical scale, undertaking clinical trials of our product candidates, and engaging in research and development. As a result, we have limited historical operations upon which to evaluate our business and prospects and have not yet demonstrated an ability to obtain marketing approval for any of our product candidates or successfully overcome the risks and uncertainties frequently encountered by companies in the biopharmaceutical industry. We also have generated limited revenues from licensing agreements or product sales to date, and continue to incur significant research and development and other expenses. As a result, we have not been profitable and have incurred significant

operating losses in every reporting period since our inception, except for the year ended December 31, 2017. For the years ended December 31, 2020 and 2019, we reported net losses of $18.9 million and $3.0 million, respectively, and had an accumulated deficit of $62.7 million as of December 31, 2020.

For the foreseeable future, we expect to continue to incur losses, which will increase significantly from historical levels as we expand our drug development activities, seek regulatory approvals for our product candidates and begin to commercialize them if they are approved by the U.S. Food and Drug Administration (the "FDA") or comparable foreign regulatory authorities. Even if we succeed in developing and commercializing one or more product candidates, we may never become profitable.

We are dependent on the success of one or more of our current product candidates, which are in early stages of clinical development, and we cannot be certain that any of them will receive regulatory approval or be commercialized.

We have two product candidates currently in clinical development, HST-001 for the treatment of androgenic alopecia (hair loss) and HST-003 for the treatment of articular cartilage defects in the knee. We have spent significant time, money and effort on the development of our core assets, HST-001 and HST-003, and our pre-clinical assets, HST-004 and HST-002. In addition, Conatus previously spent significant time, money and effort on the licensing and development of emricasan. To date, no pivotal clinical trials designed to provide clinically and statistically significant proof of efficacy, or to provide sufficient evidence of safety to justify approval, have been completed with any of our product candidates. Success in preclinical studies and early clinical trials does not ensure that later clinical trials will generate adequate data to demonstrate the efficacy and safety of a therapeutic candidate. For example, in February 2021, we announced the final results from the week 26 assessments for our Phase 1b/2a clinical trial of HST-001, which was designed to assess the safety, tolerability and indicators or efficacy of HST-001 for the treatment of androgenic alopecia in men and our plans for further clinical development of HST-001. The final week 26 study results support both that HST-001 was shown to be safe and well tolerated as compared to placebo with no reports of serious adverse events and did not achieve statistical significance at week 26 as compared to placebo. Additional observations at week 26 included patients treated with HST-001 as compared to baseline demonstrated a statistically significant change in total hairs (terminal and vellus) within the target area (TAHC) in the vertex as measured by Canfield's Hairmetrix macrophotography system. We are currently preparing for the next HST-001 clinical trial in men with androgenic alopecia, which we anticipate will commence in the second half of 2021, subject to review and allowance by the FDA. In addition, in January 2021, we announced that the FDA notified the company that the IND application package for the planned Phase 1/2 clinical trial of HST-003 was placed on clinical hold due to additional CMC information that is required to complete FDA review. We submitted a complete response letter to the FDA on February 19, 2021 and will continue to work with the FDA to release the clinical hold. We anticipate initiating the HST-003 trial in the second quarter of 2021, pending FDA release of the clinical hold.

There is no guarantee that any future clinical trials will be started or completed in a timely fashion or succeed. Our ability ultimately to reach profitability is critically dependent on our future success in obtaining regulatory approval and/or commercialization for our product candidates. However, there can be no guarantee that any future clinical trials will be timely commenced, successful, or that regulators will approve our product candidates in a timely manner, or at all. In addition to HST-001 and HST-003, we have an asset, emricasan, previously developed by Conatus that we retained development and commercialization rights to which we are jointly developing with our partner, Amerimmune for the potential treatment of COVID-19, and two pre-clinical programs, HST-004 for the treatment of spinal disc repair and HST-002 for the treatment of facial folds and wrinkles. None of our product candidates have been approved for marketing or are being marketed or commercialized at this time.

We do not anticipate that any of our current product candidates will be eligible to receive regulatory approval from the FDA or comparable foreign authorities and begin commercialization for a number of years, if ever. Even if we ultimately receive regulatory approval for any of these product candidates, we or our current or potential future partners, if any, may be unable to commercialize them successfully for a variety of reasons. These include, for example, the availability of alternative treatments, lack of cost-effectiveness, the cost of manufacturing the product on a commercial scale and competition with other drugs or therapies. The success of our product candidates may also be limited by the prevalence and severity of any adverse side effects. If we fail to commercialize one or more of our current product candidates, we may be unable to generate sufficient revenues to attain or maintain profitability, and our financial condition and stock price may decline.

Clinical drug development involves uncertain outcomes, and results of earlier studies and trials may not be predictive of future trial results.

Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. Failure can occur at any time during the clinical trial process. The results of preclinical studies and early clinical trials relating to our product candidates may not be predictive of the results of later-stage clinical trials. Product candidates in later stages of clinical trials may fail to show the desired safety and efficacy traits despite having progressed through preclinical studies and initial clinical trials. A number of companies in the biopharmaceutical industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy or safety profiles, notwithstanding promising results in earlier trials. For example, our most recent Phase 1b/2a for HST-001 failed to achieve statistical significance [and our planned Phase 1/2 clinical trial of HST-003 was recently placed on clinical hold]. We cannot be certain that any of our current or future clinical trials will be successful and support regulatory approval in any jurisdiction. Failure in one indication may have negative consequences for the development of our product candidates for other indications. Any such failure may harm our business, prospects and financial condition.

If development of our product candidates does not produce favorable results, we and our collaborators, may be unable to commercialize these products.

To receive regulatory approval for the commercialization of our core assets, HST-001 and HST-003, our emricasan asset being developed in collaboration with Amerimmune, and our pre-clinical assets, HST-004 and HST-002, or any other product candidates that we may develop, adequate and well-controlled clinical trials must be conducted to demonstrate safety and efficacy in humans to the satisfaction of the FDA and comparable foreign regulatory authorities. In order to support marketing approval, these agencies typically require successful results in one or more Phase 3 clinical trials, which our current product candidates have not yet reached and may never reach. In addition to the risks described above under "*Clinical drug development involves uncertain outcomes, and results of earlier studies and trials may not be predictive of future trial results*," we may experience numerous unforeseen events during, or as a result of, the development process that could delay or prevent commercialization of our current or future product candidates, including the following:

- clinical trials may produce negative or inconclusive results;
- preclinical studies conducted with product candidates during clinical development to, among other things, evaluate their toxicology, carcinogenicity and pharmacokinetics and optimize their formulation may produce unfavorable results;
- patient recruitment and enrollment in clinical trials may be slower than we anticipate, particularly for subjects who are at a higher risk of severe illness or death from COVID-19;
- costs of development may be greater than we anticipate;
- our product candidates may cause undesirable side effects that delay or preclude regulatory approval or limit their commercial use or market acceptance, if approved;
- licensees who may be responsible for the development of our product candidates may not devote sufficient resources to these clinical trials or other preclinical studies of these candidates or conduct them in a timely manner; or
- we may face delays in obtaining regulatory approvals to commence one or more clinical trials.

In the future, we or our collaborators will be responsible for establishing the targeted endpoints and goals for development of our product candidates. These targeted endpoints and goals may be inadequate to demonstrate the safety and efficacy levels required for regulatory approvals. Even if we believe data collected during the development of our product candidates are promising, such data may not be sufficient to support marketing approval by the FDA or comparable foreign authorities. Further, data generated during development can be interpreted in different ways, and the FDA or comparable foreign authorities may interpret such data in different ways than us or our collaborators. Our failure to adequately demonstrate the safety and efficacy of our product candidates would prevent our receipt of regulatory approval, and ultimately the potential commercialization of these product candidates.

In addition, since we do not currently possess the resources necessary to independently develop and commercialize our product candidates or any other product candidates that we may develop, we have entered into and may seek to enter into license agreements to assist in the development and potential future commercialization of some or all of our product candidates as a component of our strategic plan. For example, we entered into an agreement with Amerimmune under which we and Amerimmune are jointly developing emricasan for the treatment of COVID-19. See "*Risk Factor – "We expect to depend on collaborations with third parties for the research, development and commercialization of certain of the product candidates we may develop. If any such collaborations are not successful, we may not be able to realize the market potential of those product candidates"*.

We expect to continue to incur significant research and development expenses, which may make it difficult for us to attain profitability.

We expect to expend substantial funds in research and development, including preclinical studies and clinical trials of our product candidates, and to manufacture and market any product candidates in the event they are approved for commercial sale. We also may need additional funding to develop or acquire complementary companies, technologies and assets, as well as for working capital requirements and other operating and general corporate purposes. Moreover, our planned increases in staffing will dramatically increase our costs in the near and long-term. Because of the numerous risks and uncertainties associated with drug development, we are unable to predict the timing or amount of our expenses, or when we will be able to generate any meaningful revenue or achieve or maintain profitability, if ever. In addition, our expenses could increase beyond our current expectations if we are required by the FDA, or foreign regulatory agencies, to perform studies in addition to those that we currently anticipate, or if there are any delays in any of our or our future collaborators' clinical trials or the development of any of our product candidates. Even if one or more of our product candidates is approved for commercial sale, we anticipate incurring significant costs associated with commercializing any approved product candidate and ongoing compliance efforts.

However, our spending on current and future research and development programs and product candidates for therapeutic indications may not yield any commercially viable products. Due to our limited financial and managerial resources, we must focus on a limited number of research programs and product candidates and on specific therapeutic indications. Our resource allocation decisions may cause us to fail to capitalize on viable product candidates or profitable market opportunities.

Because the successful development of our product candidates is uncertain, we are unable to precisely estimate the actual funds we will require to develop and potentially commercialize them. In addition, we may not be able to generate sufficient revenue, even if we are able to commercialize any of our product candidates, to become profitable.

We must raise additional funds to finance our operations to remain a going concern.

As of December 31, 2020, the Company has accumulated losses of $62.7 million and expects to incur operating losses and generate negative cash flows from operations for the foreseeable future. As of December 31, 2020, we had approximately $6.8 million in cash and cash equivalents. As described in Note 15 to the audited consolidated financial statements included in this Annual Report, on January 5, 2021, we completed the January 2021 Offering and received gross proceeds of $14.0 million and incurred placement agent's fees and other offering expenses of approximately $2.4 million. In addition, the Company has an agreement in place with Lincoln Park providing for the sale of up to $10.0 million of common stock, of which $8.5 million remained available to be sold. Based on the Company's current business plan and related operating budget, management believes that existing cash and cash equivalents will be sufficient to fund our obligations for at least the next 12 months.

We have not yet established ongoing sources of revenues sufficient to cover our ongoing operating costs and will need to continue efforts to raise additional capital to support our future operating activities, including progression of our development programs, preparation for commercialization, and other operating costs. Management's plans with regard to these matters include entering into a combination of debt or additional equity financing arrangements, government funding, strategic partnerships, collaboration and licensing arrangements, or other similar arrangements. There can be no assurance that we will be able to obtain additional financing on terms acceptable to us, on a timely basis or at all. In addition, changing circumstances may cause us to increase our spending significantly faster than we currently anticipate, and we may need to spend more money than currently expected because of circumstances beyond our control. We may need to raise additional funds sooner than we anticipate if we choose to expand more rapidly than we presently anticipate.

We will require additional capital for the further development and, if approved, commercialization of our product candidates. Additional capital may not be available when we need it, on terms acceptable to us or at all. If adequate capital is not available to us on a timely basis, we may be required to significantly delay, scale back or discontinue our research and development programs or the commercialization of any product candidates, if approved, or be unable to continue or expand our operations or otherwise capitalize on our business opportunities, as desired, which could materially affect our business, financial condition, results of operations, growth prospects and cause the price of our common stock to decline.

We will need to raise additional capital; however, it may be unavailable to us or, even if capital is obtained, may cause dilution or place significant restrictions on our ability to operate our business.

Our operations have required substantial amounts of cash since inception. To date, we have funded our operations primarily through the sale of our preferred and common stock. We are currently advancing three product candidates through clinical development, and have several other product candidates in preclinical development, as well as early-stage research projects. Developing our product candidates is expensive, and we expect to continue to spend substantial amounts as we fund our early-stage research projects, and continue to advance our programs through preclinical and clinical development. Even if we are successful in developing our product candidates, obtaining regulatory approvals and launching and commercializing any product candidate will require substantial additional funding. Since we will be unable to generate sufficient, if any, cash flow to fund our operations for the foreseeable future, we will need to seek additional equity or debt financing to provide the capital required to maintain or expand our operations.

There can be no assurance that we will be able to raise sufficient additional capital on acceptable terms or at all. If such additional financing is not available on satisfactory terms, or is not available in sufficient amounts, we may be required to significantly delay, scale back or discontinue our research and development programs or the commercialization of any product candidates, if approved, or be unable to continue or expand our operations or otherwise capitalize on our business opportunities, as desired, which could materially affect our business, financial condition, results of operations, growth prospects and cause the price of our common stock to decline. In addition, we may be required to grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves. Our inability to fund our business could lead to the loss of your investment.

Our future capital requirements will depend on many factors, including, but not limited to:

- the scope, rate of progress, results and cost of our clinical trials, preclinical studies and other related activities;
- our ability to establish and maintain strategic licensing or other arrangements and the financial terms of such arrangements;
- the timing of, and the costs involved in, obtaining regulatory approvals for any of our current or future product candidates;
- the number and characteristics of the product candidates we seek to develop or commercialize;
- the cost of manufacturing clinical supplies, and establishing commercial supplies, of our product candidates;
- the cost of commercialization activities if any of our current or future product candidates are approved for sale, including marketing, sales and distribution costs;
- the expenses needed to attract and retain skilled personnel;
- the costs associated with being a public company;
- the amount of revenue, if any, received from commercial sales of our product candidates, should any of our product candidates receive marketing approval;
- the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing possible patent claims, including litigation costs and the outcome of any such litigation; and
- the impact of any natural disasters or public health crises, such as the COVID-19 pandemic.

If we raise additional capital by issuing common stock under the Lincoln Park arrangement, or any other equity securities or securities convertible into equity, the percentage ownership of our existing stockholders may be reduced, and accordingly these stockholders may experience substantial dilution. We may also issue equity securities that provide for rights, preferences and privileges senior to those of our common stock. Given our need for cash and that equity issuances are the most common type of fundraising for similarly situated companies, the risk of dilution is particularly significant for our stockholders.

Further, SEC regulations limit the amount of funds we can raise during any 12-month period pursuant to our shelf registration statement on Form S-3. We are currently subject to General Instruction I.B.6 to Form S-3, or the Baby Shelf Rule, and the amount of funds we can raise through primary public offerings of securities in any 12-month period using our registration statement on Form S-3 is limited to one-third of the aggregate market value of the voting and non-voting common equity held by non-affiliates. We are currently limited by the Baby Shelf Rule as of the filing of this Annual Report on Form 10-K, until such time as our public float exceeds $75 million. If we are required to file a new registration statement on another form, we may incur additional costs and be subject to delays due to review by SEC staff.

We expect to depend on collaborations with third parties for the research, development and commercialization of certain of the product candidates we may develop. If any such collaborations are not successful, we may not be able to realize the market potential of those product candidates.

We anticipate seeking third-party collaborators for the research, development, and commercialization of certain of the product candidates we may develop. For example, we entered into an agreement with Amerimmune under which we and Amerimmune are jointly developing emricasan for the treatment of COVID-19. For any such arrangements with third parties, we will likely have shared or limited control over the amount and timing of resources that our collaborators dedicate to the development or potential commercialization of any product candidates we may seek to develop with them. Our ability to generate revenue from these arrangements with commercial entities will depend on our collaborators' abilities to successfully perform the functions assigned to them in these arrangements. We cannot predict the success of any collaboration that we enter into.

In addition, we may face significant competition in seeking appropriate collaborations and the negotiation process is time-consuming and complex, and we may not be able to negotiate collaborations on a timely basis, on acceptable terms, or at all. If we are unable to do so, we may have to curtail the development of the product candidate for which we are seeking to collaborate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to increase our expenditures to fund development or commercialization activities on our own, we may need to obtain additional capital, which may not be available to us on acceptable terms or at all. If we do not have sufficient funds, we may not be able to further develop product candidates or bring them to market and generate product revenue.

Our product candidates may cause undesirable side effects that could delay or prevent their regulatory approval or commercialization or have other significant adverse implications on our business, financial condition and results of operations.

Undesirable side effects observed in clinical trials or in supportive preclinical studies with our product candidates could interrupt, delay or halt their development and could result in the denial of regulatory approval by the FDA or comparable foreign authorities for any or all targeted indications or adversely affect the marketability of any such product candidates that receive regulatory approval. In turn, this could eliminate or limit our ability to commercialize our product candidates.

Our product candidates may exhibit adverse effects in preclinical toxicology studies and adverse interactions with other drugs. There are also risks associated with additional requirements the FDA or comparable foreign authorities may impose for marketing approval with regard to a particular disease.

Our product candidates may require a risk management program that could include patient and healthcare provider education, usage guidelines, appropriate promotional activities, a post-marketing observational study, and ongoing safety and reporting mechanisms, among other requirements. Prescribing could be limited to physician specialists or

physicians trained in the use of the drug, or could be limited to a more restricted patient population. Any risk management program required for approval of our product candidates could potentially have an adverse effect on our business, financial condition and results of operations.

Undesirable side effects involving our product candidates may have other significant adverse implications on our business, financial condition and results of operations. For example:

- we may be unable to obtain additional financing on acceptable terms, if at all;
- our collaborators may terminate any license agreements covering these product candidates;
- if any license agreements are terminated, we may determine not to further develop the affected product candidates due to resource constraints and may not be able to establish additional license agreements for their further development on acceptable terms, if at all;
- if we were to later continue the development of these product candidates and receive regulatory approval, earlier findings may significantly limit their marketability and thus significantly lower our potential future revenues from their commercialization;
- we may be subject to product liability or stockholder litigation; and
- we may be unable to attract and retain key employees.

In addition, if any of our product candidates receive marketing approval and we or others later identify undesirable side effects caused by the product:

- regulatory authorities may withdraw their approval of the product, or us or our partners may decide to cease marketing and sale of the product voluntarily;
- we may be required to change the way the product is administered, conduct additional clinical trials or preclinical studies regarding the product, change the labeling of the product, or change the product's manufacturing facilities; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of the particular product candidate, if approved, and could significantly harm our business, financial condition, results of operations, and growth prospects. We cannot predict whether our product candidates will cause toxicities in humans that would preclude or lead to the revocation of regulatory approval based on nonclinical studies or early-stage clinical trials.

Our efforts to discover product candidates beyond our current product candidates may not succeed, and any product candidates we recommend for clinical development may not actually begin clinical trials.

We intend to expand our existing pipeline of core assets by advancing drug compounds from current ongoing discovery programs into clinical development. However, the process of researching and discovering drug compounds is expensive, time-consuming and unpredictable. Data from our current preclinical programs may not support the clinical development of our lead compounds or other compounds from these programs, and we may not identify any additional drug compounds suitable for recommendation for clinical development. Moreover, any drug compounds we recommend for clinical development may not demonstrate, through preclinical studies, indications of safety and potential efficacy that would support advancement into clinical trials. Such findings would potentially impede our ability to maintain or expand our clinical development pipeline. Our ability to identify new drug compounds and advance them into clinical development also depends upon our ability to fund our research and development operations, and we cannot be certain that additional funding will be available on acceptable terms, or at all.

Delays in the commencement or completion of clinical trials could result in increased costs to us and delay our ability to establish strategic license agreements.

Delays in the commencement or completion of clinical trials could significantly impact our drug development costs. We do not know whether planned clinical trials will begin on time or be completed on schedule, if at all. For example,

in January 2021, the FDA has notified us that the IND application package for the planned Phase 1/2 clinical trial of HST-003 was placed on clinical hold due to additional CMC information that is required to complete FDA review. We submitted the requested CMC information to the FDA on February 19, 2021 and will continue to work with the FDA to release the clinical hold.

The commencement of clinical trials can be delayed for a variety of reasons, including, but not limited to, delays related to:

- obtaining regulatory approval to commence one or more clinical trials;
- reaching agreement on acceptable terms with prospective third-party contract research organizations ("CROs") and clinical trial sites;
- manufacturing sufficient quantities of a product candidate or other materials necessary to conduct clinical trials;
- obtaining institutional review board approval to conduct one or more clinical trials at a prospective site;
- recruiting and enrolling patients to participate in one or more clinical trials; and
- the failure of our licensees to adequately resource our product candidates due to their focus on other programs or as a result of general market conditions.

In addition, once a clinical trial has begun, it may be suspended or terminated by us, our licensees, the institutional review boards or data safety monitoring boards charged with overseeing our clinical trials, the FDA or comparable foreign authorities due to a number of factors, including:

- failure to conduct the clinical trial in accordance with regulatory requirements or clinical protocols;
- inspection of the clinical trial operations or clinical trial site by the FDA or comparable foreign authorities resulting in the imposition of a clinical hold;
- unforeseen safety issues; or
- lack of adequate funding to continue the clinical trial.

The progress of clinical trials and clinical studies also may be affected by significant global public health matters such as the current novel coronavirus outbreak. Factors related to the novel coronavirus outbreak that may impact the timing and conduct of our clinical trials and clinical studies include:

- the diversion of healthcare resources away from the conduct of clinical trial and clinical study matters to focus on pandemic-related concerns, including the attention of physicians serving as clinical trial investigators, hospitals and clinics serving as clinical trial sites, and medical staff supporting the conduct of clinical trials;
- limitations on travel and distancing requirements that interrupt key trial or study activities, such as site initiations and monitoring, or that limit the ability of a patient to participate in a clinical trial or study or delay access to drug dosing or assessments;
- interruption in global shipping affecting the transport of clinical trial materials, such as investigational drug product; and
- employee furlough days that delay necessary interactions with local regulators, ethics committees and other important agencies and contractors.

In addition, if patients or subjects participating in our clinical trials or studies were to contract COVID-19, there could be an adverse impact on the trials or studies. For example, such patients may be unable to participate further or may need to limit participation in a clinical trial or study; the results and data recorded for such patients may differ from those that would have been recorded if the patients had not been affected by COVID-19; or such patients could experience adverse events that could be attributed to the drug product under investigation.

If we experience delays in the completion or termination of any clinical trial of our product candidates, the commercial prospects of our product candidates will be harmed, and our ability to commence product sales and generate product revenues from any of our product candidates will be delayed. In addition, any delays in completing our clinical trials will increase our costs and slow down our product candidate development and approval process. Delays in completing our clinical trials could also allow our competitors to obtain marketing approval before we do or shorten the patent protection period during which we may have the exclusive right to commercialize our product candidates. Any of these occurrences may harm our business, financial condition and prospects significantly. 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.

Results of earlier clinical trials may not be predictive of the results of later-stage clinical trials.

The results of preclinical studies and early clinical trials of product candidates may not be predictive of the results of later-stage clinical trials. Product candidates in later stages of clinical trials may fail to show the desired safety and efficacy results despite having progressed through preclinical studies and initial clinical trials. Many companies in the biopharmaceutical industry have suffered significant setbacks in advanced clinical trials due to adverse safety profiles or lack of efficacy, notwithstanding promising results in earlier studies. Similarly, our future clinical trial results may not be successful for these or other reasons.

This product candidate development risk is heightened by any changes in the planned clinical trials compared to the completed clinical trials. As product candidates are developed through preclinical and early-stage to late-stage clinical trials towards approval and commercialization, it is customary that various aspects of the development program, such as manufacturing and methods of administration, are altered along the way in an effort to optimize processes and results. While these types of changes are common and are intended to optimize the product candidates for late-stage clinical trials, approval and commercialization, such changes carry the risk that they will not achieve these intended objectives.

Any of these changes could make the results of our planned clinical trials or other future clinical trials we may initiate less predictable and could cause our product candidates to perform differently, including causing toxicities, which could delay completion of our clinical trials, delay approval of our product candidates, and/or jeopardize our ability to commence product sales and generate revenues.

If we experience delays in the enrollment of patients in our clinical trials, our receipt of necessary regulatory approvals could be delayed or prevented.

We may not be able to initiate or continue clinical trials for our product candidates if we are unable to locate and enroll a sufficient number of eligible patients to participate in these trials as required by the FDA or other regulatory authorities. Patient enrollment, a significant factor in the timing of clinical trials, is affected by many factors, including the size and nature of the patient population, the proximity of patients to clinical sites, the eligibility criteria for the trial, the design of the clinical trial, competing clinical trials and clinicians' and patients' perceptions as to the potential advantages of the drug being studied in relation to other available therapies, including any new drugs that may be approved for the indications we are investigating, as well as the impact of the COVID-19 pandemic.

If we fail to enroll and maintain the number of patients for which the clinical trial was designed, the statistical power of that clinical trial may be reduced, which would make it harder to demonstrate that the product candidate being tested in such clinical trial is safe and effective. Additionally, enrollment delays in our clinical trials may result in increased development costs for our product candidates, which would cause our value to decline and limit our ability to obtain additional financing. Our inability to enroll a sufficient number of patients for any of our current or future clinical trials would result in significant delays or may require us to abandon one or more clinical trials altogether.

A pandemic, epidemic or outbreak of an infectious disease, such as COVID-19, or the perception of their effects, may materially and adversely affect our business, operations and financial condition.

Outbreaks of epidemic, pandemic or contagious diseases, such as COVID-19, have and may continue to significantly disrupt our business. Such outbreaks pose the risk that we or our employees, contractors, suppliers, and other partners

may be prevented from conducting business activities for an indefinite period of time due to spread of the disease, or due to shutdowns that may be requested or mandated by federal, state and local governmental authorities both within and outside the United States. Business disruptions could include disruptions or restrictions on our ability to travel, as well as temporary closures of our facilities and the facilities of clinical trial sites, service providers, suppliers or contract manufacturers. While it is not possible at this time to estimate the overall impact that the COVID-19 pandemic could have on our business, the continued rapid spread of COVID-19, both across the United States and through much of the world, and the measures taken by the governments of countries and local authorities has disrupted and could delay advancing our product pipeline, could delay our clinical trials, and could delay our overall development activities. Any of these effects could adversely affect our ability to obtain regulatory approval for and to commercialize our product candidates, increase our operating expenses and have a material adverse effect on our business, prospects and financial condition.

The state of California, where our corporate office is located, has issued orders for all residents to remain at home, except as needed for essential activities as a result of the COVID-19 pandemic and we have had to implement work from home policies that may continue for an indefinite period. We have taken steps to protect the health and safety of our employees and community, while working to ensure the sustainability of our business operations as this unprecedented situation continues to evolve.

We continue to evaluate the impact COVID-19 may have on our ability to effectively conduct our business operations as planned while taking into account regulatory, institutional, and government guidance and policies, but there can be no assurance that we will be able to avoid part or all of any impact from the spread of COVID-19 or its consequences. Any shutdowns or other business interruptions could result in material and negative effects to our ability to conduct our business in the manner and on the timelines presently planned, which could have a material adverse effect on our business, prospects and financial condition.

In addition, as set forth in greater detail in Note 9 of the consolidated financial statements included in this Annual Report on Form 10-K, in April 2020, we received a loan in the aggregate amount of $466,600 under the Paycheck Protection Program (“PPP”) of the Coronavirus Aid, Relief, and Economic Security Act (“CARES Act”). Under the PPP, we may apply for and be granted forgiveness for all or part of the PPP loan. Subject to the other requirements and limitations on loan forgiveness, only loan proceeds spent on payroll and other eligible costs during the covered period will qualify for forgiveness. We will be required to repay any portion of the outstanding principal that is not forgiven, along with accrued interest, as set forth in the note evidencing the PPP loan, and we cannot provide any assurance that we will be eligible for loan forgiveness, that we will ultimately apply for forgiveness, or that any amount of the PPP loan will ultimately be forgiven by the SBA.

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

We intend to rely upon third-party CROs, medical institutions, clinical investigators and contract laboratories to monitor and manage data for our ongoing preclinical and clinical programs. Nevertheless, we maintain responsibility for ensuring that each of our clinical trials and preclinical studies is conducted in accordance with the applicable protocol, legal, regulatory, and scientific standards and our reliance on these third parties does not relieve us of our regulatory responsibilities. We and our CROs and other vendors are required to comply with current requirements on good manufacturing practices (“cGMP”), good clinical practices (“GCP”) and good laboratory practice (“GLP”) which are a collection of laws and regulations enforced by the FDA, and comparable foreign authorities for all of our product candidates in clinical development. Regulatory authorities enforce these regulations through periodic inspections of preclinical study and clinical trial sponsors, principal investigators, preclinical study and clinical trial sites, and other contractors. If we or any of our CROs or vendors fails to comply with applicable regulations, the data generated in our preclinical studies and clinical trials may be deemed unreliable and the FDA, or comparable foreign authorities may require us to perform additional preclinical studies and clinical trials before approving our marketing applications. We cannot assure you that upon inspection by a given regulatory authority, such regulatory authority will determine that any of our clinical trials comply with GCP regulations. In addition, our clinical trials must be conducted with products produced consistent with cGMP regulations. Our failure to comply with these regulations may require us to repeat clinical trials, which would delay the development and regulatory approval processes.

We may not be able to enter into arrangements with CROs on commercially reasonable terms, or at all. In addition, our CROs will not be our employees, and except for remedies available to us under our agreements with such CROs, we will not be able to control whether or not they devote sufficient time and resources to our ongoing preclinical and clinical programs. If CROs do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they 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 protocols, regulatory requirements, or for other reasons, our clinical trials may be extended, delayed or terminated and we may not be able to obtain regulatory approval for or successfully commercialize our product candidates. CROs may also generate higher costs than anticipated. As a result, our business, financial condition and results of operations and the commercial prospects for our product candidates could be materially and adversely affected, our costs could increase, and our ability to generate revenue could be delayed.

Switching or adding additional CROs, medical institutions, clinical investigators or contract laboratories involves additional cost and requires management time and focus. In addition, there is a natural transition period when a new CRO commences work replacing a previous CRO. As a result, delays occur, which can materially impact our ability to meet our desired clinical development timelines. There can be no assurance that we will not encounter similar challenges or delays in the future or that these delays or challenges will not have a material adverse effect on our business, financial condition or results of operations.

Our product candidates are subject to extensive regulation under the FDA or comparable foreign regulatory authorities, which can be costly and time consuming, cause unanticipated delays or prevent the receipt of the required approvals to commercialize our product candidates.

The clinical development, manufacturing, labeling, storage, record-keeping, advertising, promotion, export, marketing and distribution of our product candidates are subject to extensive regulation by the FDA and other U.S. regulatory agencies, or comparable authorities in foreign markets. In the U.S., neither us nor our licensees are permitted to market our product candidates until we or our licensees receive approval of a Biologics License Application ("BLA"), new drug application ("NDA"), or Premarket Application ("PMA") from the FDA or receive similar approvals abroad. The process of obtaining these approvals is expensive, often takes many years, and can vary substantially based upon the type, complexity and novelty of the product candidates involved. Approval policies or regulations may change and may be influenced by the results of other similar or competitive products, making it more difficult for us to achieve such approval in a timely manner or at all. Any guidance that may result from recent FDA advisory panel discussions may make it more expensive to develop and commercialize such product candidates. In addition, as a company, we have not previously filed BLAs, NDAs, or PMAs with the FDA or filed similar applications with other foreign regulatory agencies. This lack of experience may impede our ability to obtain FDA or other foreign regulatory agency approval in a timely manner, if at all, for our product candidates for which development and commercialization is our responsibility.

Despite the time and expense invested, regulatory approval is never guaranteed. The FDA or comparable foreign authorities can delay, limit or deny approval of a product candidate for many reasons, including:

- a product candidate may not be deemed safe or effective;
- agency officials of the FDA or comparable foreign regulatory authorities may not find the data from non-clinical or preclinical studies and clinical trials generated during development to be sufficient;
- the FDA or comparable foreign regulatory authorities may not approve our third-party manufacturers' processes or facilities; or
- the FDA or a comparable foreign regulatory authority may change its approval policies or adopt new regulations.

Our inability to obtain these approvals would prevent us from commercializing our product candidates.

The FDA regulatory approval process is lengthy and time-consuming and we could experience significant delays in the clinical development and regulatory approval of our product candidates.

We may experience delays in commencing and completing clinical trials of our product candidates. We do not know whether planned clinical trials will begin on time, need to be redesigned, enroll patients on time or be completed on schedule, if at all. Any of our future clinical trials may be delayed for a variety of reasons, including delays related to:

the availability of financial resources for us to commence and complete our planned clinical trials; reaching agreement on acceptable terms with prospective contract research organizations ("CROs"), and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and clinical trial sites;

- obtaining IRB approval at each clinical trial site;
- obtaining regulatory approval for clinical trials in each country;
- recruiting suitable patients to participate in clinical trials;
- having patients complete a clinical trial or return for post-treatment follow-up;
- clinical trial sites deviating from trial protocol or dropping out of a trial;
- adding new clinical trial sites;
- developing one or more new formulations or routes of administration; or
- manufacturing sufficient quantities of our product candidate for use in clinical trials.

Patient enrollment, a significant factor in the timing of clinical trials, is affected by many factors including the size and nature of the patient population, the proximity of patients to clinical sites, the eligibility criteria for the clinical trial, the design of the clinical trial, competing clinical trials and clinicians' and patients' perceptions as to the potential advantages of the product candidate being studied in relation to other available therapies, including any new drugs that may be approved for the indications we are investigating. In addition, significant numbers of patients who enroll in our clinical trials may drop out during the clinical trials for various reasons. We believe it appropriately accounts for such increased risk of dropout rates in our trials when determining expected clinical trial timelines, but we cannot assure you that our assumptions are correct, or that it will not experience higher numbers of dropouts than anticipated, which would result in the delay of completion of such trials beyond our expected timelines.

We could encounter delays if physicians encounter unresolved ethical issues associated with enrolling patients in clinical trials of our product candidates in lieu of prescribing existing treatments that have established safety and efficacy profiles. Further, a clinical trial may be suspended or terminated by us, the IRBs in the institutions in which such trials are being conducted, the data monitoring committee for such trial, or by the FDA or other regulatory authorities 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 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 product candidate, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. If we experience termination of, or delays in the completion of, any clinical trial of our product candidates, the commercial prospects for such product candidate will be harmed, and our ability to generate product revenues will be delayed. In addition, any delays in completing our clinical trials will increase our costs, slow down our product development and approval process and jeopardize our ability to commence product sales and generate revenues. Any of these occurrences may harm our business, prospects, financial condition and results of operations significantly. Furthermore, 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 a product candidate.

In connection with clinical trials, we face risks that:

- IRBs may delay approval of, or fail to approve, a clinical trial at a prospective site;
- there may be a limited number of, and significant competition for, suitable patients for enrollment in the clinical trials;

- there may be slower than expected rates of patient recruitment and enrollment;
- patients may fail to complete the clinical trials;
- there may be an inability or unwillingness of patients or medical investigators to follow our clinical trial protocols;
- there may be an inability to monitor patients adequately during or after treatment;
- there may be termination of the clinical trials by one or more clinical trial sites;
- unforeseen ethical or safety issues may arise;
- conditions of patients may deteriorate rapidly or unexpectedly, which may cause the patients to become ineligible for a clinical trial or may prevent our product candidates from demonstrating efficacy or safety;
- patients may die or suffer other adverse effects for reasons that may or may not be related to our product candidate being tested;
- we may not be able to sufficiently standardize certain of the tests and procedures that are part of our clinical trials because such tests and procedures are highly specialized and involve a high degree of expertise;
- a product candidate may not prove to be efficacious in all or some patient populations;
- the results of the clinical trials may not confirm the results of earlier trials;
- the results of the clinical trials may not meet the level of statistical significance required by the FDA or other regulatory agencies; and
- a product candidate may not have a favorable risk/benefit assessment in the disease areas studied.

We cannot assure you that any future clinical trial for our product candidates will be started or completed on schedule, or at all. Any failure or significant delay in completing clinical trials for our product candidates would harm the commercial prospects for such product candidate and adversely affect our financial results. Difficulties and failures can occur at any stage of clinical development, and we cannot assure you that it will be able to successfully complete the development and commercialization of any product candidate in any indication.

Changes in funding for the FDA and other government agencies could hinder their ability to hire and retain key leadership and other personnel, or otherwise prevent new products and services from being developed or commercialized in a timely manner, which could negatively impact our business.

The ability of the FDA to review and approve new products can be affected by a variety of factors, including (i) government budget and funding levels, (ii) the ability to hire and retain key personnel and accept the payment of user fees and (iii) statutory, regulatory and policy changes. Average review times at the agency have fluctuated in recent years as a result. In addition, government funding of other government agencies that fund research and development activities is subject to the political process, which is inherently fluid and unpredictable.

Disruptions at the FDA and other agencies may also slow the time necessary for new drugs to be reviewed and/or approved by necessary government agencies, which would adversely affect its business. For example, over the last several years, including for 35 days beginning on December 22, 2018, the U.S. government has shut down several times and certain regulatory agencies, such as the FDA, have had to furlough critical FDA employees and stop critical activities. If a prolonged government shutdown occurs, it could significantly impact the ability of the FDA to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

Even if we obtain and maintain regulatory approval for a product candidate in one jurisdiction, we may never obtain regulatory approval for such product candidate in any other jurisdiction, which would limit our market opportunities and adversely affect our business.

Obtaining and maintaining regulatory approval for a product candidate in one jurisdiction does not guarantee that we will be able to obtain or maintain regulatory approval in other jurisdictions. For example, even if the FDA grants marketing approval for a product candidate, comparable regulatory authorities in foreign countries must also approve

the manufacturing, marketing and promotion of the product candidate in those countries. Approval procedures vary amongst jurisdictions and can involve requirements and administrative review periods different from, and greater than, those in the United States, including additional preclinical studies or clinical trials. In many countries outside the United States, a product candidate must be approved for reimbursement before it can be approved for sale in that country. In some cases, the price that we intend to charge for our products is also subject to approval.

Regulatory authorities in countries outside of the United States also have requirements for approval of product candidates that we must comply with prior to marketing in those countries. Obtaining foreign regulatory approvals and compliance with foreign regulatory requirements could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of our products in certain countries.

Further, clinical trials conducted in one country may not be accepted by regulatory authorities in other countries, and regulatory approval in one country does not ensure approval in any other country, while a failure or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory approval process in others. Also, regulatory approval for any product candidate may be withdrawn. A failure or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory process in others. If we fail to comply with the regulatory requirements in international markets and/or receive applicable marketing approvals, our target market will be reduced and our ability to realize the full market potential of a product candidate will be harmed, which would adversely affect our business, prospects, financial condition and results of operations.

Even if any of our product candidates receive regulatory approval, our product candidates may still face future development and regulatory difficulties.

If any of our product candidates receive regulatory approval, the FDA or comparable foreign regulatory authorities may still impose significant restrictions on the indicated uses or marketing of the product candidates or impose ongoing requirements for potentially costly post-approval studies and trials. In addition, regulatory agencies subject a product, its manufacturer and the manufacturer's facilities to continual review and periodic inspections. If a regulatory agency discovers previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured, a regulatory agency may impose restrictions on that product, our licensees or us, including requiring withdrawal of the product from the market. Our product candidates will also be subject to ongoing FDA or comparable foreign regulatory authorities' requirements for the labeling, packaging, storage, advertising, promotion, record-keeping and submission of safety and other post-market information on the drug. If our product candidates fail to comply with applicable regulatory requirements, a regulatory agency may:

- issue warning letters or other notices of possible violations;
- impose civil or criminal penalties or fines or seek disgorgement of revenue or profits;
- suspend any ongoing clinical trials;
- refuse to approve pending applications or supplements to approved applications filed by us or our licensees;
- withdraw any regulatory approvals;
- impose restrictions on operations, including costly new manufacturing requirements, or shut down our manufacturing operations; or
- seize or detain products or require a product recall.

The FDA and comparable foreign authorities actively enforce the laws and regulations prohibiting the promotion of off-label uses.

The FDA and comparable foreign authorities strictly regulate the promotional claims that may be made about prescription products, such as our product candidates, if approved. In particular, a product may not be promoted for uses that are not approved by the FDA or comparable foreign authorities as reflected in the product's approved labeling. If we receive marketing approval for our product candidates for our proposed indications, physicians may nevertheless use our products for their patients in a manner that is inconsistent with the approved label, if the physicians personally believe in their professional medical judgment that our products could be used in such manner.

However, if we are found to have promoted our products for any off-label uses, the federal government could levy civil, criminal or administrative penalties, and seek fines against us. Such enforcement has become more common in the industry. The FDA or comparable foreign authorities could also request that we enter into a consent decree or a corporate integrity agreement, or seek a permanent injunction against us under which specified promotional conduct is monitored, changed or curtailed. If we cannot successfully manage the promotion of our product candidates, if approved, we could become subject to significant liability, which would materially adversely affect our business, financial condition and results of operations.

Even if we obtain regulatory approval for a product candidate, the product may not gain market acceptance among physicians, patients and others in the medical community.

If a product candidate is approved for commercialization, its acceptance will depend on a number of factors, including:

- the clinical indications for which the product is approved;
- physicians and patients considering a product candidate as a safe and effective treatment;
- the potential and perceived advantages of the product over alternative treatments;
- the prevalence and severity of any side effects;
- product labeling or product insert requirements of the FDA or other regulatory authorities;
- the timing of market introduction of the product as well as competitive products;
- the cost of treatment in relation to alternative treatments;
- the availability of adequate reimbursement and pricing by third-party payors and government authorities;
- relative convenience and ease of administration; and
- the effectiveness of our sales and marketing efforts.

If a product candidate is approved but fails to achieve market acceptance among physicians, patients or others in the medical community, we will not be able to generate significant revenues, which would have a material adverse effect on our business, prospects, financial condition and results of operations.

If our competitors have product candidates that are approved faster, marketed more effectively, are better tolerated, have a more favorable safety profile or are demonstrated to be more effective than ours, our commercial opportunity may be reduced or eliminated.

The biopharmaceutical industry is characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary products. While we believe that our technology, knowledge, experience and scientific resources provide us with competitive advantages, we face potential competition from many different sources, including commercial biopharmaceutical enterprises, academic institutions, government agencies and private and public research institutions. Any product candidates that we successfully develop and commercialize will compete with existing therapies and new therapies that may become available in the future.

Many of our competitors have significantly greater financial resources and expertise in research and development, manufacturing, preclinical studies, clinical trials, regulatory approvals and marketing approved products than we do. Some of our competitors include companies such as Allergan Aesthetics, Merz, Galderma, RepliCel Life Sciences Inc., Kerastem, Cassiopea, Inc., Johnson & Johnson, and Merck & Co, Inc. Smaller or early-stage companies may also prove to be significant competitors, particularly through license arrangements with large and established companies. Our competitors may succeed in developing technologies and therapies that are more effective, better tolerated or less costly than any which we are developing, or that would render our product candidates obsolete and noncompetitive. Even if we obtain regulatory approval for any of our product candidates, our competitors may succeed in obtaining regulatory approvals for their products earlier than we do. We will also face competition from these third parties in recruiting and retaining qualified scientific and management personnel, in establishing clinical trial sites and patient registration for clinical trials, and in acquiring and in-licensing technologies and products complementary to our programs or advantageous to our business.

The key competitive factors affecting the success of each of our product candidates, if approved, are likely to be its efficacy, safety, tolerability, frequency and route of administration, convenience and price, the level of branded and generic competition and the availability of coverage and reimbursement from government and other third-party payors.

We are subject to a multitude of manufacturing risks, any of which could substantially increase our costs and limit supply of our product candidates.

The process of manufacturing our product candidates is complex, highly regulated, and subject to several risks. For example, the process of manufacturing our product candidates is extremely susceptible to product loss due to contamination, equipment failure or improper installation or operation of equipment, or vendor or operator error. Even minor deviations from normal manufacturing processes for any of our product candidates could result in reduced production yields, product defects, and other supply disruptions. If microbial, viral, or other contaminations are discovered in our product candidates or in the manufacturing facilities in which our product candidates are made, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination. In addition, the manufacturing facilities in which our product candidates are made could be adversely affected by equipment failures, labor shortages, natural disasters, public health crises, pandemics and epidemics, such as the recent coronavirus disease 2019 (COVID-19), power failures and numerous other factors.

In addition, any adverse developments affecting manufacturing operations for our product candidates may result in shipment delays, inventory shortages, lot failures, withdrawals or recalls, or other interruptions in the supply of our product candidates. We also may need to take inventory write-offs and incur other charges and expenses for product candidates that fail to meet specifications, undertake costly remediation efforts, or seek costlier manufacturing alternatives.

We intend to rely primarily on third parties to manufacture our preclinical and clinical drug supplies, and our business, financial condition and results of operations could be harmed if those third parties fail to provide us with sufficient quantities of drug product, or fail to do so at acceptable quality levels or prices.

We currently have the infrastructure or capability internally to manufacture certain of our preclinical and clinical drug supplies for use in our clinical trials, but we have engaged a contract manufacturing organization and once the technology transfer process is complete, we will rely completely on third parties for such manufacturing. We lack the resources and the capability to manufacture any of our product candidates on a late-stage clinical or commercial scale. We will rely on our manufacturers to purchase from third-party suppliers the materials necessary to produce our product candidates for our clinical trials. There are a limited number of suppliers for raw materials that we use to manufacture our product candidates, and there may be a need to identify alternate suppliers to prevent a possible disruption of the manufacture of the materials necessary to produce our product candidates for our clinical trials, and, if approved, ultimately for commercial sale. We do not have any control over the process or timing of the acquisition of these raw materials by our manufacturers. Although we generally do not begin a clinical trial unless we believe we have a sufficient supply of a product candidate to complete such clinical trial, any significant delay or discontinuity in the supply of a product candidate, or the raw material components thereof, for an ongoing clinical trial due to the need to replace a third-party manufacturer could considerably delay completion of our clinical trials, product testing and potential regulatory approval of our product candidates, which could harm our business, financial condition and results of operations.

We and our contract manufacturers are subject to significant regulation with respect to manufacturing our product candidates. The manufacturing facilities on which we rely may not continue to meet regulatory requirements.

All entities involved in the preparation of therapeutics for clinical trials or commercial sale, including our contract manufacturers for our product candidates, are subject to extensive regulation. Components of a finished therapeutic product approved for commercial sale or used in late-stage clinical trials must be manufactured in accordance with cGMP. These regulations govern manufacturing processes and procedures and the implementation and operation of quality systems to control and assure the quality of investigational products and products approved for sale. Poor control of production processes can lead to the introduction of contaminants or to inadvertent changes in the properties or stability of our product candidates that may not be detectable in final product testing. We or our contract manufacturers must supply all necessary documentation in support of a BLA, NDA, or PMA or MAA on a timely

basis and must adhere to GLP and cGMP regulations enforced by the FDA or comparable foreign authorities through their facilities inspection program. Some of our contract manufacturers may not have produced a commercially approved pharmaceutical product and therefore may not have obtained the requisite regulatory authority approvals to do so. The facilities and quality systems of some or all of our third-party contractors must pass a pre-approval inspection for compliance with the applicable regulations as a condition of regulatory approval of our product candidates or any of our other potential products. In addition, the regulatory authorities may, at any time, audit or inspect a manufacturing facility involved with the preparation of our product candidates or any of our other potential products or the associated quality systems for compliance with the regulations applicable to the activities being conducted. Although we plan to oversee the contract manufacturers, we cannot control the manufacturing process of, and are completely dependent on, our contract manufacturing partners for compliance with the regulatory requirements. If these facilities do not pass a pre-approval plant inspection, regulatory approval of the products may not be granted or may be substantially delayed until any violations are corrected to the satisfaction of the regulatory authority, if ever.

The regulatory authorities also may, at any time following approval of a product for sale, audit the manufacturing facilities of our third-party contractors. If any such inspection or audit identifies a failure to comply with applicable regulations or if a violation of our product specifications or applicable regulations occurs independent of such an inspection or audit, we or the relevant regulatory authority may require remedial measures that may be costly or time consuming for us or a third party to implement, and that may include the temporary or permanent suspension of a clinical trial or commercial sales or the temporary or permanent closure of a facility. Any such remedial measures imposed upon us or third parties with whom we contract could materially harm our business, financial condition and results of operations.

If we or any of our third-party manufacturers fail to maintain regulatory compliance, the FDA or comparable foreign authorities can impose regulatory sanctions including, among other things, refusal to approve a pending application for a product candidate, withdrawal of an approval, or suspension of production. As a result, our business, financial condition and results of operations may be materially and adversely affected.

Additionally, if supply from one manufacturer is interrupted, an alternative manufacturer would need to be qualified through a BLA, NDA, or PMA supplement or MAA variation, or equivalent foreign regulatory filing, which could result in further delay. The regulatory agencies may also require additional studies or trials if a new manufacturer is relied upon for commercial production. Switching manufacturers may involve substantial costs and is likely to result in a delay in our desired clinical and commercial timelines.

These factors could cause us to incur higher costs and could cause the delay or termination of clinical trials, regulatory submissions, required approvals, or commercialization of our product candidates. Furthermore, if our suppliers fail to meet contractual requirements and we are unable to secure one or more replacement suppliers capable of production at a substantially equivalent cost, our clinical trials may be delayed or we could lose potential revenue.

Any license agreement that we may enter into in the future may not be successful, which could adversely affect our ability to develop and commercialize our current and potential future product candidates.

We may seek license agreements with biopharmaceutical companies for the development or commercialization of our current and potential future product candidates. To the extent that we decide to enter into license agreements, we will face significant competition in seeking appropriate licensees. Moreover, license agreements are complex and time consuming to negotiate, execute and implement. We may not be successful in our efforts to establish and implement license agreements or other alternative arrangements should we choose to enter into such arrangements, and the terms of the arrangements may not be favorable to us. If and when we enter into additional license agreements with a third party for development and commercialization of a product candidate, we can expect to relinquish some or all of the control over the future success of that product candidate to the third party. The success of our license agreements will depend heavily on the efforts and activities of our licensees. Licensees generally have significant discretion in determining the efforts and resources that they will apply to the product candidate.

Disagreements between parties to a license arrangement can lead to delays in developing or commercializing the applicable product candidate and can be difficult to resolve in a mutually beneficial manner. In some cases, licenses

with biopharmaceutical companies and other third parties are terminated or allowed to expire by the other party. Any such termination or expiration would adversely affect our business, financial condition and results of operations.

If we are unable to develop our own commercial organization or enter into agreements with third parties to sell and market our product candidates, we may be unable to generate significant revenues.

We do not have a sales and marketing organization, and we have no experience as a company in the sales, marketing and distribution of pharmaceutical products. If any of our product candidates are approved for commercialization, we may be required to develop our sales, marketing and distribution capabilities, or make arrangements with a third party to perform sales and marketing services. Developing a sales force for any resulting product or any product resulting from any of our other product candidates is expensive and time consuming and could delay any product launch. We may be unable to establish and manage an effective sales force in a timely or cost-effective manner, if at all, and any sales force we do establish may not be capable of generating sufficient demand for our product candidates. To the extent that we enter into arrangements with licensees or other third parties to perform sales and marketing services, our product revenues are likely to be lower than if we marketed and sold our product candidates independently. If we are unable to establish adequate sales and marketing capabilities, independently or with others, we may not be able to generate significant revenues and may not become profitable.

If we fail to obtain and sustain an adequate level of reimbursement for our potential products by third-party payors, potential future sales would be materially adversely affected.

There will be no viable commercial market for our product candidates, if approved, without reimbursement from third-party payors. Reimbursement policies may be affected by future healthcare reform measures. We cannot be certain that reimbursement will be available for our current product candidates or any other product candidate we may develop. Additionally, even if there is a viable commercial market, if the level of reimbursement is below our expectations, our anticipated revenue and gross margins will be adversely affected.

Third-party payors, such as government or private healthcare insurers, carefully review and increasingly question and challenge the coverage of and the prices charged for drugs. Reimbursement rates from private health insurance companies vary depending on the company, the insurance plan and other factors. Reimbursement rates may be based on reimbursement levels already set for lower cost drugs and may be incorporated into existing payments for other services. There is a current trend in the U.S. healthcare industry toward cost containment.

Large public and private payors, managed care organizations, group purchasing organizations and similar organizations are exerting increasing influence on decisions regarding the use of, and reimbursement levels for, particular treatments. Such third-party payors, including Medicare, may question the coverage of, and challenge the prices charged for, medical products and services, and many third-party payors limit coverage of or reimbursement for newly approved healthcare products. In particular, third-party payors may limit the covered indications. Cost-control initiatives could decrease the price we might establish for products, which could result in product revenues being lower than anticipated. We believe our drugs will be priced significantly higher than existing generic drugs and consistent with current branded drugs. If we are unable to show a significant benefit relative to existing generic drugs, Medicare, Medicaid and private payors may not be willing to provide reimbursement for our drugs, which would significantly reduce the likelihood of our products gaining market acceptance.

We expect that private insurers will consider the efficacy, cost-effectiveness, safety and tolerability of our potential products in determining whether to approve reimbursement for such products and at what level. Obtaining these approvals can be a time consuming and expensive process. Our business, financial condition and results of operations would be materially adversely affected if we do not receive approval for reimbursement of our potential products from private insurers on a timely or satisfactory basis. Limitations on coverage could also be imposed at the local Medicare carrier level or by fiscal intermediaries. Medicare Part D, which provides a pharmacy benefit to Medicare patients as discussed below, does not require participating prescription drug plans to cover all drugs within a class of products. Our business, financial condition and results of operations could be materially adversely affected if Part D prescription drug plans were to limit access to, or deny or limit reimbursement of, our product candidates or other potential products.

Reimbursement systems in international markets vary significantly by country and by region, and reimbursement approvals must be obtained on a country-by-country basis. In many countries, the product cannot be commercially launched until reimbursement is approved. In some foreign markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted. The negotiation process in some countries can exceed 12 months. To obtain reimbursement or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost-effectiveness of our products to other available therapies.

If the prices for our potential products are reduced or if governmental and other third-party payors do not provide adequate coverage and reimbursement of our drugs, our future revenue, cash flows and prospects for profitability will suffer.

Current and future legislation may increase the difficulty and cost of commercializing our product candidates and may affect the prices we may obtain if our product candidates are approved for commercialization.

In the U.S. and some foreign jurisdictions, there have been a number of adopted and proposed legislative and regulatory changes regarding the healthcare system that could prevent or delay regulatory approval of our product candidates, restrict or regulate post-marketing activities and affect our ability to profitably sell any of our product candidates for which we obtain regulatory approval.

In the U.S., the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 ("MMA") changed the way Medicare covers and pays for pharmaceutical products. Cost reduction initiatives and other provisions of this legislation could limit the coverage and reimbursement rate that we receive for any of our approved products. While the MMA only applies to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own reimbursement rates. Therefore, any reduction in reimbursement that results from the MMA may result in a similar reduction in payments from private payors.

In March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010 (collectively the "PPACA"), was enacted. The PPACA was intended to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against healthcare fraud and abuse, add new transparency requirements for healthcare and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms. The PPACA increased manufacturers' rebate liability under the Medicaid Drug Rebate Program by increasing the minimum rebate amount for both branded and generic drugs and revised the definition of "average manufacturer price," ("AMP"), which may also increase the amount of Medicaid drug rebates manufacturers are required to pay to states. The legislation also expanded Medicaid drug rebates and created an alternative rebate formula for certain new formulations of certain existing products that is intended to increase the rebates due on those drugs. The Centers for Medicare & Medicaid Services, which administers the Medicaid Drug Rebate Program, also has proposed to expand Medicaid rebates to the utilization that occurs in the territories of the U.S., such as Puerto Rico and the Virgin Islands. Further, beginning in 2011, the PPACA imposed a significant annual fee on companies that manufacture or import branded prescription drug products and required manufacturers to provide a 50% discount off the negotiated price of prescriptions filled by beneficiaries in the Medicare Part D coverage gap, referred to as the "donut hole." Legislative and regulatory proposals have been introduced at both the state and federal level to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical products.

There have been prior public announcements by members of the federal government regarding their plans to repeal and replace the PPACA and Medicare. For example, on December 22, 2017, former President Trump signed into law the Tax Cuts and Jobs Act of 2017, which, among other things, eliminated the individual mandate requiring most Americans (other than those who qualify for a hardship exemption) to carry a minimum level of health coverage, effective January 1, 2019. We are not sure whether additional legislative changes will be enacted, or whether the FDA regulations, guidance or interpretations will be changed, or what the impact of such changes on the marketing approvals of 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 approval testing and other requirements.

We are subject to "fraud and abuse" and similar laws and regulations, and a failure to comply with such regulations or prevail in any litigation related to noncompliance could harm our business, financial condition and results of operations.

In the U.S., we are subject to various federal and state healthcare "fraud and abuse" laws, including anti-kickback laws, false claims laws and other laws intended, among other things, to reduce fraud and abuse in federal and state healthcare programs. The federal Anti-Kickback Statute makes it illegal for any person, including a prescription drug manufacturer, or a party acting on its behalf, to knowingly and willfully solicit, receive, offer or pay any remuneration that is intended to induce the referral of business, including the purchase, order or prescription of a particular drug, or other good or service for which payment in whole or in part may be made under a federal healthcare program, such as Medicare or Medicaid. Although we seek to structure our business arrangements in compliance with all applicable requirements, these laws are broadly written, and it is often difficult to determine precisely how the law will be applied in specific circumstances. Accordingly, it is possible that our practices may be challenged under the federal Anti-Kickback Statute.

The federal False Claims Act prohibits anyone from, among other things, knowingly presenting or causing to be presented for payment to the government, including the federal healthcare programs, claims for reimbursed drugs or services that are false or fraudulent, claims for items or services that were not provided as claimed, or claims for medically unnecessary items or services. Under the Health Insurance Portability and Accountability Act of 1996, we are prohibited from knowingly and willfully executing a scheme to defraud any healthcare benefit program, including private payors, or knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services to obtain money or property of any healthcare benefit program. Violations of fraud and abuse laws may be punishable by criminal or civil sanctions, including penalties, fines or exclusion or suspension from federal and state healthcare programs such as Medicare and Medicaid and debarment from contracting with the U.S. government. In addition, private individuals have the ability to bring actions on behalf of the government under the federal False Claims Act as well as under the false claims laws of several states.

Many states have adopted laws similar to the federal Anti-Kickback Statute, some of which apply to the referral of patients for healthcare services reimbursed by any source, not just governmental payors. In addition, some states have passed laws that require pharmaceutical companies to comply with the April 2003 Office of Inspector General Compliance Program Guidance for Pharmaceutical Manufacturers or the Pharmaceutical Research and Manufacturers of America's Code on Interactions with Healthcare Professionals. Several states also impose other marketing restrictions or require pharmaceutical companies to make marketing or price disclosures to the state. There are ambiguities as to what is required to comply with these state requirements and if we fail to comply with an applicable state law requirement, it could be subject to penalties.

Neither the government nor the courts have provided definitive guidance on the application of fraud and abuse laws to our business. Law enforcement authorities are increasingly focused on enforcing these laws, and it is possible that some of our practices may be challenged under these laws. Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs. If we are found in violation of one of these laws, we could be subject to significant civil, criminal and administrative penalties, damages, fines, exclusion from governmental funded federal or state healthcare programs and the curtailment or restructuring of our operations. If this occurs, our business, financial condition and results of operations may be materially adversely affected.

If we face allegations of noncompliance with the law and encounter sanctions, our reputation, revenues and liquidity may suffer, and any of our product candidates that are ultimately approved for commercialization could be subject to restrictions or withdrawal from the market.

Any government investigation of alleged violations of law could require us to expend significant time and resources in response, and could generate negative publicity. Any failure to comply with ongoing regulatory requirements may significantly and adversely affect our ability to generate revenues from any of our product candidates that are ultimately approved for commercialization. If regulatory sanctions are applied or if regulatory approval is withdrawn, our business, financial condition and results of operations will be adversely affected. Additionally, if we are unable to generate revenues from product sales, our potential for achieving profitability will be diminished and our need to raise capital to fund our operations will increase.

If we fail to retain current members of our senior management and scientific personnel, or to attract and keep additional key personnel, we may be unable to successfully develop or commercialize our product candidates.

Our ability to compete in the highly competitive biotechnology and pharmaceutical industries depends on our continued ability to attract, retain and motivate highly qualified management and scientific personnel. Competition for qualified personnel is intense. We may not be successful in attracting qualified personnel to fulfill our current or future needs and there is no guarantee that any of these individuals will join the combined organization on a full-time employment basis, or at all. In the event the combined organization is unable to fill critical open employment positions, we may need to delay our operational activities and goals, including the development of the company's product candidates, and may have difficulty in meeting our obligations as a public company. We do not maintain "key person" insurance on any of our employees.

In addition, competitors and others are likely in the future to attempt to recruit our employees. The loss of the services of any of our key personnel, the inability to attract or retain highly qualified personnel in the future or delays in hiring such personnel, particularly senior management and other technical personnel, could materially and adversely affect our business, financial condition and results of operations. In addition, the replacement of key personnel likely would involve significant time and costs, and may significantly delay or prevent the achievement of our business objectives.

From time to time, our management seeks the advice and guidance of certain scientific advisors and consultants regarding clinical and regulatory development programs and other customary matters. These scientific advisors and consultants are not our employees and may have commitments to, or consulting or advisory contracts with, other entities that may limit their availability to us. In addition, our scientific advisors may have arrangements with other companies to assist those companies in developing products or technologies that may compete with ours.

We will need to increase the size of our organization and may not successfully manage our growth.

We are a clinical-stage biopharmaceutical company with a small number of employees, and our management systems currently in place are not likely to be adequate to support our future growth plans. Our ability to grow and to manage our growth effectively will require us to hire, train, retain, manage and motivate additional employees and to implement and improve our operational, financial and management systems. These demands also may require the hiring of additional senior management personnel or the development of additional expertise by our senior management personnel. Hiring a significant number of additional employees, particularly those at the management level, would increase our expenses significantly. Moreover, if we fail to expand and enhance our operational, financial and management systems in conjunction with our potential future growth, it could have a material adverse effect on our business, financial condition and results of operations.

We are exposed to product liability, non-clinical and clinical liability risks, which could place a substantial financial burden upon us, should lawsuits be filed against us.

Our business exposes us to potential product liability and other liability risks that are inherent in the testing, manufacturing and marketing of pharmaceutical formulations and products. In addition, the use in our clinical trials of pharmaceutical products and the subsequent sale of these products by us or our potential licensees may cause us to bear a portion of or all product liability risks. A successful liability claim or series of claims brought against us could have a material adverse effect on our business, financial condition and results of operations.

Our research and development activities involve the use of hazardous materials, which subject us to regulation, related costs and delays and potential liabilities.

Our research and development activities involve the controlled use of hazardous materials, chemicals and various radioactive compounds. If an accident occurs, we could be held liable for resulting damages, which could be substantial. We are also subject to numerous environmental, health and workplace safety laws and regulations, including those governing laboratory procedures, exposure to blood-borne pathogens and the handling of biohazardous materials. Additional federal, state and local laws and regulations affecting our operations may be adopted in the future. We may incur substantial costs to comply with, and substantial fines or penalties if we violate any of these laws or regulations.

We rely significantly on information technology and any failure, inadequacy, interruption or security lapse of that technology, including any cybersecurity incidents, could harm our ability to operate our business effectively.

Despite the implementation of security measures, our internal computer systems and those of third parties with which we contract are vulnerable to damage from cyber-attacks, computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. System failures, accidents or security breaches could cause interruptions in our operations, and could result in a material disruption of our drug development and clinical activities and business operations, in addition to possibly requiring substantial expenditures of resources to remedy. The loss of drug development or clinical trial data could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability and our development programs and the development of our product candidates could be delayed.

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

We are exposed to the risk of employee or consultant fraud or other misconduct. Misconduct by our employees or consultants could include intentional failures to comply with FDA regulations, provide accurate information to the FDA, comply with manufacturing standards, comply with federal and state healthcare fraud and abuse laws and regulations, report financial information or data accurately or disclose unauthorized activities to us. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commissions, customer incentive programs and other business arrangements. Employee and consultant misconduct also could involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. It is not always possible to identify and deter such misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. If any such actions are instituted against us, and we are not successful in defending itself or asserting our rights, those actions could have a material adverse effect on our business, financial condition and results of operations, and result in the imposition of significant fines or other sanctions against us.

Business disruptions such as natural disasters could seriously harm our future revenues and financial condition and increase our costs and expenses.

We and our suppliers may experience a disruption in their business as a result of natural disasters. A significant natural disaster, such as an earthquake, hurricane, flood or fire, could severely damage or destroy our headquarters or facilities or the facilities of our manufacturers or suppliers, which could have a material and adverse effect on our business, financial condition and results of operations. In addition, terrorist acts or acts of war targeted at the U.S., could cause damage or disruption to us, our employees, facilities, partners and suppliers, which could have a material adverse effect on our business, financial condition and results of operations.

We may engage in strategic transactions that could impact our liquidity, increase our expenses and present significant distractions to our management.

From time to time, we may consider strategic transactions, such as acquisitions of companies, asset purchases and out-licensing or in-licensing of products, product candidates or technologies. Additional potential transactions that we may consider include a variety of different business arrangements, including spin-offs, strategic partnerships, joint ventures, restructurings, divestitures, business combinations and investments. Any such transaction may require us to incur non-recurring or other charges, may increase our near- and long-term expenditures and may pose significant integration challenges or disrupt our management or business, which could adversely affect our business, financial condition and results of operations. For example, these transactions may entail numerous operational and financial risks, including:

- exposure to unknown liabilities;

- disruption of our business and diversion of our management's time and attention in order to develop acquired products, product candidates or technologies;
- incurrence of substantial debt or dilutive issuances of equity securities to pay for any of these transactions;
- higher-than-expected transaction and integration costs;
- write-downs of assets or goodwill or impairment charges;
- increased amortization expenses;
- difficulty and cost in combining the operations and personnel of any acquired businesses or product lines with our operations and personnel;
- impairment of relationships with key suppliers or customers of any acquired businesses or product lines due to changes in management and ownership; and
- inability to retain key employees of any acquired businesses.

Accordingly, although there can be no assurance that we will undertake or successfully complete any transactions of the nature described above, any transactions that we do complete may be subject to the foregoing or other risks, and could have a material adverse effect on our business, financial condition and results of operations.

Risks Relating to Our Intellectual Property

We may not be successful in obtaining or maintaining necessary rights to our product candidates through acquisitions and in-licenses.

One of our programs may require the use of proprietary rights held by third parties. We may need to acquire or in-license additional intellectual property in the future with respect to other product candidates. Moreover, we may be unable to acquire or in-license any compositions, methods of use, processes or other intellectual property rights from third parties that we identify as necessary for our product candidates. We face competition with regard to acquiring and in-licensing third-party intellectual property rights, including from a number of more established companies. These established companies may have a competitive advantage over us due to their size, cash resources and greater clinical development and commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to assign or license intellectual property rights to us. We also may be unable to acquire or in-license third-party intellectual property rights on terms that would allow us to make an appropriate return on our investment.

We may enter into license agreements with U.S. and foreign academic institutions to accelerate development of our current or future preclinical product candidates. Typically, these agreements include an option for the company to negotiate a license to the institution's resulting intellectual property rights. Even with such an option, we may be unable to negotiate a license within the specified timeframe or under terms that are acceptable to us. If we are unable to license rights from the institution, the institution may offer the intellectual property rights to other parties, potentially blocking our ability to pursue our desired program.

If we are unable to successfully obtain required third-party intellectual property rights or maintain our existing intellectual property rights, we may need to abandon development of the related program and our business, financial condition and results of operations could be materially and adversely affected.

We may not be able to protect our proprietary or licensed technology in the marketplace.

We depend on our ability to protect our proprietary or licensed technology. We rely on trade secret, patent, copyright and trademark laws, and confidentiality, licensing and other agreements with employees and third parties, all of which offer only limited protection. Our success depends in large part on our ability and any licensor's or licensee's ability to obtain and maintain patent protection in the U.S. and other countries with respect to our proprietary or licensed technology and products. We currently in-license some of our intellectual property rights to develop our product candidates and may in-license additional intellectual property rights in the future. We cannot be certain that patent enforcement activities by our current or future licensors have been or will be conducted in compliance with applicable laws and regulations or will result in valid and enforceable patents or other intellectual property rights. We also cannot

be certain that our current or future licensors will allocate sufficient resources or prioritize their or our enforcement of such patents. Even if we are not a party to these legal actions, an adverse outcome could prevent us from continuing to license intellectual property that we may need to operate our business, which would have a material adverse effect on our business, financial condition and results of operations.

We believe we will be able to obtain, through prosecution of patent applications covering our owned technology and technology licensed from others, adequate patent protection for our proprietary drug technology, including those related to our in-licensed intellectual property. If we are compelled to spend significant time and money protecting or enforcing our licensed patents and future patents we may own, designing around patents held by others or licensing or acquiring, potentially for large fees, patents or other proprietary rights held by others, our business, financial condition and results of operations may be materially and adversely affected. If we are unable to effectively protect the intellectual property that we own or in-license, other companies may be able to offer the same or similar products for sale, which could materially adversely affect our business, financial condition and results of operations. The patents of others from whom we may license technology, and any future patents we may own, may be challenged, narrowed, invalidated or circumvented, which could limit our ability to stop competitors from marketing the same or similar products or limit the length of term of patent protection that we may have for our products.

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

Periodic maintenance fees, renewal fees, annuity fees and various other governmental fees on patents and/or patent applications will be due to be paid to the U.S. Patent and Trademark Office ("USPTO") and various governmental patent agencies outside of the U.S. in several stages over the lifetime of the applicable patent and/or patent application. The USPTO and various non-U.S. governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. In many cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with the applicable rules. However, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. If this occurs with respect to our in-licensed patents or patent applications we may file in the future, our competitors might be able to use our technologies, which would have a material adverse effect on our business, financial condition and results of operations.

The patent positions of pharmaceutical products are often complex and uncertain. The breadth of claims allowed in pharmaceutical patents in the U.S. and many jurisdictions outside of the U.S. is not consistent. For example, in many jurisdictions, the support standards for pharmaceutical patents are becoming increasingly strict. Some countries prohibit method of treatment claims in patents. Changes in either the patent laws or interpretations of patent laws in the U.S. and other countries may diminish the value of our licensed or owned intellectual property or create uncertainty. In addition, publication of information related to our current product candidates and potential products may prevent us from obtaining or enforcing patents relating to these product candidates and potential products, including without limitation composition-of-matter patents, which are generally believed to offer the strongest patent protection.

Patents that we currently license and patents that we may own or license in the future do not necessarily ensure the protection of our licensed or owned intellectual property for a number of reasons, including, without limitation, the following:

- the patents may not be broad or strong enough to prevent competition from other products that are identical or similar to our product candidates;
- there can be no assurance that the term of a patent can be extended under the provisions of patent term extensions afforded by U.S. law or similar provisions in foreign countries, where available;
- the issued patents and patents that we may obtain or license in the future may not prevent generic entry into the market for our product candidates;

- we, or third parties from whom we in-license or may license patents, may be required to disclaim part of the term of one or more patents;
- there may be prior art of which we are aware, which we do not believe affects the validity or enforceability of a patent claim, but which, nonetheless, ultimately may be found to affect the validity or enforceability of a patent claim;
- there may be other patents issued to others that will affect our freedom to operate;
- if the patents are challenged, a court could determine that they are invalid or unenforceable;
- there might be a significant change in the law that governs patentability, validity and infringement of our licensed patents or any future patents we may own that adversely affects the scope of our patent rights;
- a court could determine that a competitor's technology or product does not infringe our licensed patents or any future patents we may own; and
- the patents could irretrievably lapse due to failure to pay fees or otherwise comply with regulations or could be subject to compulsory licensing. If we encounter delays in our development or clinical trials, the period of time during which we could market our potential products under patent protection would be reduced.

Our competitors may be able to circumvent our licensed patents or future patents we may own by developing similar or alternative technologies or products in a non-infringing manner. Our competitors may seek to market generic versions of any approved products by submitting abbreviated new drug applications to the FDA in which our competitors claim that our licensed patents or any future patents we may own are invalid, unenforceable or not infringed. Alternatively, our competitors may seek approval to market their own products similar to or otherwise competitive with our products. In these circumstances, we may need to defend or assert our licensed patents or any future patents we may own, including by filing lawsuits alleging patent infringement. In any of these types of proceedings, a court or other agency with jurisdiction may find our licensed patents or any future patents we may own invalid or unenforceable. We may also fail to identify patentable aspects of our research and development before it is too late to obtain patent protection. Even if we own or in-license valid and enforceable patents, these patents still may not provide protection against competing products or processes sufficient to achieve our business objectives.

The issuance of a patent is not conclusive as to our inventorship, scope, ownership, priority, validity or enforceability. In this regard, third parties may challenge our licensed patents or any future patents we may own in the courts or patent offices in the U.S. and abroad. Such challenges may result in loss of exclusivity or freedom to operate or in patent claims being narrowed, invalidated or held unenforceable, in whole or in part, which could limit our ability to stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our technology and potential products. In addition, given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such product candidates might expire before or shortly after such product candidates are commercialized.

We may infringe the intellectual property rights of others, which may prevent or delay our drug development efforts and prevent us from commercializing or increase the costs of commercializing our products, if approved.

Our commercial success depends significantly on our ability to operate without infringing the patents and other intellectual property rights of third parties. For example, there could be issued patents of which we are not aware that our current or potential future product candidates infringe. There also could be patents that we believe we do not infringe, but that we may ultimately be found to infringe.

Moreover, patent applications are in some cases maintained in secrecy until patents are issued. The publication of discoveries in the scientific or patent literature frequently occurs substantially later than the date on which the underlying discoveries were made and patent applications were filed. Because patents can take many years to issue, there may be currently pending applications of which we are unaware that may later result in issued patents that our product candidates or potential products infringe. For example, pending applications may exist that claim or can be amended to claim subject matter that our product candidates or potential products infringe. Competitors may file continuing patent applications claiming priority to already issued patents in the form of continuation, divisional, or continuation-in-part applications, in order to maintain the pendency of a patent family and attempt to cover our product candidates.

Third parties may assert that we are employing their proprietary technology without authorization and may sue us for patent or other intellectual property infringement. These lawsuits are costly and could adversely affect our business, financial condition and results of operations and divert the attention of managerial and scientific personnel. If we are sued for patent infringement, we would need to demonstrate that our product candidates, potential products or methods either do not infringe the claims of the relevant patent or that the patent claims are invalid, and we may not be able to do this. Proving invalidity is difficult. For example, in the U.S., proving invalidity requires a showing of clear and convincing evidence to overcome the presumption of validity enjoyed by issued patents. Even if we are successful in these proceedings, we may incur substantial costs and the time and attention of our management and scientific personnel could be diverted in pursuing these proceedings, which could have a material adverse effect on us. In addition, we may not have sufficient resources to bring these actions to a successful conclusion. If a court holds that any third-party patents are valid, enforceable and cover our products or their use, the holders of any of these patents may be able to block our ability to commercialize our products unless we acquire or obtains a license under the applicable patents or until the patents expire.

We may not be able to enter into licensing arrangements or make other arrangements at a reasonable cost or on reasonable terms. Any inability to secure licenses or alternative technology could result in delays in the introduction of our products or lead to prohibition of the manufacture or sale of products by us. Even if we are able to obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. We could be forced, including by court order, to cease commercializing the infringing technology or product. In addition, in any such proceeding or litigation, we could be found liable for monetary damages, including treble damages and attorneys' fees, if we are found to have willfully infringed a patent. A finding of infringement could prevent us from commercializing our product candidates or force us to cease some of our business operations, which could materially and adversely affect our business, financial condition and results of operations. Any claims by third parties that we have misappropriated their confidential information or trade secrets could have a similar material and adverse effect on our business, financial condition and results of operations. In addition, any uncertainties resulting from the initiation and continuation of any litigation could have a material adverse effect on our ability to raise the funds necessary to continue our operations.

Any claims or lawsuits relating to infringement of intellectual property rights brought by or against us will be costly and time consuming and may adversely affect our business, financial condition and results of operations.

We may be required to initiate litigation to enforce or defend our licensed and owned intellectual property. Lawsuits to protect our intellectual property rights can be very time consuming and costly. There is a substantial amount of litigation involving patent and other intellectual property rights in the biopharmaceutical industry generally. Such litigation or proceedings could substantially increase our operating expenses and reduce the resources available for development activities or any future sales, marketing or distribution activities.

In any infringement litigation, any award of monetary damages we receive may not be commercially valuable. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during litigation. Moreover, there can be no assurance that we will have sufficient financial or other resources to file and pursue such infringement claims, which typically last for years before they are resolved. Further, any claims we assert against a perceived infringer could provoke these parties to assert counterclaims against us alleging that we have infringed their patents. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to develop our product candidates.

In addition, our licensed patents and patent applications, and patents and patent applications that we may apply for, own or license in the future, could face other challenges, such as interference proceedings, opposition proceedings, re-examination proceedings and other forms of post-grant review. Any of these challenges, if successful, could result in the invalidation of, or in a narrowing of the scope of, any of our licensed patents and patent applications and patents and patent applications that we may apply for, own or license in the future subject to challenge. Any of these challenges, regardless of their success, would likely be time consuming and expensive to defend and resolve and would divert our management and scientific personnel's time and attention.

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

As is the case with other biopharmaceutical companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biopharmaceutical industry involves both technological and legal complexity and is costly, time-consuming and inherently uncertain. For example, the U.S. previously enacted and is currently implementing wide-ranging patent reform legislation. Specifically, on September 16, 2011, the Leahy-Smith America Invents Act (the "Leahy-Smith Act") was signed into law and included a number of significant changes to U.S. patent law, and many of the provisions became effective in March 2013. However, it may take the courts years to interpret the provisions of the Leahy-Smith Act, and the implementation of the statute could increase the uncertainties and costs surrounding the prosecution of our licensed and future patent applications and the enforcement or defense of our licensed and future patents, all of which could have a material adverse effect on our business, financial condition and results of operations.

In addition, the U.S. Supreme Court has ruled on several patent cases in recent years, either narrowing the scope of patent protection available in certain circumstances or weakening the rights of patent owners in certain situations. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents, once obtained. Depending on decisions by the U.S. Congress, the federal courts and the USPTO, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce patents that we might obtain in the future.

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

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

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, particularly those relating to biopharmaceuticals, which could make it difficult for us to stop the infringement of our licensed patents and future patents we may own, or marketing of competing products in violation of our proprietary rights generally. Further, the laws of some foreign countries do not protect proprietary rights to the same extent or in the same manner as the laws of the U.S. As a result, we may encounter significant problems in protecting and defending our licensed and owned intellectual property both in the U.S. and abroad. For example, China currently affords less protection to a company's intellectual property than some other jurisdictions. As such, the lack of strong patent and other intellectual property protection in China may significantly increase our vulnerability regarding unauthorized disclosure or use of our intellectual property and undermine our competitive position. Proceedings to enforce our future patent rights, if any, in foreign jurisdictions could result in substantial cost and divert our efforts and attention from other aspects of our business.

We may be unable to adequately prevent disclosure of trade secrets and other proprietary information.

In order to protect our proprietary and licensed technology and processes, we rely in part on confidentiality agreements with our corporate partners, employees, consultants, manufacturers, outside scientific advisors and sponsored researchers and other advisors. These agreements may not effectively prevent disclosure of our confidential information and may not provide an adequate remedy in the event of unauthorized disclosure of confidential information. In addition, others may independently discover our trade secrets and proprietary information. Failure to obtain or maintain trade secret protection could adversely affect our competitive business position.

We may be subject to claims that our employees, consultants or independent contractors have wrongfully used or disclosed confidential information of third parties.

We employ individuals who were previously employed at other biopharmaceutical companies. Although we have no knowledge of any such claims against us, we may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise used or disclosed confidential information of our employees' former employers or other third parties. Litigation may be necessary to defend against these claims. There is no guarantee of success in defending these claims, and even if we are successful, litigation could result in substantial cost and be a distraction to our management and other employees. To date, none of our employees have been subject to such claims.

We may be subject to claims challenging the inventorship of our licensed patents, any future patents we may own and other intellectual property.

Although we are not currently experiencing any claims challenging the inventorship of our licensed patents or our licensed or owned intellectual property, we may in the future be subject to claims that former employees, licensees or other third parties have an interest in our licensed patents or other licensed or owned intellectual property as an inventor or co-inventor. For example, we may have inventorship disputes arise from conflicting obligations of consultants or others who are involved in developing our product candidates. Litigation may be necessary to defend against these and other claims challenging inventorship. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, valuable intellectual property. Such an outcome could have a material adverse effect on our business, financial condition and results of operations. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.

If we do not obtain additional protection under the Hatch-Waxman Amendments and similar foreign legislation extending the terms of our licensed patents and any future patents we may own, our business, financial condition and results of operations may be materially and adversely affected.

Depending upon the timing, duration and specifics of FDA regulatory approval for our product candidates, one or more of our licensed U.S. patents or future U.S. patents that we may license or own may be eligible for limited patent term restoration under the Drug Price Competition and Patent Term Restoration Act of 1984, referred to as the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent restoration term of up to five years as compensation for patent term lost during drug development and the FDA regulatory review process. This period is generally one-half the time between the effective date of an investigational new drug application ("IND") (falling after issuance of the patent), and the submission date of an NDA, plus the time between the submission date of an NDA and the approval of that application. Patent term restorations, however, cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval by the FDA.

The application for patent term extension is subject to approval by the USPTO, in conjunction with the FDA. It takes at least six months to obtain approval of the application for patent term extension. We may not be granted an extension because of, for example, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents or otherwise failing to satisfy applicable requirements. Moreover, the applicable time period or the scope of patent protection afforded could be less than our requests. If we are unable to obtain patent term extension or restoration or the term of any such extension is less than our requests, the period during which we will have the right to exclusively market our product will be shortened and our competitors may obtain earlier approval of competing products, and our ability to generate revenues could be materially adversely affected.

Risks Related Owning Our Common Stock

The market price of our common stock has been and may continue to be volatile.

The market price of our common stock has been and may continue to be volatile. Our stock price could be subject to wide fluctuations in response to a variety of factors, including the following:

- results from, and any delays in, planned clinical trials for our product candidates, or any other future product candidates, and the results of trials of competitors or those of other companies in the combined organization's market sector;
- any delay in filing an Investigational New Drug Application, Investigational Device Exemption or BLA, NDA or PMA, for any of our product candidates and any adverse development or perceived adverse development with respect to the FDA's review of that IND, IDE or BLA, NDA or PMA;
- significant lawsuits, including patent or stockholder litigation;
- inability to obtain additional funding;
- failure to successfully develop and commercialize our product candidates;
- changes in laws or regulations applicable to our product candidates;
- inability to obtain adequate product supply for our product candidates, or the inability to do so at acceptable prices;
- unanticipated serious safety concerns related to any of our product candidates;
- adverse regulatory decisions;
- introduction of new products or technologies by our competitors;
- failure to meet or exceed drug development or financial projections we provide to the public;
- failure to meet or exceed the estimates and projections of the investment community;
- the perception of the biopharmaceutical industry by the public, legislatures, regulators and the investment community;
- announcements of significant acquisitions, strategic partnerships, joint ventures or capital commitments by us or our competitors;
- disputes or other developments relating to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our licensed and owned technologies;
- additions or departures of key scientific or management personnel;
- changes in the market valuations of similar companies;
- general economic and market conditions and overall fluctuations in the U.S. equity market;
- public health crises, pandemics and epidemics, such as the recent coronavirus disease 2019 (COVID-19);
- sales of our common stock by us or our stockholders in the future; and
- trading volume of our common stock.

In addition, the stock market, in general, and small biopharmaceutical companies, in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. Broad market and industry factors may negatively affect the market price of our common stock, regardless of our actual operating performance. Further, a decline in the financial markets and related factors beyond our control may cause our stock price to decline rapidly and unexpectedly.

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

We may seek additional capital through a combination of public and private equity offerings, debt financings, strategic partnerships and alliances and licensing arrangements. We have a purchase agreement in place with Lincoln Park to sell up to $10.0 million worth of shares of our common stock, from time to time, to Lincoln Park, under which $8.5 million remains available for future sale as of December 31, 2020. Any sales under the Lincoln Park arrangement, and to the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interests of our stockholders will be diluted, and the terms may include liquidation or other preferences that adversely affect the rights of our stockholders. The incurrence of indebtedness would result in increased fixed payment obligations and could involve certain restrictive covenants, such as limitations on our ability to incur additional debt, limitations on our ability to acquire or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. If we raise additional funds through strategic partnerships and alliances and licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies or product candidate, or grant licenses on terms unfavorable to us.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of us more difficult and may prevent attempts by our stockholders to replace or remove our management.

Provisions in our certificate of incorporation and bylaws may delay or prevent an acquisition or a change in management. These provisions include a classified board of directors, a prohibition on actions by written consent of the combined organization's stockholders and the ability of the board of directors to issue preferred stock without stockholder approval. In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the DGCL, which prohibits stockholders owning in excess of 15% of our outstanding voting stock from merging or combining with us. Although we believe these provisions collectively will provide for an opportunity to receive higher bids by requiring potential acquirers to negotiate with our board of directors, they would apply even if the offer may be considered beneficial by some stockholders. In addition, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove then current management by making it more difficult for stockholders to replace members of the board of directors, which is responsible for appointing the members of management.

Our pre-Merger Private Histogen net operating loss carryforwards and certain other tax attributes may be subject to limitations. The pre-Merger net operating loss carryforwards and certain other tax attributes of us may also be subject to limitations as a result of ownership changes resulting from the Merger.

In general, a corporation that undergoes an "ownership change" as defined in Section 382 of the Code, is subject to limitations on our ability to utilize our pre-change net operating loss carryforwards to offset future taxable income. In general, an ownership change occurs if the aggregate stock ownership of certain stockholders, generally stockholders beneficially owning five percent or more of a corporation's common stock, applying certain look-through and aggregation rules, increases by more than 50 percentage points over such stockholders' lowest percentage ownership during the testing period, generally three years. We may have experienced ownership changes in the past and we may experience ownership changes in the future. In addition, the closing of the merger may result in an ownership change for us, which could result in limitations on the use of our federal and state net operating loss carryforwards, which as of December 31, 2020 are $50.7 million and $40.1 million, respectively, in addition to our federal, including orphan drug, and state research credit carryforwards, which as of December 31, 2020 are $1.1 million and $1.2 million, respectively. It is possible that our net operating loss carryforwards and certain other tax attributes may also be subject to limitation as a result of ownership changes in the past and/or the closing of the Merger. Consequently, even if we achieve profitability, we may not be able to utilize a material portion of our net operating loss carryforwards and certain other tax attributes, which could have a material adverse effect on cash flow and results of operations.

Our failure to meet the continued listing requirements of the Nasdaq could result in a delisting of our common stock.

We must continue to satisfy the Nasdaq Capital Market's continued listing requirements, including, among other things, the corporate governance requirements and the minimum closing bid price requirement. If we fail to satisfy the continued listing requirements of the Nasdaq, Nasdaq may take steps to delist our common stock. Such a delisting

would likely have a negative effect on the price of our common stock and would impair your ability to sell or purchase our common stock when you wish to do so.

On May 29, 2019, Conatus received a letter from the Nasdaq staff indicating that, for the prior thirty consecutive business days, the bid price for its common stock had closed below the minimum $1.00 per share requirement for continued listing on the Nasdaq Global Market under Nasdaq Listing Rule 5450(a)(1).

Conatus filed an application to transfer the listing of our common stock from the Nasdaq Global Market to the Nasdaq Capital Market. On November 27, 2019, the application was approved by Nasdaq and a result, Conatus was granted an additional 180-day grace period, until May 25, 2020, to regain compliance with the minimum $1.00 per share requirement for continued listing on the Nasdaq Capital Market under Nasdaq Listing Rule 5810(c)(3)(A). Subsequently, based on an immediately effective rule change with the SEC on April 16, 2020, the deadline to regain compliance was extended to August 10, 2020.

On May 26, 2020, in connection with, and prior to the completion of, the Merger, we effected a reverse stock split of our common stock, which enabled us to regain compliance with the minimum closing bid price requirement. Even though we have regained compliance with the Nasdaq Capital Market's minimum closing bid price requirement, there is no guarantee that we will remain in compliance with such listing requirements in the future.

In the event of a delisting, we can provide no assurance that any action taken by us to restore compliance with listing requirements would allow our common stock to become listed again, stabilize the market price or improve the liquidity of our common stock, prevent our common stock from dropping below the Nasdaq minimum bid price requirement or prevent future non-compliance with Nasdaq's listing requirements. Delisting from the Nasdaq Capital Market or any Nasdaq market could make trading our common stock more difficult for investors, potentially leading to declines in our share price and liquidity. Without a Nasdaq market listing, stockholders may have a difficult time getting a quote for the sale or purchase of our stock, the sale or purchase of our stock would likely be made more difficult and the trading volume and liquidity of our stock could decline. Delisting from Nasdaq could also result in negative publicity and could also make it more difficult for us to raise additional capital. The absence of such a listing may adversely affect the acceptance of our common stock as currency or the value accorded by other parties. Further, if we are delisted, we would also incur additional costs under state blue sky laws in connection with any sales of our securities. These requirements could severely limit the market liquidity of our common stock and the ability of our stockholders to sell our common stock in the secondary market.

Sales of a substantial number of shares of our common stock by our stockholders in the public market could cause our stock price to fall.

Sales of a substantial number of shares of our common stock in the public market or the perception that these sales might occur could significantly reduce the market price of our common stock and impair our ability to raise adequate capital through the sale of additional equity securities. We are unable to predict the effect that such sales may have on the prevailing market price of our common stock. As of December 31, 2020, we have outstanding warrants to purchase an aggregate of approximately 2.0 million shares of our common stock, and options to purchase an aggregate of approximately 1.5 million shares of our common stock, which, if exercised, may further increase the number of shares of our common stock outstanding and the number of shares eligible for resale in the public market.

Our internal control over financial reporting may not meet the standards required by Section 404 of the Sarbanes-Oxley Act, and failure to achieve and maintain effective internal control over financial reporting in accordance with Section 404 of the Sarbanes-Oxley Act, could have a material adverse effect on our business and share price.

Our management is required to report on the effectiveness of our internal control over financial reporting. The rules governing the standards that must be met for our management to assess our internal control over financial reporting are complex and require significant documentation, testing and possible remediation.

We cannot assure you that there will not be material weaknesses or significant deficiencies in our internal control over financial reporting in the future. Any failure to maintain internal control over financial reporting could severely inhibit our ability to accurately report our financial condition, results of operations or cash flows. If we are unable to conclude

that our internal control over financial reporting is effective, or if our independent registered public accounting firm determines we have a material weakness or significant deficiency in our internal control over financial reporting once that firm begins our Section 404 reviews, investors may lose confidence in the accuracy and completeness of our financial reports, the market price of our common stock could decline, and we could be subject to sanctions or investigations by Nasdaq, the SEC or other regulatory authorities. Failure to remedy any material weakness in our internal control over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict our future access to the capital markets.

Our executive officers, directors and principal stockholders own a significant percentage of our stock and, if they choose to act together, will be able to exert control or significantly influence over matters subject to stockholder approval.

As of December 31, 2020, our executive officers, directors and greater than 5% stockholders, in the aggregate, own approximately 23% of our outstanding common stock. As a result, such persons or their appointees to our board of directors, acting together, will be able to exert control or significantly influence over all matters submitted to our board of directors or stockholders for approval, including the appointment of our management, the election and removal of directors and approval of any significant transaction, as well as our management and business affairs. This concentration of ownership may have the effect of delaying, deferring or preventing a change in control, impeding a merger, consolidation, takeover or other business combination involving us, or discouraging a potential acquiror from making a tender offer or otherwise attempting to obtain control of our business, even if such a transaction would benefit other stockholders.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

We lease one floor of a two-story building containing our research and development, manufacturing and office space located at 10655 Sorrento Valley Road, Suite 200, San Diego, California, which we believe will accommodate our anticipated workforce and near-term growth needs. In January 2020, we entered into a new long-term lease agreement with San Diego Sycamore, LLC for office and laboratory space. The new lease commenced on March 1, 2020 and expires on August 31, 2031, with no options to renew or extend. Base rent is equal to $59,775 per month at commencement and increases at a fixed rate over the term of the lease. In addition to monthly base rent, we are obligated to pay certain customary amounts for our share of operating expenses and utilities. The lease agreement includes six months of rent abatement and a tenant improvement allowance for renovations.

Item 3. Legal Proceedings.

We are not currently a party to any material legal proceedings. We may be a party to certain litigation that is either judged to be material or that arises in the ordinary course of business from time to time.

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

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

Market Information

Our common stock is listed on the Nasdaq Capital Market under the ticker "HSTO".

Holders of Common Stock

On February 28, 2021, there were approximately 110 holders of record of our common stock.

Dividend Policy

We have never declared or paid any dividends on our common stock. We currently intend to retain all available funds and any future earnings, if any, to fund the development and expansion of our business and we do not anticipate paying any cash dividends in the foreseeable future. Any future determination related to our dividend policy will be made at the discretion of our board of directors and will depend upon, among other factors, our results of operations, financial condition, capital requirements, contractual restrictions, business prospects and other factors our board of directors may deem relevant.

Securities Authorized for Issuance under Equity Compensation Plans

Information about our equity compensation plans is incorporated herein by reference to Item 12 of Part III of this Annual Report on Form 10-K.

Recent Sales of Unregistered Securities.

None.

Recent Repurchases of Equity Securities.

None.

Item 6. Selected Financial Data.

Not required.

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

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our audited consolidated financial statements and related notes thereto included elsewhere in this Annual Report on Form 10-K for the period ended December 31, 2020. As further described in Note 1 – Description of Business and Note 6 – Merger in our consolidated financial statements included elsewhere in this Annual Report, Private Histogen was determined to be the accounting acquirer in the Merger. Accordingly, the pre-Merger historical financial information presented in this Annual Report on Form 10-K reflects the standalone consolidated financial statements of Private Histogen and, therefore, period-over-period comparisons may not be meaningful. In addition, references to the Company's operating results prior to the Merger will refer to the operating results of Private Histogen. Except as otherwise indicated herein or as the context otherwise requires, references in this Annual Report on Form 10-K to "Histogen" "the Company," "we," "us" and "our" refer to Histogen Inc., a Delaware corporation, on a post-Merger basis, and the term "Private Histogen" refers to the business of privately-held Histogen Inc. prior to completion of the Merger.

Overview

Histogen is a clinical-stage therapeutics company focused on developing potential first-in-class restorative therapeutics that ignite the body's natural process to repair and maintain healthy biological function.

Components of Results of Operations

Revenue

Our revenues to date have been generated primarily from the sale of cosmetic ingredient products ("CCM"), license fees, professional services revenue, and a National Science Foundation grant award.

License, Product and Professional Services Revenue

Our license, product and professional services revenue to date has been generated primarily from payments received under the Allergan Agreements.

Grant Revenue

In March 2017, the National Science Foundation ("NSF"), a government agency, awarded us a research and development grant to develop a novel wound dressing for infection control and tissue regeneration.

Operating Expenses

Cost of Revenues

Cost of product revenue represents direct and indirect costs incurred to bring the product to saleable condition, including write-offs of inventory.

Cost of professional services revenue represents costs for full-time employee equivalents and actual out-of-pocket costs.

In-Process Research and Development

In-process research and development expenses represent costs incurred for acquisitions of technologies for which regulatory approval had not yet been obtained.

Research and Development

Research and development expenses consist primarily of costs incurred for the preclinical and clinical development of our product candidates, which include:

- expenses under agreements with third-party contract organizations, investigative clinical trial sites that conduct research and development activities on our behalf, and consultants;
- costs related to develop and manufacture preclinical study and clinical trial material;
- salaries and employee-related costs, including stock-based compensation;
- costs incurred and reimbursed under our grant awarded by the U.S. Department of Defense ("DoD") to partially fund our planned Phase 1/2 clinical trial of HST-003 for regeneration of cartilage in the knee;
- costs incurred under our collaboration and third-party licensing agreements; and
- laboratory and vendor expenses related to the execution of preclinical and clinical trials.

We accrue all research and development costs in the period for which they are incurred. Costs for certain development activities are recognized based on an evaluation of the progress to completion of specific tasks using information and data provided to us by our vendors, collaborators and third-party service providers. Advance payments for goods or services to be received in future periods for use in research and development activities are deferred and then expensed as the related goods are delivered and as services are performed.

We expect our research and development expenses to increase substantially for the foreseeable future as we: (i) invest in additional operational personnel to support our planned product development efforts, and (ii) continue to invest in developing our product candidates as our product candidates advance into later stages of development, and as we begin to conduct larger clinical trials. Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials.

Our direct research and development expenses are tracked by product candidate and consist primarily of external costs, such as fees paid under third-party license agreements and to outside consultants, contract research organizations ("CROs"), contract manufacturing organizations and research laboratories in connection with our preclinical development, process development, manufacturing and clinical development activities. We do not allocate employee costs and costs associated with our discovery efforts, laboratory supplies and facilities, including other indirect costs, to specific product candidates because these costs are deployed across multiple programs and, as such, are not separately classified. We use internal resources primarily to conduct our research as well as for managing our preclinical development, process development, manufacturing and clinical development activities. These employees work across multiple programs and, therefore, we do not track our costs by product candidate unless such costs are includable as subaward costs. The following table shows our research and development expenses by type of activity (in thousands):

	Years Ended December 31,	
	2020	2019
Pre-clinical and clinical	$ 1,304	$ 214
Salaries and benefits	2,537	1,947
Facilities and other costs	2,378	1,934
Total research and development expenses	$ 6,219	$ 4,095

We cannot determine with certainty the timing of initiation, the duration or the completion costs of current or future preclinical studies and clinical trials of our product candidates due to the inherently unpredictable nature of preclinical and clinical development, including any potential expanded dosing beyond the original protocols based in part on ongoing clinical success. Clinical and preclinical development timelines, the probability of success and development costs can differ materially from expectations. We anticipate that we will make determinations as to which product candidates to pursue and how much funding to direct to each product candidate on an ongoing basis in response to the results of ongoing and future preclinical studies and clinical trials, regulatory developments and our ongoing

assessments of each product candidate's commercial potential. We will need to raise substantial additional capital in the future. In addition, we cannot forecast which product candidates may be subject to future collaborations, when such arrangements will be secured, if at all, and to what degree such arrangements would affect our development plans and capital requirements.

General and Administrative

General and administrative expenses consist primarily of personnel-related costs, insurance costs, facility costs and professional fees for legal, patent, consulting, investor and public relations, accounting and audit services. Personnel-related costs consist of salaries, benefits, and stock-based compensation. We expect our general and administrative expenses to increase substantially as we: (i) incur additional costs associated with being a public company, including audit, legal, regulatory, and tax-related services associated with maintaining compliance with exchange listing and SEC requirements, director and officer insurance premiums, and investor relations costs, (ii) hire additional personnel, and (iii) protect our intellectual property.

Other Income (Expense)

Interest Income

Interest income consists of interest earned on our cash equivalents, which consist of money market funds. Our interest income has not been significant due to low interest earned on invested balances.

Other Income

Other income consists of proceeds received from the sublease of office space previously occupied by Conatus, both the lease and sublease terminated in September 2020.

Results of Operations

Comparison of Years Ended December 31, 2020 and 2019

The following table sets forth our selected statements of operations data for the years ended December 31, 2020 and 2019 (in thousands):

	Years Ended December 31,		
	2020	2019	Change
Revenues			
Product revenue	$ 845	$ 3,415	$ (2,570)
License revenue	882	7,519	(6,637)
Grant revenue	—	150	(150)
Professional services revenue	332	370	(38)
Total revenues	2,059	11,454	(9,395)
Operating expenses			
Cost of product revenue	679	1,893	(1,214)
Cost of professional services revenue	289	322	(33)
Acquired in-process research and development	7,144	2,250	4,894
Research and development	6,219	4,095	2,124
General and administrative	6,586	6,213	373
Total operating expenses	20,917	14,773	6,144
Loss from operations	(18,858)	(3,319)	(15,539)
Total other income (expense)	41	318	(277)
Net loss	$ (18,817)	$ (3,001)	$ (15,816)

Revenues

For the years ended December 31, 2020 and 2019, we recognized license revenues of $0.9 million and $7.5 million, respectively. The $7.5 million recognized in the year ended December 31, 2019 related to an upfront payment received in the same period in connection with the execution of the 2019 Allergan Agreement. We received a $1.0 million upfront payment in connection with an amendment to the 2019 Allergan Agreement executed in the year ended December 31, 2020, of which approximately $28,000 was deferred at December 31, 2020.

For the years ended December 31, 2020 and 2019, we recognized product revenues of $0.8 million and $3.4 million, respectively. The decrease of $2.6 million for the year ended December 31, 2020, as compared to the year ended December 31, 2019 was primarily due to a decrease of supply orders of CCM to Allergan and one additional customer in 2019 as compared to 2020.

Grant revenue for the years ended December 31, 2020 and 2019 was $0 and $0.2 million, respectively, all of which was related to an NSF research grant awarded to us in 2017 and resulted from the acceptance of milestone reports in 2019.

For the years ended December 31, 2020 and 2019, we recognized professional services revenue of $0.3 million and $0.4 million, respectively.

Total Operating Expenses

Cost of Revenues

For the years ended December 31, 2020 and 2019, we recognized cost of product revenue of $0.7 million and $1.9 million, respectively. The decrease of $1.2 million for the year ended December 31, 2020 as compared to the year ended December 31, 2019 was commensurate with the decrease in product sales, coupled with a $0.2 million write-off of inventory.

For the years ended December 31, 2020 and 2019, we recognized costs of professional services of $0.3 million.

In-process Research and Development Expenses

In-process research and development expenses increased $4.9 million for the year ended December 31, 2020 as compared to the year ended December 31, 2019. In the year ended December 31, 2020, we incurred $7.1 million for in-process research and development acquired in connection with the Merger and in the year ended December 31, 2019, we incurred $2.3 million for in-process research and development related to the acquisition of HST-003 and HST-004 from PUR.

Research and Development Expenses

Research and development expenses for the years ended December 31, 2020 and 2019 were $6.2 million and $4.1 million, respectively. The increase of $2.1 million for the year ended December 31, 2020, as compared to the year ended December 31, 2019 was primarily due to expanded development costs of our product candidates HST-001 and HST-003.

General and Administrative Expenses

General and administrative expenses for the years ended December 31, 2020 and 2019 were $6.6 million and $6.2 million, respectively. This increase of $0.4 million was primarily due to increases in insurance and other professional fees in the year ended December 31, 2020, offset by a decrease in success-based fees related to license revenue received in the year ended December 31, 2020 of approximately $0.8 million as compared to the year ended December 31, 2019.

Liquidity and Capital Resources

From inception through December 31, 2020, we have accumulated losses of $62.7 million and expect to incur operating losses and generate negative cash flows from operations for the foreseeable future. As of December 31, 2020, we had approximately $6.8 million in cash and cash equivalents. In January 2021, we closed a public offering (described below) with gross proceeds from this offering totaling $14.0 million and as of March 8, 2021, we received gross proceeds of $6.8 million from the exercise of outstanding warrants issued in connection with the January 2021 Public Offering.

We have not yet established ongoing sources of revenues sufficient to cover our ongoing operating costs and will need to continue to raise additional capital to support our future operating activities, including progression of our development programs, preparation for commercialization, and other operating costs. Our plans with regard to these matters include entering into a combination of additional debt or equity financing arrangements, government funding, strategic partnerships, collaboration and licensing arrangements, or other similar arrangements. There can be no assurance that we will be able to obtain additional financing on terms acceptable to us, on a timely basis or at all.

Common Stock Purchase Agreement with Lincoln Park

In July 2020, we entered into a common stock purchase agreement (the 2020 Purchase Agreement) with Lincoln Park which provides that, upon the terms and subject to the conditions and limitations in the 2020 Purchase Agreement, Lincoln Park, is committed to purchase up to an aggregate of $10.0 million of shares of our common stock at our request from time to time during a 24 month period that began in July 2020 and at prices based on the market price of our common stock at the time of each sale. Upon execution of the 2020 Purchase Agreement, we sold 328,516 shares of common stock at $3.04399 per share to Lincoln Park for gross proceeds of $1.0 million. During the year ended December 31, 2020, pursuant to the 2020 Purchase Agreement, we sold an additional 300,000 shares of our common stock to Lincoln Park for gross proceeds of approximately $0.5 million and as of December 31, 2020, $8.5 million of common stock remained available to be sold, subject to certain limitations on the number of securities the Company may sell under its effective registration statement on Form S-3 within any 12-month period and NASDAQ rules. In consideration for entering into the 2020 Purchase Agreement and concurrently with the execution of the 2020 Purchase Agreement, we issued 66,964 shares of our common stock to Lincoln Park.

November 2020 Registered Direct Offering

In November 2020, we entered into a securities purchase agreement with several institutional and accredited investors for the sale by us of 2,522,784 shares of our common stock at a purchase price of $1.78375 per share, in a registered direct offering, with H.C. Wainwright & Co., LLC acting as placement agent. Concurrently with the sale of the shares, we also sold unregistered warrants to purchase up to an aggregate of 1,892,088 shares of common stock. The gross proceeds from this offering were $4.5 million and placement agent’s fees and other offering expenses incurred totaled approximately $0.9 million.

January 2021 Public Offering

In December 2020, we entered into a securities purchase agreement with several institutional and accredited investors for the aggregate of 11,600,000 shares of common stock, prefunded warrants to purchase up to 2,400,000 shares of its common stock and warrants to purchase up to an aggregate of 14,000,000 shares of common stock in a public offering, with H.C. Wainwright & Co., LLC acting as placement agent. The combined purchase price of one share of common stock and the accompanying warrant was $1.00, and the combined purchase price of one pre-funded warrant and accompanying warrant was $0.9999. Placement agent warrants were issued to purchase up to 700,000 shares of common stock, are immediately exercisable for an exercise price of $1.25, and are exercisable for five years from the date of the Purchase Agreement, On January 5, 2021, the Company completed the January 2021 Public Offering of an aggregate of 11,600,000 shares of common stock, prefunded warrants to purchase up to 2,400,000 shares of its common stock and warrants to purchase up to an aggregate of 14,000,000 shares of common stock. The Company received gross proceeds of $14.0 million and incurred placement agent’s fees and other offering expenses of approximately $2.4 million. As of March 8, 2021, a total of 6,676,200 warrants issued in the January 2021 Offering to purchase shares of common stock have been exercised, for which the Company received gross proceeds of $6.8 million.

At Market Issuance Agreement with Stifel, Nicolaus & Company, Incorporated

Effective July 20, 2020, in connection with the execution of the 2020 Purchase Agreement, we elected to terminate the At Market Issuance Sales Agreement, dated August 2, 2018, between us and Stifel, Nicolaus & Company, Incorporated, which provided for the sale of up to $35.0 million of our common stock, before deducting the placement agent's fees and other offering expenses, and excluding the proceeds, if any from the exercise of the warrants.

Cash Flow Summary for the Years Ended December 31, 2020 and 2019

The following table shows a summary of our cash flows for the years ended December 31, 2020 and 2019 (in thousands):

	Years Ended December 31,	
	2020	2019
Net cash provided by (used in)		
Operating activities	$ (12,054)	$ (1,291)
Investing activities	10,969	(152)
Financing activities	5,783	481
Net increase (decrease) in cash, cash equivalents and restricted cash	$ 4,698	$ (962)

Operating activities

Net cash used in operating activities was $12.1 million for the year ended December 31, 2020, resulting from our net loss of $18.8 million, which included non-cash charges of $8.1 million primarily related to the acquired in-process research and development in connection with the Merger and stock-based compensation, and a $1.3 million net increase in our net operating assets and liabilities.

Net cash used in operating activities was $1.3 million for the year ended December 31, 2019, resulting from our net loss of $3.0 million, which included non-cash charges of $2.3 million primarily related to the issuance of shares of our convertible preferred stock for the settlement with PUR and stock-based compensation, and a $0.5 million increase in our net operating assets and liabilities.

Investing activities

Net cash provided by investing activities was $11.0 million for the year ended December 31, 2020, consisting of cash of $12.8 million received in connection with the Merger, offset by payments for acquisition related costs and purchases of property and equipment. Net cash used in investing activities was $0.2 million for the year ended December 31, 2019, all of which was for purchases of property and equipment.

Financing activities

Net cash provided by financing activities was $5.8 million for the year ended December 31, 2020, resulting primarily from sales of our common stock in a registered direct offering and to Lincoln Park under the 2020 Purchase Agreement and the proceeds of the PPP Loan. Net cash provided by financing activities was $0.5 million for the year ended December 31, 2019, resulting primarily from proceeds received from the sale of shares of our convertible preferred stock.

Funding Requirements

We believe our existing cash and cash equivalents will be sufficient to meet our anticipated cash requirements into the second quarter of 2022. However, our forecast of the period of time through which our financial resources will be adequate to support our operations is a forward-looking statement that involves risks and uncertainties, and actual results could vary materially. We have based this estimate on assumptions that may prove to be wrong, and we could

use our capital resources sooner than we expect. Additionally, the process of testing product candidates in clinical trials is costly, and the timing of progress, potential dose expansions beyond our planned study protocols based in part on our clinical progress, and expenses in these trials is uncertain.

Our future capital requirements will depend on many factors, including:

- the type, number, scope, progress, expansions, results, costs and timing of, our preclinical studies and clinical trials of our product candidates which we are pursuing or may choose to pursue in the future;
- the costs and timing of manufacturing for our product candidates, including commercial manufacturing if any product candidate is approved;
- the costs, timing and outcome of regulatory review of our product candidates;
- the costs of obtaining, maintaining and enforcing our patents and other intellectual property rights;
- our efforts to enhance operational systems and hire additional personnel to satisfy our obligations as a public company, including enhanced internal controls over financial reporting;
- the costs associated with hiring additional personnel and consultants as our preclinical and clinical activities increase;
- the costs and timing of establishing or securing sales and marketing capabilities if any product candidate is approved;
- our ability to achieve sufficient market acceptance, adequate coverage and reimbursement from third-party payors and adequate market share and revenue for any approved products;
- the terms and timing of establishing and maintaining collaborations, licenses and other similar arrangements;
- the impact of any natural disasters or public health crises, such as the COVID-19 pandemic; and
- costs associated with any products or technologies that it may in-license or acquire.

Until such time, if ever, as we can generate substantial product revenues to support our cost structure, we expect to finance our losses from operations and capital funding needs through a combination of equity offerings, debt financings, government funding and other sources, including potentially collaborations, licenses and other similar arrangements. To the extent we raise additional capital through the sale of convertible debt or equity securities, the ownership interest of our stockholders will be or could be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our common stockholders. Debt financing and preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise funds through collaborations, licenses and other similar arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or grant licenses on terms that may not be favorable to us and/or may reduce the value of our common stock. If we are unable to raise additional funds through debt or equity financings when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market our product candidates even if we would otherwise prefer to develop and market such product candidates by ourselves. There can be no assurance that we will be able to obtain any sources of financing on acceptable terms, or at all.

We may be unable to raise additional funds on acceptable terms or at all. As a result of the COVID-19 pandemic and actions taken to slow its spread, 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, increases in unemployment rates and uncertainty about economic stability. If the equity and credit markets deteriorate, it may make any necessary debt or equity financing more difficult, more costly and more dilutive. If we are unable to raise additional funds, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market our product candidates even if we would otherwise prefer to develop and market such product candidates ourselves.

Contractual Obligations and Commitments

PUR

PUR was formed to develop and market applications along with products in the surgical/orthopedic and device markets. In April 2019, Histogen entered into a Settlement, Release and Termination Agreement with PUR and its members ("PUR Settlement") which terminated the License, Supply and Operating Agreements between Histogen and PUR, eliminated Histogen's membership interest in PUR and returned all in-process research and development assets to Histogen (the "Development Assets"). The agreement also provided indemnifications and complete releases by and among the parties. The acquisition of the Development Assets was accounted for as an asset acquisition in accordance with ASC 805-50-50, *Acquisition of Assets Rather than a Business*.

As consideration for the reacquisition of the Development Assets, Histogen compensated PUR with both equity and cash components, including 1,166,667 shares of Series D convertible preferred stock with a fair value of $1.75 million and a potential cash payout of up to $6.25 million (the "Cap Amount"). Histogen paid PUR $0.5 million in upfront cash, forgave approximately $22,000 of accounts receivable owed by PUR to Histogen, and settled an outstanding payable of PUR of approximately $23,000 owed to a third-party. Histogen is also obligated to make milestone and royalty payments, including (a) $0.4 million upon the unconditional acceptance and approval of a New Drug Application or Pre-Market Approval Application by the US FDA related to the Development Assets, (b) a $0.4 million commercialization milestone upon reaching gross sales (by Histogen or licensee) of the $0.5 million of products incorporating the Development Assets, and (c) a five percent (5%) royalty on net revenues collected by Histogen from commercial sales (by Histogen or licensee) of products incorporating the Development Assets. The aforementioned cash payments, along with any future milestone and royalty payments, are all applied against the Cap Amount. In accordance with ASC 450, *Contingencies*, amounts for the milestone and royalty payments will be recognized when it is probable that the related contingent liability has been incurred and the amount owed is reasonably estimated. No amounts for the milestone and royalty payments have been recorded through December 31, 2020 under this agreement.

Allergan License and Supply Agreements

In July 2017, Histogen and Allergan entered into a letter agreement to transfer Suneva Medical, Inc.'s Amended and Restated License and Supply Agreements (collectively the "Allergan Agreements") to Allergan, which grants exclusive rights including the right to sublicense to third parties, to use and commercialize our CCM skin care ingredient in the medical aesthetics market on a worldwide basis, excluding South Korea, China and India, in exchange for royalty payments to us based on Allergan's sales of product including the licensed ingredient. Through December 31, 2020, we entered into several amendments to the Allergan Agreements to, among other things, expand Allergan's license rights to certain sales channels where it's products containing the CCM ingredient can be sold, identify exclusive and non-exclusive fields of use and clarify responsibilities with response to regulatory filings. For these amendments to the License Agreements, Histogen received cash payments of $11.0 million for the year ended December 31, 2017 and cash payments of $7.5 million during the year ended December 31, 2019. The Allergan Agreements also include a potential future milestone payment of $5.5 million if Allergan's net sales of products containing Histogen's CCM skin care ingredient exceeds $60 million in any calendar year through December 31, 2027.

From time to time, Histogen may improve its CCM skin care ingredient, and to the extent that these are within the field of use in the Allergan Agreements, Histogen will provide the improvements to Allergan. The remaining performance obligations related to the Allergan Agreements from 2017 were Histogen's obligations to supply CCM and provide potential future improvements to Allergan, for which $0.2 million of deferred revenue was recorded as of December 31, 2020 and 2019. Histogen satisfied its obligation to supply CCM under the 2017 Allergan Agreement during the fourth quarter of 2019.

On January 17, 2020, Histogen and Allergan amended the Allergan Agreements, further clarifying the fields of use, the product definition and rights to certain improvements, as well as Histogen agreeing to supply additional CCM in 2020 and provide further technical assistance to Allergan (the cost of which shall be reimbursed to Histogen), for a one-time payment of $1.0 million to Histogen. As of January 2021, Histogen has satisfied its obligations to supply CCM and provide further technical assistance.

Allergan may terminate the agreement for convenience upon one business days' notice to Histogen. Under the Amended and Restated License Agreement, Allergan will indemnify Histogen for third party claims arising from Allergan's breach of the agreement, negligence or willful misconduct, or the exploitation of products by Allergan or its sublicensees. Histogen will indemnify Allergan for third party claims arising from Histogen's breach of the agreement, negligence or willful misconduct, or the exploitation of products by Histogen prior to the effective date.

Critical Accounting Policies and Significant Judgments and Estimates

Our discussion and analysis of our financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with United States generally accepted accounting principles ("U.S. GAAP"). The preparation of these consolidated financial statements requires us to make estimates, judgments and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities as of the date of the balance sheet and the reported amounts of expenses during the reporting period. Our estimates are based on historical trends and other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

We consider our critical accounting policies and estimates to be related to research and development expenses and accruals and revenue recognition. Our significant accounting policies are described in more detail in Note 2—Summary of Significant Accounting Policies, in the notes to consolidated financial statements as of and for the years ended December 31, 2020 and 2019, appearing elsewhere in this Annual Report on Form 10-K.

Off-Balance Sheet Arrangements

We have no off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources that are material to stockholders.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

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

Item 8. Financial Statements and Supplementary Data.

Our consolidated financial statements and the report of our independent registered public accounting firm required pursuant to this item are incorporated by reference herein from the applicable information included in Item 15 of this Annual Report on Form 10-K and are presented beginning on page F-1.

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

None.

Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures designed to provide reasonable assurance of achieving the objective that information in our Exchange Act reports is recorded, processed, summarized and reported within the time periods specified and pursuant to the requirements of the SEC's rules and forms and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow for timely decisions regarding required disclosures. In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and management is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

As required by SEC Rule 13a-15(b), we carried out an evaluation, with the participation of our Management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of our disclosure controls and procedures as of December 31, 2020, the end of the period covered by this report. Based upon the foregoing, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective at a reasonable assurance level as of December 31, 2020.

Management's Report on Internal Control Over Financial Reporting

Our Management is responsible for establishing and maintaining adequate internal control over our financial reporting. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act as a process designed by, or under the supervision of, a company's principal executive and principal financial officers and effected by a company's board of directors, management and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with U.S. GAAP. Our internal control over financial reporting includes those policies and procedures that: Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Our Management assessed the effectiveness of our internal control over financial reporting as of December 31, 2020. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in its 2013 Internal Control — Integrated Framework.

Based on our assessment, our Management has concluded that, as of December 31, 2020, our internal control over financial reporting was effective based on those criteria.

Pursuant to Regulation S-K Item 308(b), this Annual Report on Form 10-K does not include an attestation report of our company's registered public accounting firm regarding internal control over financial reporting.

Remediation of the Material Weakness Identified as of December 31, 2019

In connection with the audit of our consolidated financial statements as of and for the year ended December 31, 2019, a material weakness was identified related to an inadequate segregation of duties that existed as a result of our limited

number of accounting personnel. This lack of segregation of duties resulted in a reasonable possibility that a material misstatement of our annual or interim consolidated financial statements may not be prevented or detected on a timely basis. To remediate the deficiency described above and prevent similar deficiencies in the future, we developed and implemented a remediation plan during the first quarter of 2020 which included:

- *Addition of resources.* We added appropriate resources to our accounting and finance team to further facilitate accurate and timely accounting closes and preparation and review of consolidated financial statements and related footnote disclosure.

- *Other actions to strengthen the internal control environment.* As a result of the additional resources added to the accounting and finance function, we are allowing for separate preparation and review of the reconciliations and other account analyses.

These applicable controls have been implemented and operable beginning in the first quarter of 2020 and were tested and adjusted by management as necessary over subsequent periods for management to conclude that these controls are operating effectively. As of December 31, 2020, the material weakness is considered fully remediated. Any actions we have taken to remediate these deficiencies are subject to continued management review supported by testing, as well as oversight by the Audit Committee of our Board of Directors.

We cannot provide complete assurance that other material weaknesses or significant deficiencies will not occur in the future or that we will be able to remediate such weaknesses or deficiencies in a timely manner. The occurrence of such material weaknesses or our inability to remediate these deficiencies could impair our ability to accurately and timely report our financial position, results of operations or cash flows.

Changes in Internal Control over Financial Reporting

On May 26, 2020, we completed the Merger as described in above and have integrated Private Histogen into our internal control over financial reporting. As of December 31, 2020, the Company has remediated the material weakness in our internal controls over financial reporting identified as of December 31, 2019.

We regularly review our system of internal control over financial reporting and make changes to our processes and systems to improve controls and increase efficiency, while ensuring that we maintain an effective internal control environment. Changes may include such activities as implementing new, more efficient systems, consolidating activities, and migrating processes. During the quarter ended December 31, 2020, there were no changes in our internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information.

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

Information required by this item will be contained in our definitive proxy statement to be filed with the Securities and Exchange Commission in connection with our 2021 Annual Meeting of Stockholders, or the Definitive Proxy Statement, which is expected to be filed not later than 120 days after the end of our fiscal year ended December 31, 2020.

Code of Business Conduct and Ethics

We have adopted a Code of Business Conduct and Ethics that applies to our officers, directors and employees, which is available on our website at www.crinetics.com. The Code of Business Conduct and Ethics contains general guidelines for conducting the business of our company consistent with the highest standards of business ethics and is intended to qualify as a "code of ethics" within the meaning of Section 406 of the Sarbanes-Oxley Act of 2002 and Item 406 of Regulation S-K. In addition, we intend to promptly disclose (i) the nature of any amendment to our Code of Business Conduct and Ethics that applies to our principal executive officer, principal financial officer, principal accounting officer or controller or persons performing similar functions and (ii) the nature of any waiver, including an implicit waiver, from a provision of our code of ethics that is granted to one of these specified officers, the name of such person who is granted the waiver and the date of the waiver on our website in the future.

Item 11. Executive Compensation.

Information required by this item is incorporated by reference to our Proxy Statement to be filed with the Securities and Exchange Commission in connection with our 2021 Annual Meeting of Stockholders within 120 days after the end of our fiscal year ended December 31, 2020.

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

Information required by this item is incorporated by reference to our Proxy Statement to be filed with the Securities and Exchange Commission in connection with our 2021 Annual Meeting of Stockholders within 120 days after the end of our fiscal year ended December 31, 2020.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

Information required by this item is incorporated by reference to our Proxy Statement to be filed with the Securities and Exchange Commission in connection with our 2021 Annual Meeting of Stockholders within 120 days after the end of our fiscal year ended December 31, 2020.

Item 14. Principal Accounting Fees and Services.

Information required by this item is incorporated by reference to our Proxy Statement to be filed with the Securities and Exchange Commission in connection with our 2021 Annual Meeting of Stockholders within 120 days after the end of our fiscal year ended December 31, 2020.

PART IV

Item 15. Exhibits, Financial Statement Schedules.

(a)(1) The financial statements required to be filed by Items 8 and 15(c) of this Annual Report on Form 10-K, and filed herewith, are as follows:

(a)(2) Financial statement schedules required to be filed by Item 8 of this form, and by paragraph (b) below have been omitted as they are not applicable.

(a)(3) **Exhibits**

The following is a list of Exhibits filed as part of the Annual Report on Form 10-K:

Exhibit Number	Description of Exhibit
2.1	Distribution Agreement, dated January 10, 2013, by and between Idun Pharmaceuticals, Inc. and the Company (incorporated by reference to Exhibit 2.1 of the Company's Registration Statement on Form S-1 (Registration No. 333-189305), filed with the SEC on June 14, 2013).
2.2	Agreement and Plan of Merger and Reorganization, dated as of January 28, 2020, by and among the Company, Chinook Merger Sub, Inc. and Histogen Therapeutics Inc. (formerly Histogen Inc.) (incorporated by reference to Exhibit 2.1 of the Company's Current Report on Form 8-K filed with the SEC on January 28, 2020).
3.1	Amended and Restated Certificate of Incorporation of the Company (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on August 1, 2013).
3.2	Certificate of Amendment (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on May 27, 2020).
3.3	Certificate of Amendment (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on May 27, 2020).
3.4	Amended and Restated Bylaws (incorporated by reference to Exhibit 3.3 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on May 27, 2020).
4.1	Specimen Common Stock Certificate (incorporated by reference to Exhibit 4.1 to the Company's Quarterly Report on Form 10-Q filed on August 13, 2020).
4.2	Form of Warrant (incorporated by reference to Exhibit 4.5 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on February 7, 2020).
4.3	Form of Warrant (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on November 12, 2020.)
4.4	Form of placement agent's warrant (incorporated by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on November 12, 2020.)

4.5	Form of Common Warrant (incorporated by reference to Exhibit 4.5 to the Company's Registration Statement on Form S-1 (Registration No. 333-251491) filed with the Securities and Exchange Commission on December 18, 2020).
4.6	Form of placement agent's warrant (incorporated by reference to Exhibit 4.6 to the Company's Registration Statement on Form S-1 (Registration No. 333-251491) filed with the Securities and Exchange Commission on December 18, 2020).
4.7	Form of pre-funded warrant (incorporated by reference to Exhibit 4.7 to the Company's Registration Statement on Form S-1 (Registration No. 333-251491) filed with the Securities and Exchange Commission on December 18, 2020).
10.1#	2020 Incentive Award Plan, effective May 26, 2020 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on May 27, 2020).
10.2#	Form of Stock Option Grant Notice and Option Agreement (2020 Incentive Award Plan) (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on May 28, 2020).
10.3#	2017 Stock Plan (incorporated by reference to Exhibit 10.43 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on February 7, 2020).
10.4#	Form of Stock Option Agreement (2017 Stock Plan) (incorporated by reference to Exhibit 10.44 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on February 7, 2020).
10.5#	2007 Stock Plan (incorporated by reference to Exhibit 10.45 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on February 7, 2020).
10.6#	Form of Stock Option Agreement (2007 Stock Plan) (incorporated by reference to Exhibit 10.46 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on February 7, 2020).
10.7#	Form of Indemnification Agreement, between the Company and its officers and directors (incorporated by reference to Exhibit 10.51 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on February 7, 2020).
10.8#	Executive Employment Agreement, dated December 11, 2018, by and between the Company and Richard W. Pascoe (incorporated by reference to Exhibit 10.47 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on February 7, 2020).
10.9#	Notice of Grant of Stock Option, dated January 24, 2019, by and between the Company and Richard W. Pascoe (incorporated by reference to Exhibit 10.48 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on February 7, 2020).
10.10#	Amendment to Option and Employment Agreement, dated January 28, 2020, by and between the Company and Richard W. Pascoe (incorporated by reference to Exhibit 10.49 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on February 7, 2020).
10.11#	Executive Employment Agreement, dated April 16, 2019, by and between the Company and Martin Latterich (incorporated by reference to Exhibit 10.50 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on February 7, 2020).
10.12	Lease, dated January 3, 2020, by and between the Company and San Diego Sycamore, LLC (incorporated by reference to Exhibit 10.57 to Amendment No. 2 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on March 30, 2020).

10.13	Irrevocable Standby Letter of Credit, dated March 13, 2020, by and between the Company and San Diego Sycamore, LLC (incorporated by reference to Exhibit 10.69 to Amendment No. 2 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on March 30, 2020).
10.14†	Settlement, Release and Termination Agreement, dated April 5, 2019, by and among the Company, PUR Biologics, LLC, Wylde, LLC, Christopher Wiggins and Ryan Fernan (incorporated by reference to Exhibit 10.52 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on February 7, 2020).
10.15	Conversion, Termination and Release Agreement, dated August 26, 2016, by and among the Company, Jonathan Jackson, Lordship Ventures LLC and Lordship Ventures Histogen Holdings LLC (incorporated by reference to Exhibit 10.53 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on February 7, 2020).
10.16	Termination of Stockholder Agreements, dated January 28, 2020, by and among the Company, Lordship Ventures Histogen Holdings LLC, Pineworld Capital Limited, Gail K. Naughton, Ph.D. and certain trusts (incorporated by reference to Exhibit 10.54 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on February 7, 2020).
10.17	Second Amended and Restated Strategic Relationship Success Fee Agreement, dated January 28, 2020, by and between the Company and Lordship Ventures LLC (incorporated by reference to Exhibit 10.55 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on February 7, 2020).
10.18	Amended and Restated Release, dated January 28, 2020, by and among the Company, Jonathan Jackson, Lordship Ventures LLC, and Lordship Ventures Histogen Holdings LLC (incorporated by reference to Exhibit 10.56 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on February 7, 2020).
10.19	Exclusive License and Supply Agreement, dated September 30, 2016, by and between the Company and Pineworld Capital Limited (incorporated by reference to Exhibit 10.59 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on February 7, 2020).
10.20†	Amended and Restated License Agreement, dated December 16, 2013, by and between the Company and Suneva Medical, Inc. (incorporated by reference to Exhibit 10.60 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on February 7, 2020).
10.21+	Amended and Restated Supply Agreement, dated December 16, 2013, by and between the Company and Suneva Medical, Inc. (incorporated by reference to Exhibit 10.61 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on February 7, 2020).
10.22+	Amendment No. 1 to the Amended and Restated License Agreement and Amended and Restated Supply Agreement, dated July 12, 2017, by and among the Company, Suneva Medical, Inc. and Allergan Sales, LLC (incorporated by reference to Exhibit 10.62 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on February 7, 2020).
10.23+	Amendment No. 2 to Amended and Restated License Agreement, dated October 25, 2017, by and between the Company and Allergan Sales, LLC (incorporated by reference to Exhibit 10.63 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on February 7, 2020).
10.24+	Amendment No. 3 to Amended and Restated License Agreement and Amendment No. 2 to Amended and Restated Supply Agreement, dated March 22, 2019, by and between the Company and Allergan Sales, LLC (incorporated by reference to Exhibit 10.64 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on February 7, 2020).

10.25+	Amendment No. 4 to Amended and Restated License Agreement and Amendment No. 3 to Amended and Restated Supply Agreement, dated January 17, 2020, by and between the Company and Allergan Sales, LLC (incorporated by reference to Exhibit 10.65 to the Company's Registration Statement on Form S-4 (Registration No. 333-236332) filed with the Securities and Exchange Commission on February 7, 2020).
10.26#	Employment Agreement between the Company and Susan A. Knudson, dated May 27, 2020 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on May 28, 2020).
10.27	Purchase Agreement, by and between the Company and Lincoln Park, dated July 20, 2020 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 20, 2020).
10.28	Registration Rights Agreement, by and between the Company and Lincoln Park, dated July 20, 2020 (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 20, 2020).
10.29	Collaborative Development and Commercialization Agreement, by and between the Company and Amerimmune LLC, dated October 26, 2020 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on October 26, 2020).
10.30	Form of Securities Purchase Agreement (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on November 12, 2020.)
10.31	Engagement Letter between Histogen Inc. and H.C. Wainwright & Co., LLC, dated as of November 10, 2020 (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on November 12, 2020.)
10.32	Form of Securities Purchase Agreement (incorporated by reference to Exhibit 10.32 to the Company's Registration Statement on Form S-1 (Registration No. 333-251491) filed with the Securities and Exchange Commission on December 18, 2020).
10.33	Engagement Letter between Histogen Inc. and H.C. Wainwright & Co., LLC, dated as of December 28, 2020 (incorporated by reference to Exhibit 10.33 to the Company's Registration Statement on Form S-1/A (Registration No. 333-251491) filed with the Securities and Exchange Commission on December 29, 2020).
10.34†	Option, Collaboration and License Agreement, dated December 19, 2016, between the Company and Novartis Pharma AG (incorporated by reference to Exhibit 10.33 of the Company's Annual Report on Form 10-K for the year ended December 31, 2016, filed with the SEC on March 16, 2017).
10.35†	Amendment to Option, Collaboration and License Agreement, dated September 30, 2019, by and between Novartis Pharma AG and the Company (incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K, filed with the SEC on October 4, 2019).
10.36	Investment Agreement, dated December 19, 2016, between the Company and Novartis Pharma AG (incorporated by reference to Exhibit 10.34 of the Company's Annual Report on Form 10-K for the year ended December 31, 2016, filed with the SEC on March 16, 2017).
10.37	Convertible Promissory Note, dated February 15, 2017, issued by the Registrant to Novartis Pharma AG (incorporated by reference to Exhibit 10.35 of the Company's Annual Report on Form 10-K for the year ended December 31, 2016, filed with the SEC on March 16, 2017).
21.1*	List of Subsidiaries.
23.1*	Consent of Mayer Hoffman McCann P.C., Independent Registered Public Accounting Firm.
24.1*	Power of Attorney (Included in the signature page hereto)

31.1*	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2*	Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document.
101.SCH	XBRL Taxonomy Extension Schema Document.
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.

* Filed herewith.
\# Indicates a management contract or compensatory plan, contract or arrangement.
† Pursuant to Item 601(b)(10) of Regulation S-K, certain confidential portions of this exhibit were omitted by means of marking such portions with an asterisk because the identified confidential portions (i) are not material and (ii) would be competitively harmful if publicly disclosed.
\+ Non-material schedules and exhibits have been omitted pursuant to Item 601(a)(5) of Regulation S-K. The Company hereby undertakes to furnish supplementally copies of any of the omitted schedules and exhibits upon request by the Securities and Exchange Commission.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: March 11, 2021

HISTOGEN INC.

By: /s/ Richard W. Pascoe
Richard W. Pascoe
Chief Executive Officer and President

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Richard W. Pascoe and Susan A. Knudson, and each of them, as his or her true and lawful attorneys-in-fact and agents, each with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this report, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or either of them, or their or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Richard W. Pascoe Richard W. Pascoe	Chief Executive Officer, President and Director *(Principal Executive Officer)*	March 11, 2021
/s/ Susan A. Knudson Susan A. Knudson	Chief Financial Officer and Executive Vice President *(Principal Financial and Accounting Officer)*	March 11, 2021
/s/ Steven J. Mento, Ph.D. Steven J. Mento, Ph.D.	Director	March 11, 2021
/s/ Daniel L. Kisner, M.D. Daniel L. Kisner, M.D.	Director	March 11, 2021
/s/ Stephen Chang, Ph.D. Stephen Chang, Ph.D.	Director	March 11, 2021
/s/ David H. Crean, Ph.D. David H. Crean, Ph.D.	Director	March 11, 2021
/s/ Jonathan Jackson Jonathan Jackson	Director	March 11, 2021
/s/ Brian M. Satz Brian M. Satz	Director	March 11, 2021
 Susan Windham-Bannister, Ph.D.	Director	March 11, 2021

HISTOGEN INC.
INDEX TO FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Histogen Inc.

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Histogen Inc. ("Company") as of December 31, 2020 and 2019, and the related consolidated statements of operations, convertible preferred stock and stockholders' equity (deficit) and cash flows for each of the two years in the period ended December 31, 2020, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019 and the results of their operations and their cash flows for each of the two years in the period ended December 31, 2020, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

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

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

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

Critical Audit Matters

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

Reverse Asset Acquisition Accounting

As described in Note 1 and 7 to the financial statements, the Company entered into an Agreement and Plan of Merger and Reorganization, as amended ("Merger"), with privately-held Histogen, Inc. and Chinook Merger Sub, Inc., a wholly-owned subsidiary of the Company, which was completed on May 26, 2020. The accounting for the Merger is impacted by the determination of whether the Merger represents an asset acquisition or a business combination. Goodwill or a bargain purchase gain is recognized in a business combination, however, is not recognized in an asset acquisition. We identified the evaluation of whether the Merger represented a business combination or an asset acquisition as a critical audit matter.

The principal considerations for our determination that the evaluation of the Merger as an asset acquisition or business combination was a critical audit matter is the significant judgements required on the part of management, to evaluate whether the accounting acquiree meets the definition of a business in accordance with Accounting Standard Codification 805, *Business Combinations*, which in turn led to a high degree of auditor judgment and effort in performing procedures and evaluating management's conclusions related to the proper accounting model.
The primary procedures we performed to address this critical audit matter included:

- Evaluating evidence and assumptions used by management in determining whether the fair value of the assets acquired were concentrated in a group of similar non-financial assets, and whether the acquired assets had outputs or employees.
- Performing an independent determination of whether the accounting acquiree met the definition of a business at the time of the merger, with considerations given to the fair value of the assets acquired, whether the fair values of acquired assets were a single asset or a group of similar assets and or whether an integrated set of activities and assets were acquired, and comparing those to the management's conclusions.

Stock-Based Compensation – Fair Value of Market Conditions

As described in Note 10 to the financial statements, the Company issued stock options to the Chief Executive Officer through an award agreement, which was modified on January 28, 2020 to include vesting provisions based on the overall market capitalization of the Company (the "market condition stock options"), which is a future market condition. As the impact of the market condition is required to be included in the estimate of fair value, the Company estimated the grant date fair value of the market condition stock options using a Monte Carlo option pricing model, which required management to make a number of assumptions, of which the most significant was the probability of achievement of the market condition.

The principal consideration for our determination that the estimate of grant date fair value is a critical audit matter was the degree of judgment required to estimate the probability of achievement of the market conditions on the part of management and the complexity of the valuation model used, which in turn led to a high degree of auditor judgment and effort in performing procedures and evaluating management's option pricing model and the related assumptions.

The primary procedures we performed to address this critical audit matter included:

- Evaluating the assumptions used in the option pricing model, including the assumptions used to determine the probability of attaining the market capitalization vesting provisions.
- Testing the mathematical accuracy of the option pricing model.
- Involving valuation professionals with specialized skills and knowledge to assess the option pricing model used by the Company for consistency with generally accepted business valuation standards and the requirements of GAAP.

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

/s/ Mayer Hoffman McCann P.C.

San Diego, California
March 11, 2021

HISTOGEN INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(in thousands, except share and per share amounts)

	December 31, 2020	December 31, 2019
Assets		
Current assets		
Cash and cash equivalents	$ 6,763	$ 2,065
Restricted cash	10	10
Accounts receivable, net	144	110
Inventories	300	106
Prepaid and other current assets	1,183	167
Total current assets	8,400	2,458
Property and equipment, net	271	320
Right-of-use asset	4,411	95
Other assets	1,931	69
Total assets	$ 15,013	$ 2,942
Liabilities, convertible preferred stock and stockholders' equity (deficit)		
Current liabilities		
Accounts payable	$ 539	$ 808
Accrued liabilities	1,880	446
Current portion of lease liabilities	28	108
Current portion of deferred revenue	48	19
Financed insurance premiums, current	193	—
Payroll protection program loan, current	97	—
Total current liabilities	2,785	1,381
Lease liabilities, non-current	4,806	—
Payroll protection program loan, non-current	369	—
Noncurrent portion of deferred revenue	118	138
Other liabilities	22	321
Total liabilities	8,100	1,840
Commitments and contingencies (Note 11)		
Convertible preferred stock, $0.001 par value, authorized shares — no shares and 73,000,000 shares at December 31, 2020 and 2019, respectively; issued and outstanding shares — no shares and 5,046,154 shares at December 31, 2020 and 2019, respectively; liquidation preference — $0 and $40,294 at December 31, 2020 and 2019, respectively	—	39,070
Stockholders' equity (deficit)		
Preferred stock, $0.0001 par value; 10,000,000 shares and no shares authorized at December 31, 2020 and 2019; no shares issued and outstanding at December 31, 2020 and 2019	—	—
Common stock, $0.0001 par value; 200,000,000 shares and 105,000,000 shares authorized at December 31, 2020 and 2019; respectively; 15,030,757 and 3,343,356 shares issued and outstanding at December 31, 2020 and 2019, respectively	1	—
Additional paid-in capital	70,561	6,864
Accumulated deficit	(62,702)	(43,933)
Total Histogen Inc. stockholders' equity (deficit)	7,860	(37,069)
Noncontrolling interest	(947)	(899)
Total equity (deficit)	6,913	(37,968)
Total liabilities, convertible preferred stock and stockholders' equity (deficit)	$ 15,013	$ 2,942

The accompanying notes are an integral part of these consolidated financial statements.

HISTOGEN INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS

(in thousands, except share and per share amounts)

	Years Ended December 31,	
	2020	2019
Revenue		
Product revenue	$ 845	$ 3,415
License revenue	882	7,519
Grant revenue	—	150
Professional services revenue	332	370
Total revenue	2,059	11,454
Operating expense		
Cost of product revenue	679	1,893
Cost of professional services revenue	289	322
Acquired in-process research and development	7,144	2,250
Research and development	6,219	4,095
General and administrative	6,586	6,213
Total operating expense	20,917	14,773
Loss from operations	(18,858)	(3,319)
Other income (expense)		
Interest income (expense), net	(64)	42
Other income, net	105	—
Change in fair value of warrant liabilities	—	276
Net loss	(18,817)	(3,001)
Loss attributable to noncontrolling interest	48	35
Net loss available to common stockholders	$ (18,769)	$ (2,966)
Net loss per share available to common stockholders, basic and diluted	$ (2.08)	$ (0.89)
Weighted-average number of common shares outstanding used to compute net loss per share, basic and diluted	9,018,376	3,332,281

The accompanying notes are an integral part of these consolidated financial statements.

HISTOGEN INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CONVERTIBLE
PREFERRED STOCK AND STOCKHOLDERS' EQUITY (DEFICIT)
(in thousands, except share amounts)

	Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Histogen Inc. Stockholders' Equity (Deficit)	Non-controlling Interest	Total Equity (Deficit)
	Shares	Amount	Shares	Amount					
Balance at December 31, 2018	4,813,274	$ 36,683	3,292,104	$ —	$ 6,311	$ (40,967)	$ (34,656)	$ (864)	$ (35,520)
Issuance of Series B convertible preferred stock for Lordship Indemnification	16,413	124	—	—	—	—	—	—	—
Issuance of common stock for Lordship Indemnification	—	—	21,885	—	115	—	115	—	115
Issuance of Series D convertible preferred stock, net of issuance costs	49,144	513	—	—	—	—	—	—	—
Issuance of Series D convertible preferred stock for PUR Settlement	167,323	1,750	—	—	—	—	—	—	—
Issuance of common stock upon net exercise of stock options	—	—	29,367	—	—	—	—	—	—
Stock-based compensation expense	—	—	—	—	438	—	438	—	438
Net loss	—	—	—	—	—	(2,966)	(2,966)	(35)	(3,001)
Balance at December 31, 2019	5,046,154	39,070	3,343,356	—	6,864	(43,933)	(37,069)	(899)	(37,968)
Issuance of common stock to former stockholders of Conatus upon Merger	—	—	3,394,299	—	18,872	—	18,872	—	18,872
Conversion of convertible preferred stock into common stock upon Merger	(5,046,154)	(39,070)	5,046,154	1	39,069	—	39,070	—	39,070
Issuance of common stock, net of issuance costs	—	—	3,218,264	—	5,098	—	5,098	—	5,098
Issuance of common stock upon net exercise of stock options	—	—	28,684	—	40	—	40	—	40
Stock-based compensation expense	—	—	—	—	618	—	618	—	618
Net loss	—	—	—	—	—	(18,769)	(18,769)	(48)	(18,817)
Balance at December 31, 2020	—	$ —	15,030,757	$ 1	$ 70,561	$ (62,702)	$ 7,860	$ (947)	$ 6,913

The accompanying notes are an integral part of these consolidated financial statements.

HISTOGEN INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Years Ended December 31,	
	2020	2019
Cash flows from operating activities		
Net loss	$ (18,817)	$ (3,001)
Adjustments to reconcile net loss to net cash used in operating activities:		
Acquired in-process research and development	7,144	1,750
Depreciation and amortization	98	145
Stock-based compensation	618	438
Loss on disposal of property and equipment	—	6
Write-off of inventory	202	155
Change in fair value of warrant liabilities	—	(276)
Changes in operating assets and liabilities:		
Accounts receivable	(34)	140
Inventories	(396)	678
Prepaid expenses and other current assets	(606)	(156)
Other assets	(259)	154
Accounts payable	(881)	493
Accrued liabilities	514	(196)
Right-of-use asset and lease liabilities, net	354	(76)
Deferred revenue	9	(1,545)
Net cash used in operating activities	(12,054)	(1,291)
Cash flows from investing activities		
Cash acquired in connection with the Merger	12,835	—
Cash paid for acquisition costs	(1,817)	—
Cash paid for property and equipment	(49)	(152)
Net cash provided by (used in) investing activities	10,969	(152)
Cash flows from financing activities		
Proceeds from the issuance of common stock, net of issuance costs	5,098	—
Costs paid in connection with January 2021 Offering	(7)	—
Repayment of notes payable to related parties	—	(7)
Repayment of finance lease obligations	(7)	(25)
Proceeds from the issuance of Series D convertible preferred stock, net	—	513
Proceeds from promissory notes	500	—
Payments on promissory notes	(500)	—
Proceeds from Payroll Protection Program Loan	466	—
Proceeds from financing of insurance premiums	872	—
Payment on financing of insurance premiums	(679)	—
Proceeds from exercise of stock options	40	—
Net cash provided by financing activities	5,783	481
Net increase (decrease) in cash, cash equivalents and restricted cash	4,698	(962)
Cash, cash equivalents and restricted cash, beginning of period	2,075	3,037
Cash, cash equivalents and restricted cash, end of period	$ 6,773	$ 2,075
Reconciliation of cash, cash equivalents and restricted cash to the consolidated balance sheets		
Cash and cash equivalents	$ 6,763	$ 2,065
Restricted cash	10	10
Total cash, cash equivalents and restricted cash	$ 6,773	$ 2,075
Supplemental disclosure of cash flow information		
Cash paid for interest	$ 63	$ 7
Noncash investing and financing activities		
Right-of-use asset obtained in exchange for operating lease liability	$ 4,481	$ 619
Right-of-use asset obtained in exchange for new finance lease liability	$ —	$ 40
Issuance of Series B convertible preferred stock for Lordship Indemnification	$ —	$ 124
Issuance of common stock for Lordship Indemnification	$ —	$ 115
Conversion of convertible preferred stock into common stock	$ 39,070	$ —
Issuance of common stock to Conatus stockholders	$ 18,872	$ —
Net assets acquired in Merger	$ 710	$ —
Deferred financing costs included in accounts payable and accrued expenses	$ 701	$ —
Fair value of warrants issued to Placement Agent	$ 108	$ —

The accompanying notes are an integral part of these consolidated financial statements.

1. Organization and Nature of Operations

Description of Business

Histogen Inc. (the "Company," "Histogen," or the "combined company"), formerly known as Conatus Pharmaceuticals Inc. ("Conatus"), was incorporated in the state of Delaware on July 13, 2005. The Company is a clinical-stage therapeutics company focused on developing potential first-in-class restorative therapeutics that ignite the body's natural process to repair and maintain healthy biological function.

Merger between Private Histogen and Conatus Pharmaceuticals Inc. and Name Change

On January 28, 2020, the Company, then operating as Conatus, entered into an Agreement and Plan of Merger and Reorganization, as amended (the "Merger Agreement"), with privately-held Histogen, Inc. ("Private Histogen") and Chinook Merger Sub, Inc., a wholly-owned subsidiary of the Company ("Merger Sub"). Under the Merger Agreement, Merger Sub merged with and into Private Histogen, with Private Histogen surviving as a wholly-owned subsidiary of the Company (the "Merger"). On May 26, 2020, the Merger was completed. Conatus changed its name to Histogen Inc., and Private Histogen, which remains as a wholly-owned subsidiary of the Company, changed its name to Histogen Therapeutics Inc. On May 27, 2020, the combined company's common stock began trading on The Nasdaq Capital Market under the ticker symbol "HSTO".

Except as otherwise indicated, references herein to "Histogen," the "Company," or the "combined company", refer to Histogen Inc. on a post-Merger basis, and the term "Private Histogen" refers to the business of privately-held Histogen Inc., prior to completion of the Merger. References to Conatus refer to Conatus Pharmaceuticals Inc. prior to completion of the Merger.

Pursuant to the terms of the Merger Agreement, each outstanding share of Private Histogen common stock outstanding immediately prior to the closing of the Merger was converted into approximately 0.14342 shares of Company common stock (the "Exchange Ratio"), after taking into account the Reverse Stock Split, as defined below. Immediately prior to the closing of the Merger, all shares of Private Histogen preferred stock then outstanding were exchanged into shares of common stock of Private Histogen. In addition, all outstanding options exercisable for common stock of Private Histogen and warrants exercisable for common stock of Private Histogen became options and warrants exercisable for the same number of shares of common stock of the Company multiplied by the Exchange Ratio. Immediately following the Merger, stockholders of Private Histogen owned approximately 71.3% of the outstanding common stock of the combined company.

The transaction was accounted for as a reverse asset acquisition in accordance with generally accepted accounting principles in the United States of America ("GAAP"). Under this method of accounting, Private Histogen was deemed to be the accounting acquirer for financial reporting purposes. This determination was primarily based on the facts that, immediately following the Merger: (i) Private Histogen's stockholders owned a substantial majority of the voting rights in the combined company, (ii) Private Histogen designated a majority of the members of the initial board of directors of the combined company, and (iii) Private Histogen's senior management holds all key positions in the senior management of the combined company. As a result, as of the closing date of the Merger, the net assets of the Company were recorded at their acquisition-date relative fair values in the accompanying consolidated financial statements of the Company and the reported operating results prior to the Merger are those of Private Histogen.

Reverse Stock Split and Exchange Ratio

On May 26, 2020, in connection with, and prior to the completion of, the Merger, the Company effected a one-for-ten reverse stock split of its then outstanding common stock (the "Reverse Stock Split"). The par value and the authorized shares of the common stock were not adjusted as a result of the Reverse Stock Split. All of the Company's issued and outstanding common stock have been retroactively adjusted to reflect this Reverse Stock Split for all periods presented. All issued and outstanding Private Histogen common stock, convertible preferred stock, options and warrants prior to the effective date of the Merger have been retroactively adjusted to reflect the Exchange Ratio for all periods presented.

Liquidity

The Company has incurred operating losses and negative cash flows from operations and had an accumulated deficit of $62.7 million as of December 31, 2020. The Company expects operating losses and negative cash flows from operations to continue for the foreseeable future. As of December 31, 2020, the Company had approximately $6.8 million in cash and cash equivalents. In January 2021, the Company received gross proceeds of $14.0 million from the issuance of 11,600,000 shares of common stock, prefunded warrants to purchase up to 2,400,000 shares of its common stock and warrants to purchase up to an aggregate of 14,000,000 shares of common stock. In addition, in February 2021, gross proceeds of $6.8 million were received from the exercise of warrants to purchase 6,676,200 shares of common stock (see Note 15). Based on the Company's current operating plan, management believes that existing cash and cash equivalents will be sufficient to fund the Company's obligations for at least 12 months after these consolidated financial statements are issued.

The Company has not yet established ongoing sources of revenues sufficient to cover its operating costs and will need to continue to raise additional capital to support its future operating activities, including progression of its development programs, preparation for commercialization, and other operating costs. Management's plans with regard to these matters include entering into a combination of additional debt or equity financing arrangements, government funding, strategic partnerships, collaboration and licensing arrangements, or other similar arrangements. In addition, the Company may fund its losses from operations through the common stock purchase agreement the Company entered into with Lincoln Park in July 2020, for the purchase of up to $10.0 million of the Company's common stock over the 24 month period of the purchase agreement, $8.5 million of which remains available for sale as of the date these consolidated financial statements were available to be issued (see Note 10), subject to limitations on the amount of securities the Company may sell under its effective registration statement on Form S-3 within any 12 month period. There can be no assurance that the Company will be able to obtain additional financing on terms acceptable to the Company, on a timely basis or at all.

2. Summary of Significant Accounting Policies

Basis of Presentation and Principles of Consolidation

The consolidated financial statements include the accounts of the Company and its controlled subsidiaries, including Histogen Therapeutics, Inc., and have been prepared in accordance with accounting principles generally accepted in the United States ("GAAP"). All intercompany balances and transactions have been eliminated upon consolidation.

The Company acquired Centro De Investigacion de Medicina Regenerativa, S.A. de C.V. ("CIMRESA"), a company in Mexico, during 2018 to facilitate a potential clinical development program for HSC. This is a wholly-owned subsidiary intended to pursue registration with the COFEPRIS (Mexico equivalent to Food and Drug Administration). CIMRESA had no operational or financial activity for the years ended December 31, 2020 and 2019.

The Company holds a majority interest (68%) in Adaptive Biologix, Inc. ("AB", formerly Histogen Oncology, LLC). AB was formed to develop and market applications for the treatment of cancer. The Company consolidates AB into its consolidated financial statements.

Reclassifications

Certain prior period amounts related to the acquisition of in-process research and development assets from the Company's former unconsolidated affiliate, PUR Biologics, LLC ("PUR"), have been reclassified from research and

development expense to acquired in-process research and development expense on the accompanying consolidated statements of operations and cash flows to conform to the current period presentation. This reclassification has no effect on previously reported net income (loss), stockholders' equity (deficit) or cash flows from operating activities.

Use of Estimates

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities and the disclosure of contingent assets and liabilities and contingencies at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the periods presented. Management believes that these estimates and assumptions are reasonable, however, actual results may differ and could have a material effect on future results of operations and financial position. Though the impact of the COVID-19 pandemic to our business and operating results presents additional uncertainty, we continue to use the best information available to us in our significant accounting estimates.

Significant estimates and assumptions include the useful lives of property and equipment, discount rates used in recognizing contracts containing leases, unrecognized tax benefits, reserves for excess or obsolete inventory, stock-based compensation, and best estimate of standalone selling price of revenue deliverables. Actual results may materially differ from those estimates.

Variable Interest Entities

The Company determined that AB is a variable interest entity ("VIE") and that the Company is its primary beneficiary. The Company holds greater than 50% of the shares and has the authority to manage the business and affairs of the VIE. AB's other shareholder does not have a controlling interest.

A VIE is typically an entity for which the Company has less than a 100% equity interest but controls the decision making over the business and affairs of the entity, directs the decisions driving the economic performance of such entity and participates in the profit and losses of such an entity. The Company weighed both quantitative and qualitative information about the different risks and reward characteristics of each entity and the significance of that entity to the consolidating group in the aggregate.

Segment Reporting

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision-maker, the Chief Executive Officer, in making decisions regarding resource allocation and assessing performance. The Company views its operations and manages its business as one operating segment.

Cash, Cash Equivalents and Restricted Cash

The Company considers all highly liquid investments purchased with an original maturity date of ninety days or less to be cash equivalents. Cash and cash equivalents include cash in readily available checking, money market accounts and brokerage accounts.

The Company's current restricted cash consists of cash held as collateral for the issuer of its credit card accounts.

Risks and Uncertainties

Credit Risk

At certain times throughout the year, the Company may maintain deposits in federally insured financial institutions in excess of federally insured limits. The Company has not experienced any losses in such accounts and believes it is not exposed to significant risk on its cash balances due to the financial position of the depository institutions in which those deposits are held.

Customer Risk

During the years ended December 31, 2020 and 2019, one customer accounted for 100% and 91% of total revenues, respectively. Accounts receivable from the customer was $0.1 million at December 31, 2020 and 2019.

COVID-19

On January 30, 2020, the World Health Organization ("WHO") announced a global health emergency because of a new strain of coronavirus originating in Wuhan, China (the "COVID-19 outbreak") and the risks to the international community as the virus spreads globally beyond its point of origin. In March 2020, the WHO classified the COVID-19 outbreak as a pandemic, based on the rapid increase in exposure globally.

The full impact of the COVID-19 outbreak continues to evolve as of the date these consolidated financial statements were available to be issued. As such, it is uncertain as to the full magnitude that the pandemic will have on the Company's financial condition, liquidity, and future results of operations. Management is actively monitoring the situation on its financial condition, liquidity, operations, customers, suppliers, industry, and workforce. Given the daily evolution of the COVID-19 outbreak and the response to curb its spread, the Company is not able to estimate the effects of the COVID-19 outbreak to its results of operations, financial condition, or liquidity.

On March 27, 2020, former President Trump signed into law the Coronavirus Aid, Relief and Economic Security Act (the "CARES Act"). The CARES Act, among other things, includes provisions relating to refundable payroll tax credits, deferment of employer side social security payments, net operating loss carryback periods, alternative minimum tax credit refunds, modifications to the net interest deduction limitations, increased limitations on qualified charitable contributions and technical corrections to tax depreciation methods for qualified improvement property. The Company continues to examine the impact that the CARES Act may have on its business. Currently, the Company is unable to determine the impact that the CARES Act will have on its financial condition, results of operations, or liquidity. The CARES Act also appropriated funds for the U.S. Small Business Administration Paycheck Protection Program ("PPP") loans that are forgivable in certain situations to promote continued employment, as well as Economic Injury Disaster Loans to provide liquidity to small businesses harmed by COVID-19. Refer to Note 9 – Paycheck Protection Program Loan for further information.

Accounts Receivable

Accounts receivable are generally due within 30 days and are recorded net of the allowance for doubtful accounts, if any. At December 31, 2020 and 2019, no provision for doubtful accounts was recorded.

Inventories

Inventories, consisting of raw materials and finished goods, are valued at the lower of cost (first-in, first-out method) or net realizable value. The Company writes down excess and obsolete inventory to its estimated net realizable value based on management's review of inventories on hand compared to estimated future usage and sales, shelf-life and assumptions about the likelihood of obsolescence. The cost components of finished goods inventories include raw materials, direct labor and an allocation of the Company's overhead.

Property and Equipment

Property and equipment are reported net of accumulated depreciation and amortization and are comprised of office furniture and equipment, lab and manufacturing equipment, and leasehold improvements. Ordinary maintenance and repairs are charged to expense, while expenditures that extend the physical or economic life of the assets are capitalized. Furniture and all equipment are depreciated over their estimated useful lives, or five years, using the straight-line method. Leasehold improvements are amortized over their estimated useful lives and limited by the remaining term of the building lease, using the straight-line method.

Deferred Offering Costs

Offering costs, consisting of legal, accounting, printer and filing fees related to the public offering that closed in January 2021 (see Note 15), are deferred and will be offset against proceeds from the public offering upon the closing of the offering. As of December 31, 2020, $0.7 million of deferred offering costs were recorded in the accompanying consolidated balance sheet. There were no deferred offering costs recorded as of December 31, 2019.

Valuation of Long-Lived Assets

Long-lived assets to be held and used, including property and equipment, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets may not be recoverable. As of December 31, 2020, the Company has not recognized any impairment to long-lived assets.

Forward Purchase Contract

In late 2011, Private Histogen contracted for research services from EPS Global Research Pte. Ltd. (“EPS”) to conduct clinical trials and compile data from a study that took place in 2011 and 2013. The unpaid amount due for the services was approximately $0.3 million.

On January 26, 2017, Private Histogen and EPS entered into a Debt Settlement and Conversion Agreement (“Settlement Agreement”) whereby Private Histogen paid $50,000 and issued EPS 14,342 shares of Series D convertible preferred stock. The Company is required to repurchase the shares at the higher of the remaining balance due, approximately $0.3 million at December 31, 2020 and December 31, 2019, or the market price of the shares at the time of repurchase, but no later than December 31, 2021. The Company has the sole option to initiate the timing of the repurchase of the shares (which were converted into shares of common stock upon the Merger) before the deadline date.

The Company determined the fair value of the liability to be approximately $0.3 million, which is the value as if the repurchase commitment was exercised immediately. As of December 31, 2020 and 2019, the fair value of the EPS forward contract remained at approximately $0.3 million and is included in accrued liabilities and other liabilities in the accompanying consolidated balance sheets as of December 31, 2020 and 2019, respectively.

Fair Value Measurements

ASC 820, *Fair Value Measurements*, defines fair value, establishes a framework for measuring fair value under generally accepted accounting principles and enhances disclosures about fair value measurements. Fair value is defined under ASC 820 as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value under ASC 820 must maximize the use of observable inputs and minimize the use of unobservable inputs. The standard describes a fair value hierarchy based on three levels of inputs, of which the first two are considered observable and the last unobservable, that may be used to measure fair value which are the following:

- Level 1 — Observable inputs such as quoted price (unadjusted) for identical instruments in active markets.
- Level 2 — Observable inputs such as quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, or model derived valuations whose significant inputs are observable.
- Level 3 — Unobservable inputs that reflect the reporting entity’s own assumptions.

At December 31, 2020, the carrying amount of financial instruments consisting of cash, trade accounts receivable, prepaid expenses and other current assets, accounts payable and accrued expenses, all included in the Company’s consolidated financial statements are reasonable estimates of fair value due to their short maturities.

Convertible Preferred Stock

Prior to the Merger, Private Histogen had shares of convertible preferred stock outstanding that were conditionally redeemable, as the redemption rights were either within the control of the holder or subject to redemption upon the occurrence of uncertain events not solely within the Company's control, and were classified as temporary equity.

Comprehensive Income (Loss)

The Company is required to report all components of comprehensive income (loss), including net income (loss), in the accompanying consolidated financial statements in the period in which they are recognized. Comprehensive income (loss) is defined as the change in equity during a period from transactions and other events and circumstances from non-owner sources, including unrealized gains and losses on investments and foreign currency translation adjustments. Net loss and comprehensive loss were the same for all periods presented.

Revenue Recognition

Product and License Revenue

The Company records revenue in accordance with ASC 606, *Revenue from Contracts with Customers*, whereby revenue is recognized when a customer obtains control of promised goods or services in an amount that reflects the consideration expected to be received in exchange for those goods or services. A five-step model is used to achieve the core principle: (1) identify the customer contract, (2) identify the contract's performance obligations, (3) determine the transaction price, (4) allocate the transaction price to the performance obligations and (5) recognize revenue when or as a performance obligation is satisfied. The Company applies the five-step model to contracts when it is probable that the entity will collect the consideration it is entitled to in exchange for the goods or services it transfers to the customer. Shipping charges billed to customers are included in product revenue and the related shipping costs are included in cost of product revenue. The Company applies the revenue recognition standard, including the use of any practical expedients, consistently to contracts with similar characteristics and in similar circumstances (See Note 6).

Grant Awards

In March 2017, the National Science Foundation ("NSF"), a government agency, awarded the Company a research and development grant to develop a novel wound dressing for infection control and tissue regeneration. The Company has concluded this government grant is not within the scope of ASC 606, as government entities generally do not meet the definition of a "customer" as defined by ASC 606. Payments received under the grant are considered conditional, non-exchange contributions under the scope of ASC 958-605, *Not-for-Profit Entities – Revenue Recognition*, and are recorded as grant revenue in the period in which such conditions are satisfied. In reaching the determination that such payments should be recorded as revenue, management considered a number of factors, including whether the Company is a principal under the arrangement, and whether the arrangement is significant to, and part of, the Company's ongoing operations.

In September 2020, the Company was approved for a grant award from the U.S. Department of Defense ("DoD") in the amount of approximately $2.0 million to partially fund the Company's planned Phase 1/2 clinical trial of HST-003 for regeneration of cartilage in the knee. Under the terms of the award, the DoD will reimburse the Company for certain allowable costs. The period of performance for the grant award substantially expires in September 2025 and is subject to annual and quarterly reporting requirements. As the DoD grant is a cost-type (reimbursement) grant, the Company must incur program expenses in accordance with the Statement of Work and approved budget in order to be reimbursed by the DoD. The Company will recognize funding received from the grant award as a reduction of research and development expenses in the period in which qualifying expenses have been incurred, as the Company is reasonably assured that the expenses will be reimbursed and the funding is collectible. For the year ended December 31, 2020, qualifying expenses totaling $0.1 million have been incurred with a corresponding reduction of research and development expenses related to the award and no amounts have been reimbursed by the DoD under the terms of the award.

Professional Services *Revenue*

The Company recognizes revenue for professional services which are based upon negotiated rates with the counterparty. Professional services fees are recognized as revenue over time when the underlying services are performed, in accordance with ASC 606, and none of the revenue recognized to date is refundable.

Cost of Product Revenue

Cost of product revenue represents direct and indirect costs incurred to bring the product to saleable condition.

Cost of Professional Services Revenue

Cost of professional services revenue represents the Company's costs for full-time employee equivalents and actual out-of-pocket costs.

Research and Development Expenses

All research and development costs are charged to expense as incurred. Research and development expenses primarily include (i) payroll and related costs associated with research and development performed, (ii) costs related to clinical and preclinical testing of the Company's technologies under development, and (iii) other research and development costs including allocations of facility costs.

Acquired In-Process Research and Development Expense

The Company has acquired and may continue to acquire the rights to drug candidates in various stages of development. The up-front payments to acquire a drug candidate are immediately expensed as acquired in-process research and development, provided that the drug candidate has not obtained regulatory approval for marketing and, absent obtaining such approval, have no alternative future use.

General and Administrative Expenses

General and administrative expenses represent personnel costs for employees involved in general corporate functions, including finance, accounting, legal and human resources, among others. Additional costs included in general and administrative expenses consist of professional fees for legal (including patent costs), audit and other consulting services, travel and entertainment, recruiting, allocated facility and general information technology costs, depreciation and amortization, and other general corporate overhead expenses.

Patent Costs

The Company expenses all costs as incurred in connection with patent applications (including direct application fees, and the legal and consulting expenses related to making such applications) and such costs are included in general and administrative expenses in the accompanying consolidated statements of operations.

Income Taxes

Income taxes are accounted for under the asset and liability method. Deferred income taxes are recorded for temporary differences between consolidated financial statement carrying amounts and the tax basis of assets and liabilities. Deferred tax assets and liabilities reflect the tax rates expected to be in effect for the years in which the differences are expected to reverse. No income tax expense or benefit was recorded for the years ended December 31, 2020 and 2019, due to the full valuation allowance on the Company's net deferred tax assets. A valuation allowance is provided if it is more likely than not that some or all the deferred tax assets will not be realized.

The Company also follows the provisions of accounting for uncertainty in income taxes which prescribes a model for the recognition and measurement of a tax position taken or expected to be taken in a tax return, and provides guidance on derecognition, classification, interest and penalties, disclosure and transition.

The Company's policy is to recognize interest or penalties related to income tax matters in income tax expense. Interest and penalties related to income tax matters were not material for the periods presented.

Net Loss Per Share

Basic net loss per share attributable to common stockholders is computed by dividing net loss attributable to common stockholders by the weighted-average common shares outstanding during the period, without consideration for potentially dilutive securities. Diluted net loss per share attributable to common stockholders is computed by dividing the net loss attributable to common stockholders by the weighted-average number of common shares and potentially dilutive securities outstanding for the period. For the years ended December 31, 2020 and 2019, diluted net loss per share attributable to common stockholders is equal to basic net loss per share attributable to common stockholders as common stock equivalent shares from stock options, warrants and convertible preferred stock were anti-dilutive.

The following table sets forth outstanding potentially dilutive shares that have been excluded from the calculation of diluted net loss per share attributable to common stockholders because of their anti-dilutive effect (in common stock equivalents):

	Years Ended December 31,	
	2020	2019
Common stock options issued and outstanding	1,708,278	1,362,173
Shares issuable upon conversion of convertible preferred stock	—	5,046,154
Warrants to purchase common stock	2,023,156	3,583
Total anti-dilutive shares	3,731,434	6,411,910

Common Stock Valuations

Prior to the Merger, the Company was required to periodically estimate the fair value of common stock with the assistance of an independent third-party valuation expert when issuing stock options and computing its estimated stock-based compensation expense. The assumptions underlying these valuations represented management's best estimates, which involved inherent uncertainties and the application of significant levels of management judgment.

In order to determine the fair value, the Company considered, among other things, contemporaneous valuations of the Company's common stock, the Company's business, financial condition and results of operations, including related industry trends affecting its operations; the likelihood of achieving various liquidity events; the lack of marketability of the Company's common stock; the market performance of comparable publicly traded companies; and U.S. and global economic and capital market conditions.

Stock-Based Compensation

Stock Options

The Company recognizes stock-based compensation expense over the requisite service period on a straight-line basis. Employee and director stock-based compensation for stock options is measured based on estimated fair value as of the grant date, using the Black-Scholes option pricing model, in calculating the fair value of option grants as of the grant date. The Company uses the following assumptions for estimating fair value of option grants:

Fair Value of Common Stock – The fair value of common stock underlying the option grant is determined based on observable market prices of the Company's common stock.

Expected Volatility – Volatility is a measure of the amount by which the Company's share price has historically fluctuated or is expected to fluctuate (i.e., expected volatility) during a period. Due to the lack of an adequate history of a public market for the trading of the Company's common stock and a lack of adequate company-specific historical and implied volatility data, volatility has been estimated and based on the historical volatility of a group of similar companies that are publicly traded. For these analyses, the Company has selected companies with comparable characteristics, including enterprise value, risk profiles, and position within the industry, and with historical share price information sufficient to meet the expected term of the stock-based awards.

Expected Term – This is the period of time during which the options are expected to remain unexercised. Options have a maximum contractual term of ten years. The Company estimates the expected term of stock options using the "simplified method", whereby the expected term equals the average of the vesting term and the original contractual term of the underlying option.

Risk-Free Interest Rate – This is the observed yield on zero-coupon U.S. Treasury securities, as of the day each option is granted, with a term that most closely resembles the expected term of the option.

Expected Forfeiture Rate – Forfeitures are recognized as they occur.

Performance-Based Options

Stock-based compensation expense for performance-based options is recognized based on amortizing the fair market value as of the grant date over the periods during which the achievement of the performance is probable. Performance-based options require certain performance conditions to be achieved in order for these options to vest. These options vest on the date of achievement of the performance condition.

Market-Based Options

Stock-based compensation expense for market-based options is recognized on a straight-line basis over the derived service period, regardless of whether the market condition is satisfied. Market-based options subject to market-based performance targets require achievement of the performance target in order for these options to vest. The Company estimates the fair value of market-based options as of the grant date and expected term using a Monte Carlo simulation that incorporates option-pricing inputs covering the period from the grant date through the end of the derived service period.

Recently Issued Accounting Pronouncements

In December 2019, the FASB issued ASU No. 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes* ("ASU 2019-12"). ASU 2019-12 simplifies the accounting for income taxes by removing certain exceptions to the general principles in Topic 740. ASU 2019-12 also improves the consistent application, and the simplification, of other areas of Topic 740 by clarifying and amending existing guidance. ASU 2019-12 is effective for fiscal years beginning after December 15, 2020, and interim periods within those fiscal years, with early adoption permitted. The Company is currently evaluating the potential impact that this standard may have on its consolidated financial statements and related disclosures.

Recently Adopted Accounting Pronouncements

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments Credit Losses (Topic 326): Measurements of Credit Losses on Financial Instruments* ("ASU 2016-13"), which changes the impairment model for most financial assets and certain other instruments. For trade receivables and other instruments, entities will be required to use a new forward-looking expected loss model that generally will result in the earlier recognition of allowances for losses. For available-for-sale debt securities with unrealized losses, the losses will be recognized as allowances rather than as reductions in the amortized cost of the securities. ASU 2016-13 is effective for fiscal years beginning after December 15, 2019, and interim periods within those periods, with early adoption permitted. The Company adopted ASU 2016-13 on January 1, 2020. The adoption of this standard did not have a material impact on the Company's consolidated financial statements or related disclosures.

In August 2018, the FASB issued ASU No. 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement* ("ASU 2018-13"). ASU 2018-13 removes the valuation processes for Level 3 fair value measurements and adds the disclosure for the range and weighted-average of significant unobservable inputs used to develop Level 3 fair value measurements. ASU 2018-13 is effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years, with early adoption permitted. The Company adopted ASU 2018-13 on January 1, 2020. The adoption of this standard did not have an impact on the Company's consolidated financial statements or related disclosures.

3. Inventories

Inventories consisted of the following components (in thousands):

	December 31,	
	2020	2019
Raw materials	$ 61	$ 106
Finished goods	239	—
Inventories	$ 300	$ 106

During each of the years ended December 31, 2020 and 2019, the Company recorded a write-off of inventory totaling $0.2 million. This amount was recognized as a component of cost of product revenue in the accompanying consolidated statements of operations.

4. Property and Equipment

Property and equipment consisted of the following (in thousands):

	December 31,	
	2020	2019
Leasehold improvements	$ 845	$ 845
Lab and manufacturing equipment	1,235	1,231
Office furniture and equipment	157	157
Total	2,237	2,233
Less: accumulated depreciation and amortization	(1,966)	(1,913)
Property and equipment, net	$ 271	$ 320

Depreciation and amortization expense were approximately $0.1 million for the years ended December 31, 2020 and 2019, respectively.

5. Balance Sheet Details

Prepaid and other current assets consist of the following (in thousands):

	December 31,	
	2020	2019
Insurance	$ 671	$ —
Security deposit	77	—
Prepaid rent	74	—
Clinical study related expenses	42	127
Other	319	40
Total	$ 1,183	$ 167

Other assets consist of the following (in thousands):

	December 31, 2020	December 31, 2019
Insurance	$ 959	$ —
Deferred offering costs	708	—
Security deposit	250	—
Other	14	69
Total	$ 1,931	$ 69

Accrued liabilities consist of the following (in thousands):

	December 31, 2020	December 31, 2019
Current portion of finance lease liabilities	$ 8	$ 6
Accrued compensation	639	182
Clinical study related expenses	226	22
Legal fees	52	185
Forward purchase contract	290	—
Offering costs	602	—
Other	63	51
Total	$ 1,880	$ 446

Other liabilities consist of the following (in thousands):

	December 31, 2020	December 31, 2019
Noncurrent portion of finance lease liabilities	$ 22	$ 31
Forward purchase contract	—	290
Total	$ 22	$ 321

6. Revenue

The following is a summary description of the material revenue arrangements, including arrangements that generated revenues during the years ended December 31, 2020 and 2019.

Edge Systems License and Supply Agreement

In 2014, the Company entered into a license and supply agreement (the "Edge Agreement"), amended May 17, 2018, with Edge Systems LLC ("Edge"), which was terminated in October 2019, to incorporate Histogen's CCM skin care ingredient into Edge's cosmetic products. The quantities to be delivered by the Company to Edge under the agreement were variable and the price per unit of CCM supplied to Edge was fixed with no variable consideration. Product returns to date have not been significant and the Company has not considered it necessary to record a reserve for product returns. The Company's product revenues were recognized at a point in time when the underlying product was delivered to the customer which was when the customer obtained control of the product. Product revenue under this arrangement was $0 and $0.9 million for the years ended December 31, 2020 and 2019, respectively.

Allergan License Agreements

2017 Allergan Amendment

In 2017, the Company entered into a series of agreements (collectively, the "2017 Allergan Agreement"), which ultimately transferred Suneva Medical, Inc.'s license and supply rights of Histogen's CCM skin care ingredient in the medical aesthetics market to Allergan Sales LLC ("Allergan") and granted Allergan an exclusive, royalty-free,

perpetual, irrevocable, non-terminable and transferable license, including the right to sublicense to third parties, to use the Company's CCM skin care ingredient in the medical aesthetics market. The 2017 Allergan Agreement also obligated the Company to deliver CCM to Allergan (the "Supply of CCM to Allergan") in the future as well as share with Allergan any potential future improvements to the Company's CCM skin care ingredients identified through the Company's research and development efforts ("Potential Future Improvements"). In consideration for the execution of the agreements, Histogen received a cash payment of $11.0 million and a potential additional payment of $5.5 million if Allergan's net sales of products containing the Company's CCM skin care ingredient exceeds $60.0 million in any calendar year through December 31, 2027.

2019 Allergan Amendment

In March 2019, Histogen entered into a separate agreement with Allergan (the "2019 Allergan Amendment") to amend the 2017 Allergan Agreement in exchange for a one-time payment of $7.5 million to the Company. The agreement broadened Allergan's license rights, expanding Allergan's access to certain sales channels where its products incorporating the CCM ingredient can be sold. Specifically, the license was broadened to provide Allergan the exclusive right to sell through the "Amazon Professional" website, or any website or digital platform owned or licensed by Allergan or under the Allergan brand name, and non-exclusive rights to sell on other websites and through brick-and-mortar medical spas and wellness centers (excluding websites and brick-and-mortar stores of luxury brands).

The Company evaluated the 2019 Allergan Amendment under ASC 606 and concluded that Allergan continues to be a customer and that the expanded license is distinct from the 2017 Allergan Agreement. The Company determined the expanded license under the 2019 Allergan Amendment to be functional intellectual property as Allergan has the right to utilize the Company's CCM skin care ingredient, and that ingredient is functional to Allergan at the time the Company transferred the expanded license.

The standalone selling price of the expanded license was not readily observable since the Company has not yet established a price for this expanded license and the expanded license has not been sold on a standalone basis to any customer. The Company accounted for the 2019 Allergan Amendment as a modification to the 2017 Allergan Agreement. The contract modification was accounted for as if the 2017 Allergan Agreement had been terminated and the new contract included the expanded license as well as the remaining performance obligations that arose from the 2017 Allergan Agreement related to the Supply of CCM to Allergan and Potential Future Improvements.

The total transaction price for the new contract included the $7.5 million from the 2019 Allergan Amendment as well as the amounts deferred as of the 2019 Allergan Amendment execution date for each the Supply of CCM to Allergan and Potential Future Improvements.

The standalone selling price for the Supply of CCM to Allergan was determined based on comparable sales transactions. The standalone selling price of the Potential Future Improvements was estimated at the fully burdened rate of research and development employees cost plus a commercially reasonable markup. The amount of the total transaction price allocated to the expanded license was determined using the residual approach, as a result of not having a standalone selling price for the expanded license; that is, the total transaction price less the standalone selling prices of the Supply of CCM to Allergan and Potential Future Improvements.

Revenue related to the Supply of CCM to Allergan has been deferred and recognized at the point in time in which deliveries are completed while revenue related to the Potential Future Improvements has been deferred and amortized ratably over the remaining 9-year life of the patent. The Supply of CCM to Allergan under the 2019 Allergan Amendment was entirely fulfilled during the year ended December 31, 2019, resulting in recognized revenue of $0 and $2.6 million ($1.5 million of which was previously deferred) during the years ended December 31, 2020 and 2019, respectively. The $7.5 million residual amount of the total transaction price allocated to the expanded license was recognized as license revenue upon transfer of the license to Allergan in March 2019.

2020 Allergan Amendment

In January 2020, the Company further amended the 2019 Allergan Amendment in exchange for a one-time payment of $1.0 million to the Company (the "2020 Allergan Amendment"). The 2020 Allergan Amendment further broadened Allergan's exclusive and non-exclusive license rights to include products used for or in connection with microdermabrasion. In addition, the Company agreed to provide Allergan with an additional 200 kilograms of CCM (the "Additional Supply of CCM to Allergan").

The Company evaluated the 2020 Allergan Amendment under ASC 606 and concluded that Allergan continues to be a customer and that the expanded license is distinct from the 2019 Allergan Amendment. The Company determined the expanded license under the 2020 Allergan Amendment to be functional intellectual property as Allergan has the right to utilize the Company's CCM skin care ingredient, and that ingredient is functional to Allergan at the time the Company transferred the expanded license.

The standalone selling price of the expanded license was not readily observable since the Company has not yet established a price for this expanded license and the expanded license has not been sold on a standalone basis to any customer. The Company accounted for the 2020 Allergan Amendment as a modification to the 2019 Allergan Amendment (which had modified the 2017 Allergan Agreement, as noted above). The contract modification was accounted for as if the 2019 Allergan Amendment had been terminated and the new contract included the expanded license and Additional Supply of CCM to Allergan, as well as the remaining performance obligation related to Potential Future Improvements.

The total transaction price for the new contract included the $1.0 million from the 2020 Allergan Amendment, the future payment for the Additional Supply of CCM to Allergan, as well as the amounts deferred as of the 2020 Allergan Amendment execution date for Potential Future Improvements.

The standalone selling price for the Additional Supply of CCM to Allergan was determined using the observable inputs of historical comparable sales transactions, including the margin from such sales. The Company also considered its reduced expected cost of satisfying this performance obligation based on the current efficiencies within its CCM manufacturing processes. Due to significant efficiencies in the Company's CCM manufacturing processes, the forecasted cost of CCM production has decreased, while the applied margin was determined by comparison to similar sales transactions in prior years. The standalone selling price of the Potential Future Improvements was estimated at the fully burdened rate of research and development employees cost plus a commercially reasonable markup. The amount of the total transaction price allocated to the expanded license was determined using the residual approach, as a result of not having a standalone selling price for the expanded license; that is, the total transaction price less the standalone selling prices of the Additional Supply of CCM to Allergan and Potential Future Improvements.

Revenue related to the Additional Supply of CCM to Allergan has been deferred and will be recognized at the point in time in which deliveries are completed. Revenue related to the Additional Supply of CCM to Allergan was $0.8 million ($0.1 million of which was previously deferred), during the year ended December 31, 2020. Revenue related to the Potential Future Improvements has been deferred and amortized ratably over the remaining 9-year life of the patent, for which $19,000 of previously deferred revenue was recognized in revenue during each of the years ended December 31, 2020 and 2019. The $0.9 million residual amount of the total transaction price allocated to the expanded license was recognized as license revenue upon transfer of the license to Allergan in January 2020.

Remaining Performance Obligations and Deferred Revenue

The remaining performance obligations are the Company's obligations to (1) deliver Additional Supply of CCM to Allergan and (2) share with Allergan any Potential Future Improvements to CCM identified through the Company's research and development efforts. Deferred revenue recorded for the Additional Supply of CCM to Allergan was $28,000 and $0 as of December 31, 2020 and 2019, respectively, while deferred revenue recorded for the Potential Future Improvements was $0.1 million and $0.2 million as of December 31, 2020 and 2019, respectively. Deferred revenue is classified in current liabilities when the Company's obligations to supply CCM or provide research for Potential Future Improvements are expected to be satisfied within twelve months of the balance sheet date.

Grant Revenue

In March 2017, the National Science Foundation, a government agency, awarded the Company a research and development grant to develop a novel wound dressing for infection control and tissue regeneration. Grant revenue recognized was $0 and $0.2 million for the years ended December 31, 2020 and 2019, respectively.

Professional Services Revenue

The Company recognizes revenue for professional services which are based upon negotiated rates with the counterparty and are nonrefundable. Professional services fees are recognized as revenue over time as the underlying services are performed. Professional services revenue related to the Company's assistance in establishing Allergan's alternative manufacturing facility was $0.3 million and $0.4 million for the years ended December 31, 2020 and 2019, respectively.

Amerimmune Collaborative Development and Commercialization Agreement

In October 2020, the Company entered into a Collaborative Development and Commercialization Agreement (the "Amerimmune Agreement") with Amerimmune to jointly develop emricasan for the potential treatment of COVID-19. The FDA approved an investigation new drug application (IND) to initiate a Phase 1 study of emricasan in mild COVID-19 patients to assess safety and tolerability in 2020. Under the Amerimmune Agreement, Amerimmune, at its expense and in collaboration with the Company, shall use commercially reasonable efforts to lead the development activities for emricasan. Amerimmune is responsible for conducting clinical trials and the Company agreed to provide reasonable quantities of emricasan for such purpose. Each party shall retain ownership of their legacy intellectual property and responsibility for ongoing patent application prosecution and maintenance costs. In addition, the Company granted Amerimmune an exclusive option, subject to certain terms and conditions, to an exclusive license to develop and commercialize emricasan throughout the world during the term of the Amerimmune Agreement. After exercise of the option, Amerimmune, alone or in conjunction with one or more strategic partners, will use its commercially reasonable efforts to develop, manufacture and commercialize emricasan and the Company will share the profits equally with Amerimmune. No consideration will be transferred to the Company until profits, as defined in the Amerimmune Agreement, are generated by Amerimmune from developing or commercializing products.

The Company has identified multiple promises to deliver goods and services, which include at the inception of the agreement: (i) a license to technology and patents, information and know-how; (ii) supply of emricasan and (iii) collaboration, including the Company's participation in a Joint Development Committee and Joint Partnering Committee. At inception and through December 31, 2020, the Company has identified one performance obligation for all the deliverables under the Amerimmune Agreement since the delivered elements are either not capable of being distinct or are not distinct within the context of the contract. No upfront consideration was exchanged between the parties and any consideration received will be dependent on the successful execution of a qualifying strategic partnership, as defined, on the successful commercialization of emricasan, or upon a change in control of Amerimmune, as defined. Accordingly, the Company will recognize revenue upon the occurrence of one of these events.

7. Merger

The Merger, which closed on May 26, 2020, was accounted for as a reverse asset acquisition pursuant to *Topic 805, Clarifying the Definition of a Business*, as substantially all of the fair value of the assets acquired were concentrated in a group of similar non-financial assets, and the acquired assets did not have outputs or employees. As the assets had not yet received regulatory approval, the fair value attributable to these assets was recorded as acquired in-process research and development ("IPR&D") expenses in the Company's consolidated statements of operations for the year ended December 31, 2020.

The total purchase price paid in the Merger has been allocated to the net assets acquired and liabilities assumed based on their fair values as of the completion of the Merger. The following summarizes the purchase price paid in the Merger (in thousands, except share and per share amounts):

Number of shares of the combined organization owned by the Company's pre-Merger stockholders		3,394,299
Multiplied by the fair value per share of Conatus common stock (1)	$	5.56
Fair value of consideration issued to effect the Merger	$	18,872
Transaction costs		1,817
Purchase price	$	20,689

(1) Based on the last reported sale price of the Company's common stock on the Nasdaq Capital Market on May 26, 2020, the closing date of the Merger, and gives effect to the Reverse Stock Split.

The allocation of the purchase price is as follows (in thousands):

Cash acquired	$	12,835
Net assets acquired		710
Acquired IPR&D (2)		7,144
Purchase price	$	20,689

(2) Represents the research and development projects of Conatus which were in-process, but not yet completed. This consists primarily of Conatus' emricasan product candidate. Current accounting standards require that the fair value of IPR&D projects acquired in an asset acquisition with no alternative future use be allocated a portion of the consideration transferred and charged to expense on the acquisition date. The acquired assets did not have outputs or employees.

8. PUR Settlement

In April 2019, Private Histogen entered into a Settlement, Release and Termination Agreement ("PUR Settlement") with PUR Biologics, LLC and its members which terminated the License, Supply and Operating Agreements between Private Histogen and PUR, eliminated Private Histogen's membership interest in PUR and returned all in-process research and development assets to Private Histogen (the "Development Assets"). The agreement also provided indemnifications and complete releases by and among the parties. The acquisition of the Development Assets was accounted for as an asset acquisition in accordance with ASC 805-50-50, *Acquisition of Assets Rather than a Business*.

As consideration for the reacquisition of the Development Assets, Private Histogen compensated PUR with both equity and cash components, including 167,323 shares of Series D convertible preferred stock with a fair value of $1.75 million and a potential cash payout of up to $6.25 million (the "Cap Amount"). Private Histogen paid PUR $0.5 million in upfront cash, forgave approximately $22,000 of accounts receivable owed by PUR to Private Histogen, and settled an outstanding payable of PUR of approximately $23,000 owed to a third-party. The Company is also obligated to make milestone and royalty payments, including (a) a $0.4 million payment upon the unconditional acceptance and approval of a New Drug Application or Pre-Market Approval Application by the US FDA related to the Development Assets, (b) a $0.4 million commercialization milestone upon reaching gross sales (by the Company or licensee) of the $0.5 million of products incorporating the Development Assets, and (c) a five percent (5%) royalty on net revenues collected by Histogen from commercial sales (by the Company or licensee) of products incorporating the Development Assets. The aforementioned cash payments, along with any future milestone and royalty payments, are all applied against the Cap Amount. In accordance with ASC 450, *Contingencies*, amounts for the milestone and royalty payments will be recognized when it is probable that the related contingent liability has been incurred and the amount owed is reasonably estimated. No amounts for the milestone and royalty payments have been recorded during the years ended December 31, 2020 and 2019.

For the acquisition of the Development Assets, Private Histogen recognized approximately $2.3 million of in-process research and development expense (including the cash payments of $0.5 million and Series D preferred stock issuance of $1.75 million) on the accompanying consolidated statement of operations for the year ended December 31, 2019.

9. Debt

Paycheck Protection Program Loan

In April 2020, Private Histogen applied for and received loan proceeds in the amount of $0.5 million (the "PPP Loan") under the PPP as government aid for payroll, rent and utilities. The application for these funds required the Company to, in good faith, certify that the current economic uncertainty made the loan request necessary to support the ongoing operations of the Company. This certification further required the Company to take into account its current business activity and its ability to access other sources of liquidity sufficient to support ongoing operations in a manner that is not significantly detrimental to the business. The certification made by the Company did not contain any objective criteria and is subject to interpretation. Based in part on the Company's assessment of other sources of liquidity, the uncertainty associated with future revenues created by the COVID-19 pandemic and related governmental responses, and the going concern uncertainty reflected in the Company's consolidated financial statements as of December 31, 2019, the Company believed in good faith that it met the eligibility requirements for the PPP Loan. If, despite the good-faith belief that given the Company's circumstances all eligibility requirements for the PPP Loan were satisfied, it is later determined that the Company had violated any applicable laws or regulations or it is otherwise determined that the Company was ineligible to receive the PPP Loan, it may be required to repay the PPP Loan in its entirety and/or be subject to additional penalties and potential liabilities.

On June 5, 2020, the Paycheck Protection Program Flexibility Act was signed into law, extending the PPP Loan forgiveness period from eight weeks to 24 weeks after loan origination, extending the initial deferral period of principal and interest payments from six months to ten months after the loan forgiveness period, reducing the required amount of payroll expenditures from 75% to 60%, removing the prior ban on borrowers taking advantage of payroll tax deferral after loan forgiveness and allowing for the amendment of the maturity date on existing loans from two years to five years.

Financed Insurance Premiums

In June 2020, the Company entered into an agreement to finance $0.9 million of its annual insurance premiums. The agreement provides for monthly repayments of principal and interest accrued at 3.6% per annum, commencing in June 2020. At December 31, 2020, the remaining balance was $0.2 million.

10. Stockholders' Equity (Deficit)

Common Stock

Sales of Common Stock

November 2020 Offering

In November 2020, the Company completed a registered direct offering (the "November 2020 Offering") of an aggregate of 2,522,784 shares of common stock, together with accompanying warrants to purchase up to an aggregate of 1,892,088 shares of common stock, at an offering price of $1.78375 per share and accompanying warrant. The common stock was sold in the offering with a warrant that permits the investor to purchase 75% of the number of shares of the Company's common stock purchased by the investor. The warrants have an exercise price of $1.70 per share, are immediately exercisable, and expire five and a half (5.5) years following the date of issuance. Placement agent warrants were issued to purchase up to 126,139 shares of common stock, are immediately exercisable for an exercise price of $2.2297, and expire on November 11, 2025. The Company received gross proceeds of $4.5 million and incurred placement agent's fees and other offering expenses of approximately $0.9 million.

The placement agent warrants, which are recorded as a component of stockholders' equity, were valued at an aggregate $0.1 million using the Black-Scholes option pricing model based on the following assumptions: expected volatility of 79.6%, risk-free interest rate of 0.41%, expected dividend yield of 0% and an expected term of 5.0 years.

At December 31, 2020, no warrants have been exercised.

January 2021 Offering

In December, 2020, the Company entered into a Securities Purchase Agreement with certain investors for the sale of 11,600,000 shares of common stock, prefunded warrants to purchase up to 2,400,000 shares of its common stock and warrants to purchase up to an aggregate of 14,000,000 shares of its common stock. On January 5, 2021, the Company completed this public offering (the "January 2021 Offering") and received gross proceeds totaling $14.0 million and incurred placement agent's fees and other offering expenses of approximately $2.4 million (see Note 15).

At Market Issuance Sales Agreement with Stifel, Nicolaus & Company, Incorporated

Prior to the Merger, Conatus entered into an At Market Issuance Sales Agreement (the "Sales Agreement") with Stifel, Nicolaus & Company, Incorporated ("Stifel"), pursuant to which the Conatus could sell from time to time, at its option, up to an aggregate of $35.0 million of shares of its common stock through Stifel, as sales agent. In July 2020, the Company terminated the Sales Agreement with Stifel with no shares having been issued pursuant to the Sales Agreement.

Common Stock Purchase Agreement with Lincoln Park

In July 2020, the Company entered into a common stock purchase agreement (the "2020 Purchase Agreement") with Lincoln Park which provides that, upon the terms and subject to the conditions and limitations in the 2020 Purchase Agreement, Lincoln Park is committed to purchase up to an aggregate of $10.0 million of shares of the Company's common stock at the Company's request from time to time during a 24 month period that began in July 2020 and at prices based on the market price of the Company's common stock at the time of each sale. Upon execution of the 2020 Purchase Agreement, the Company sold 328,516 shares of common stock at $3.04399 per share to Lincoln Park for gross proceeds of $1.0 million. During the year ended December 31, 2020, the Company sold an additional 300,000 shares of common stock to Lincoln Park for gross proceeds of approximately $0.5 million and as of December 31, 2020, approximately $8.5 million of common stock remains available for sale under the 2020 Purchase Agreement, subject to limitations on the amount of securities the Company may sell under its effective registration statement on Form S-3 within any 12 month period and subject to certain conditions included in the 2020 Purchase Agreement. In addition, in consideration for entering into the 2020 Purchase Agreement and concurrently with the execution of the 2020 Purchase Agreement, the Company issued 66,964 shares of its common stock to Lincoln Park.

Convertible Preferred Stock

In connection with the Merger, all of the outstanding shares of Private Histogen's convertible preferred stock were converted into 5,046,154 shares of the Company's common stock. As of December 31, 2019, Private Histogen's convertible preferred stock was classified as temporary equity on the accompanying consolidated balance sheets in accordance with authoritative guidance for the classification and measurement of potentially redeemable securities whose redemption is based upon certain change in control events outside of Private Histogen's control, including liquidation, sale or transfer of control of Private Histogen. Private Histogen did not adjust the carrying values of the convertible preferred stock to the liquidation preferences of such shares because the occurrence of any such change of control event was not deemed probable.

The authorized, issued and outstanding shares of convertible preferred stock as of December 31, 2019 consisted of the following:

	Shared Authorized	Shares Issued and Outstanding	Liquidation Preference	Carrying Value
			(in thousands)	
Series A	10,000,000	1,360,547	$ 9,486	$ 9,486
Series B	35,000,000	1,144,567	7,981	9,356
Series C	8,000,000	1,075,637	7,500	5,550
Series D	20,000,000	1,465,403	15,327	14,678
Total	73,000,000	5,046,154	$ 40,294	$ 39,070

The holders of the convertible preferred stock were entitled to customary preferences, such as dividend and liquidation priority, in relationship to the common stockholders, and certain anti-dilution protection.

Common Stock Warrants

In 2016, Private Histogen issued warrants to purchase common stock as consideration for settlement of prior liability claims. The warrants for the purchase of up to 3,583 common shares at an exercise price of $23.08 a share expire on July 31, 2021. The warrants remain outstanding and unexercised for the periods presented.

In addition, at December 31, 2020, warrants to purchase 1,346 shares of common stock with an exercise price of $74.30 a share remain outstanding that were issued by Conatus in connection with obtaining financing in 2016. These warrants expire on July 3, 2023.

As discussed above, in November 2020, in connection with the November 2020 offering, the Company issued warrants to: (i) investors for the purchase of 1,892,088 shares of common stock. Subject to certain ownership limitations, the warrants are immediately exercisable at an exercise price equal to $1.70 per share and expire on May 16, 2026, and (ii) the placement agent for the purchase of 126,139 shares of common stock, which were immediately exercisable at an exercise price of $2.2297 per share and expire on September 11, 2025. As of December 31, 2020, no such warrants have been exercised.

Stock-Based Compensation

Equity Incentive Plans

On December 18, 2017, Private Histogen established the Histogen Inc. 2017 Stock Plan (the “2017 Plan”). Under the 2017 Plan, Private Histogen was authorized to issue a maximum aggregate of 837,208 shares of common stock with adjustments for unissued or forfeited shares under the predecessor plan (the Histogen Inc. 2007 Stock Plan). In April 2019, Private Histogen amended the 2017 Plan, which increased the number of common stock available for grants by 326,711 shares. The 2017 Plan permitted the issuance of incentive stock options (“ISOs”), non-statutory stock options (“NSOs”) and Stock Purchase Rights. NSOs could be granted to employees, directors or consultants, while ISOs could be granted only to employees. Options granted vest over a maximum period of four years and expire ten years from the date of grant. In connection with the closing of the Merger, no further awards will be made under the 2017 Plan.

In May 2020, in connection with the closing of the Merger, the Company’s stockholders approved the Company’s 2020 Incentive Award Plan (the “2020 Plan”). The maximum number of shares of the Company’s common stock available for issuance under the 2020 Plan equals the sum of (a) 850,000 shares; (b) any shares of common stock of the Company which are subject to awards under the Conatus 2013 Equity Incentive Plan (the “Conatus 2013 Plan”) as of the effective date of the 2020 Plan which become available for issuance under the 2020 Plan after such date in accordance with its terms; and (c) an annual increase on the first day of each calendar year beginning with the January 1 of the calendar year following the effectiveness of the 2020 Plan and ending with the last January 1 during the initial ten year term of the 2020 Plan, equal to the lesser of (i) five percent of the number of shares of the Company’s common stock outstanding (on an as-converted basis) on the final day of the immediately preceding calendar year, and (ii) such lesser number of shares of the Company’s common stock as determined by the Company’s board of directors.

Additionally, in connection with the closing of the Merger, no further awards will be made under the Conatus 2013 Plan. As of December 31, 2020, 116,091 fully vested options remain outstanding under the Conatus 2013 Plan with a weighted average exercise price of $37.59 per share.

The following summarizes activity related to the Company's stock options under the 2017 Plan and the 2020 Plan for the year ended December 31, 2020:

	Options Outstanding	Weighted-average Exercise Price	Weighted-average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding at December 31, 2019	1,362,173	$ 3.16	6.3	$ 2,926
Granted	336,859	2.83		
Exercised	(28,684)	1.40		
Cancelled / Forfeited	(78,161)	4.34		
Outstanding at December 31, 2020	1,592,187	3.06	6.2	$ 108
Vested and exercisable at December 31, 2020	933,471	$ 2.41	4.3	$ 108

Chief Executive Officer Stock Options

On January 24, 2019, the Company issued 485,178 stock options to its newly appointed Chief Executive Officer. In accordance with the original award agreement, 40% of the options would vest immediately upon an initial public offering or 45 days following a change in control, as defined in the award agreement, while the remaining 60% are subject to vesting, of which 25% vest on the first anniversary of the grant date and then ratably over the remaining 36 months.

On January 28, 2020, the award agreement was amended, which became effective upon the close of the Merger in May 2020, whereby the 40% of stock options ("Liquidity Option Shares") subject to vesting upon an initial public offering or 45 days following a change in control will now vest immediately upon meeting certain performance and market condition-based criteria. The vesting of the Liquidity Option Shares is divided into four separate tranches, each vesting 25% of the Liquidity Option Shares, upon: (1) the closing of the proposed merger with Conatus; (2) the date that the market capitalization of the Company exceeds $200.0 million; (3) the date that the market capitalization of the Company exceeds $275.0 million, and; (4) the date that the market capitalization of the Company exceeds $300.0 million. Each vesting tranche represents a unique derived service period and therefore stock-based compensation expense for each vesting tranche is recognized on a straight-line basis over its respective derived service period. Additionally, in the event that the Chief Executive Officer's employment with the Company is terminated without cause or he resigns for good reason, an additional portion of the stock options award will vest equal to the number of such options which would have vested in the 12 months following the date of such termination.

On May 26, 2020, in connection with the closing of the Merger, 48,517 options of the Liquidity Option Shares became fully vested as the performance condition was achieved. For the year ended December 31, 2020, the Company recognized $0.2 million in total compensation expense related to the performance and market-based options, all of which is recorded in general and administrative expense in the accompanying consolidated statements of operations. As of December 31, 2020, there was $0.4 million of total unrecognized compensation cost related to unvested market condition-based options.

Valuation of Stock Option Awards

The following weighted-average assumptions were used to calculate the fair value of awards granted to employees, non-employees and directors:

	Years Ended December 31,	
	2020	2019
Expected volatility	76.6%	70.0%
Risk-free interest rate	0.5%	2.5%
Expected option life (in years)	6.25	6.25
Expected dividend yield	0.0%	0.0%

The compensation cost that has been included in the Company's consolidated statements of operations for all stock-based compensation arrangements is detailed as follows (in thousands):

	Years Ended December 31,	
	2020	2019
Cost of product revenues	$ 20	$ 38
Research and development	10	34
General and administrative	588	366
Total	$ 618	$ 438

As of December 31, 2020, total unrecognized compensation cost related to unvested options, including unvested market condition-based options, was approximately $1.5 million which is expected to be recognized over a weighted-average period of 3.7 years.

Common Stock Reserved for Future Issuance

Common stock reserved for future issuance is as follows:

	December 31,	
	2020	2019
Common stock warrants	2,023,156	3,583
Convertible preferred stock (if converted)	—	5,046,154
Common stock options issued and outstanding	1,708,278	1,362,173
Common stock available for issuance under stock plans	513,141	486,396
	4,244,575	6,898,306

11. Commitments and Contingencies

Leases

In January 2020, Private Histogen entered into a long-term operating lease with San Diego Sycamore, LLC ("Sycamore") for its headquarters that includes office and laboratory space. The lease commenced on March 1, 2020 and expires on August 31, 2031, with no options to renew or extend. The lease was accounted for as a modification of Private Histogen's existing lease with Sycamore as the lease agreement did not grant Private Histogen an additional right-of-use asset.

The terms of the lease agreement include six months of rent abatement at lease commencement and a tenant improvement allowance of up to $2.2 million. The tenant improvements are required to be permanently affixed to the leased office and laboratory space and do not constitute leasehold improvements of the Company. During the construction period of the tenant improvements, the lease agreement requires the Company to relocate its operations to a similar Sycamore property whereby monthly rent is substantially reduced for the duration of the construction period. The lease is subject to additional variable charges for common area maintenance, insurance, taxes and other operating costs. At lease commencement, the Company recognized a right-of-use asset and operating lease liability

totaling approximately $4.5 million. The Company used a discount rate based on its estimated incremental borrowing rate to determine the right-of-use asset and operating lease liability amounts to be recognized. The Company determined its incremental borrowing rate based on the term and lease payments of the new operating lease and what it would normally pay to borrow, on a collateralized basis, over a similar term for an amount equal to the lease payments. Operating lease expense is recognized on a straight-line basis over the lease term. The terms of the lease required the Company to provide the landlord a security deposit of $0.3 million as collateral for a letter of credit issued to be held throughout the lease term. This security deposit is included in other assets in the accompanying consolidated balance sheets.

In connection with the closing of the Merger, the Company assumed Conatus' noncancelable operating lease agreement, as amended, for certain office space with a lease term that expired on September 30, 2020. Upon close of the Merger, the Company recognized a right-of-use asset and operating lease liability in the amount of $0.1 million and $0.2 million, respectively, related to the Conatus lease. Prior to the Merger, Conatus entered into a sub-lease agreement with a third-party to lease the whole office space for the remainder of the lease term. Sublease income was not material for all periods presented.

The Company leases certain office equipment that is classified as a finance lease. As of December 31, 2020, the weighted-average remaining term of the Company's operating lease and finance lease was approximately 11 years and three years, respectively.

The Company recognizes right-of-use assets and lease liabilities at the lease commencement date based on the present value of future minimum lease payments over the lease term. The discount rate used to determine the present value of the lease payments is the rate implicit in the lease unless that rate cannot be readily determined, in which case, the Company utilizes its incremental borrowing rate in determining the present value of the future minimum lease payments. At the inception dates of the leases, the weighted-average discount rate for the Company's operating and finance lease was 12.2% and 10.0%, respectively.

The Company does not record leases with an initial term of 12 months or less on the consolidated balance sheets. Expense for these short-term leases is recognized on a straight-line basis over the lease term. The Company has elected the practical expedient to combine lease and non-lease components into a single component for all classes of underlying assets.

The Company's lease assets and lease liabilities were as follows (in thousands):

	Balance Sheet Classification	December 31, 2020	2019
Assets			
Operating lease	Right-of-use asset	$ 4,411	$ 95
Finance lease	Property and equipment, net	28	37
Total lease assets		$ 4,439	$ 132
Liabilities			
Current			
Operating lease liability	Current portion of lease liability	$ 28	$ 108
Finance lease liability	Accrued liabilities	8	6
Total current liabilities		36	114
Noncurrent			
Operating lease liability	Noncurrent portion of lease liability	4,806	—
Finance lease liability	Other liabilities	22	31
Total noncurrent liabilities		4,828	31
Total lease liabilities		$ 4,864	$ 145

The components of lease expense were as follows (in thousands):

	Statement of Operations Classification	Years Ended December 31, 2020	2019
Operating lease cost:			
Cost of product revenue		$ 106	$ 165
Research and development		158	245
General and administrative		597	160
Total operating lease cost		$ 861	$ 570
Finance lease cost:			
Amortization of right-of-use assets	Property and equipment, net	$ 7	$ 25
Interest on lease liabilities	Interest expense	3	5
Total finance lease cost		$ 10	$ 30

Supplemental cash flow information related to leases were as follows (in thousands):

	Years Ended December 31, 2020	2019
Cash paid for amounts included in the measurement of lease liabilities		
Operating cash flows from operating lease	$ 299	$ 570
Operating cash flows from finance lease	3	5
Financing cash flows from finance lease	7	25
Right-of-use asset obtained in exchange for operating lease liability	$ 4,481	$ 619
Right-of-use asset obtained in exchange for new finance lease liability	$ —	$ 40

At December 31, 2020, future minimum payments of lease liabilities were as follows (in thousands):

	Operating Lease	Finance Lease
2021	$ 616	$ 10
2022	757	10
2023	780	10
2024	803	5
2025	827	—
Thereafter	5,184	—
Total minimum lease payments	8,967	35
Less: imputed interest	(4,133)	(5)
Total future minimum lease payments	4,834	30
Less: current obligations under leases	(28)	(8)
Noncurrent lease obligations	$ 4,806	$ 22

Litigation and Legal Matters

The Company is subject to claims and legal proceedings that arise in the ordinary course of business. Such matters are inherently uncertain, and there can be no guarantee that the outcome of any such matter will be decided favorably to the Company or that the resolution of any such matter will not have a material adverse effect upon the Company's consolidated financial statements. The Company does not believe that any of such pending claims and legal proceedings will have a material adverse effect on its consolidated financial statements.

12. Income Taxes

The reconciliation of income taxes computed using the statutory U.S. income tax rate and the provision is as follows (in thousands):

	Years Ended December 31, 2020	2019
Tax computed at federal statutory rate	$ (3,920)	$ (589)
State tax, net of federal tax benefits	(34)	(194)
Tax credits	43	(432)
Acquired intangible property	1,513	—
Valuation allowance increase	2,096	916
Other	302	299
Provision for income taxes	$ —	$ —

Significant components of the Company's net deferred tax assets are as follows (in thousands):

	Years Ended December 31,	
	2020	2019
Deferred tax assets:		
Tax loss carryforward	$ 13,519	$ 10,757
R&D credits and other tax credits	1,498	1,541
Stock-based compensation	82	60
Compensation	135	104
Deferred revenue	10	5
Lease liability	1,024	—
Capitalized research and development	2,074	610
Other	133	227
Total deferred tax assets	18,475	13,304
Less valuation allowance	(17,541)	(13,304)
Deferred tax assets, net	934	—
Deferred tax liability:		
Right-of-use assets	(934)	—
Net deferred tax assets	$ —	$ —

The Company records a valuation allowance against deferred tax assets to the extent that it is more likely than not that some portion, or all, the deferred tax assets will not be realized. Due to the substantial doubt related to the Company's ability to utilize its deferred tax assets, the Company recorded a valuation allowance against the deferred tax assets. The change in the valuation allowance is an increase of $4.2 million and $0.9 million for the years ended December 31, 2020 and 2019, respectively.

At December 31, 2020, the Company had federal and California net operating loss ("NOL") carryforwards of approximately $50.6 million and $40.1 million, respectively. Additionally, at December 31, 2020, Adaptive Biologix has federal and state net operating losses of $0.3 million each. The Company has federal net operating loss carryforwards of $18.3 million that are not subject to expiration. No California NOLs expired in 2020. At December 31, 2020, the Company had federal and California research and development (R&D) credit carryforwards of approximately $1.1 million and $1.2 million, respectively. The federal R&D tax credit carryforwards will begin to expire in 2027 unless previously utilized. The California R&D credit carryforwards will carry forward indefinitely.

Under Sections 382 and 383 of the Internal Revenue Code (IRC), substantial changes in the Company's ownership may limit the amount of NOL and research and development credit carryforwards that could be used annually in the future to offset taxable income. The tax benefits related to future utilization of federal and state NOL carryforwards, credit carryforwards, and other deferred tax assets may be limited or lost if cumulative changes in ownership exceeds 50% within any three-year period. The Company has not completed an IRC Section 382/383 analysis regarding the limitation of net operating loss and research and development credit carryforwards, and therefore, the ability of the Company to utilize its NOL and R&D credits is unknown.

Uncertain Tax Positions

The FASB ASC Topic 740, *Income Taxes*, addresses the determination of whether tax benefits claimed or expected to be claimed on a tax return should be recorded in the financial statements. Under ASC Topic 740-10, the Company may recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. For fiscal years through December 31, 2020, the Company generated research and development credits but has not conducted a study to document the qualified activities. This study may result in an adjustment to the Company's research and development tax credit carryforwards; therefore, based on the accumulation of research and development tax credits since the Company's inception and the Company's uncertainty around its ability to utilize those tax credits until a study is completed, the Company has reserved a portion of those credits as an uncertain tax position as of December 31,

2020. A full valuation allowance has been provided against the Company's research and development tax credit carryforwards and, if an adjustment were to be required, this adjustment would be offset by a corresponding reduction to the valuation allowance.

The following table summarizes the activity related to our unrecognized tax benefits (in thousands):

	Years Ended December 31,	
	2020	2019
Gross unrecognized tax benefits at the beginning of the year	$ 401	$ —
Additions from tax positions taken in the current year	37	—
Reductions for tax positions taken in the current year	—	(9)
Additions from tax positions taken in prior years	128	410
Reductions for tax positions from prior year	(5)	—
Gross unrecognized tax benefits at end of the year	$ 561	$ 401

Due to the existence of the valuation allowance, future changes in the Company's unrecognized tax benefits will not impact the Company's effective tax rate. The Company does not anticipate that there will be a substantial change in unrecognized tax benefits within the next twelve months.

The Company has not recognized any interest and penalties related to income taxes in the accompanying consolidated balance sheets or statements of operations. The Company is subject to taxation in the U.S. and state jurisdictions. The Company's income tax returns for all years beginning January 1, 2017 and subsequent are still open to audit by the taxing authorities.

CARES ACT

On March 27, 2020, the United States enacted the Coronavirus Aid, Relief and Economic Security Act (CARES Act). The Cares Act is an emergency economic stimulus package that includes spending and tax breaks to strengthen the United States economy and fund a nationwide effort to curtail the effect of COVID-19. While the CARES Act provides sweeping tax changes in response to the COVID-19 pandemic, some of the more- significant provisions which are expected to impact the Company's consolidated financial statements include removal of certain limitations on utilization of net operating losses, increasing the loss carryback period for certain losses to five years, and increasing the ability to deduct interest expense, as well as amending certain provisions of the previously enacted Tax Cuts and Jobs Act. Due to the loss position of the U.S. entities, many provisions of the CARES Act do not impact the Company and the CARES Act did not have an impact on the Company's income tax provision for the years ended December 31, 2020 and 2019.

13. Related Parties

Lordship

Lordship, with its predecessor entities along with its principal owner, Jonathan Jackson, have invested and been affiliated with Private Histogen since 2010. As of December 31, 2020 and 2019, Lordship controlled approximately 16% and 28% of the Company's outstanding voting shares, respectively, and currently holds two Board of Director seats.

In January 2012, Private Histogen entered into an Indemnification Agreement (the "Lordship Indemnification") with Lordship whereby Private Histogen granted Lordship special non-dilutive rights. Pursuant to the Indemnification Agreement, Private Histogen was obligated to issue to Lordship additional common stock based on payments or issuance of common stock the Company may make to Proteus Advisors, LLC ("Proteus"). Private Histogen had contracted with Proteus for various advisory services dating back to 2009, and settled the compensation for such services with Proteus in January 2016 through the immediate issuance of freestanding warrants to purchase 64,539 shares of Private Histogen's Series B convertible preferred stock and a one-time cash payment of $0.3 million upon Private Histogen receiving additional accumulated capital investments of $10.0 million, beginning after May 1, 2015.

In January 2019, Private Histogen issued 21,885 shares of common stock and 16,413 shares of Series B convertible preferred stock to Lordship, to settle its obligation under the Indemnification Agreement.

In November 2012, Private Histogen entered into a Strategic Relationship Success Fee Agreement with Lordship (the "Success Fee Agreement"). The Success Fee Agreement causes certain payments to be made from the Company to Lordship equal to 1% of certain product revenues and 10% of certain license and royalty revenues. The Success Fee Agreement also stipulates that if the Company engages in a merger or sale of all or substantially all (defined as 90% or more) of its assets or equity to a third party, then the Company has the option to terminate the agreement by paying Lordship the fair market value of future payments with the minimum payment being at least equal to the most recent annual payments Lordship has received. The Success Fee Agreement was amended in August 2016, but continues to carry the same rights to certain payments. Histogen recognized an expense to Lordship for the years ended December 31, 2020 and 2019 totaling $0.1 million and $0.9 million, respectively, all of which is included in general and administrative expenses on the accompanying consolidated statements of operations. As of December 31, 2020 and 2019, there was a balance of $14,000 and $16,000, respectively, paid to Lordship included in other assets on the accompanying consolidated balance sheets in connection with the deferral of revenue from the Allergan license transfer agreements.

Promissory Notes

In April 2020, the Company entered into two promissory notes (the "Notes"), each for $0.3 million, with two stockholders, one of which was a principal owner of the Company. The Notes carried a fixed return of $25,000, due upon maturity. All outstanding principal and interest were due upon the earlier of (1) June 13, 2020 or (ii) 15 days following the consummation of the Merger. In June 2020, the Notes, including principal and interest, was repaid.

Dr. Naughton

Dr. Naughton is the founder and as of the periods ended held voting shares of Histogen. Dr. Naughton had served as the Chief Executive Officer and Board Chairwoman of the Company from its inception until her resignation from both positions in April 2017. At her resignation date, Dr. Naughton transitioned to the title of Founder and Chief Scientific Officer.

In January 2016, Dr. Naughton advanced approximately $7,000 to AB as an operations bridge loan. The loan calls for interest to be accrued at 10% per annum but has not been formalized. In October 2019, the Company paid Dr. Naughton the outstanding principal and accrued interest balance due under the bridge loan of approximately $9,000.

Eileen Brandt

Eileen Brandt is the daughter of Dr. Naughton and held the position of Director of Corporate Communications with Histogen through June 2019.

In July 2019, Ms. Brandt resigned from her position and transitioned to a part-time consultant in a similar investor relations capacity. For the year ended December 31, 2019, Ms. Brandt was paid approximately $18,000.

Dr. Stephen Chang

Dr. Chang is a Board member and was acting Chief Executive Officer of the Company from April 2017 through January 2019. For the years ended December 31, 2020 and 2019, Dr. Chang was paid $15,000 and $0.1 million, respectively, for consulting services, all of which is recorded in general and administrative expenses on the accompanying consolidated statements of operations. As of December 31, 2020 and 2019, accrued payables to Dr. Chang were $0 and $15,000, respectively.

Dr. David Crean

Dr. David Crean, a Board member elected to the Company's Board of Directors in 2018, was engaged to support the Company as a consultant beginning in 2017. For the year ended December 31, 2019, Dr. Crean was paid approximately $20,000, all of which was accrued as of December 31, 2018. The consulting agreement with Dr. Crean was not renewed for 2019.

Anti-Cancer Inc.

Anti-Cancer Inc. ("Anti-Cancer") is a small early stockholder of the Company who leased space to AB during 2016. Additionally, services were provided to AB by the principal owner of Anti-Cancer. As of December 31, 2020 and 2019, outstanding amounts owed to Anti-Cancer were $22,000 and are included in the consolidated balance sheets.

14. Employee Benefit Plans

The Company sponsors a qualified 401(k) savings plan ("401k Plan") for all eligible employees. Participants may contribute between 1% and 100% of their eligible compensation, subject to IRS regulations. The 401k Plan provides that the Company can make discretionary contributions of 25% of the employees' salary deferrals up to a maximum of $2,500 per each employee. No employer contributions were made under the 401k Plan for the years ended December 31, 2020 and 2019.

15. Subsequent Events

Public Offering of Common Stock

On January 5, 2021, the Company completed the January 2021 Offering of an aggregate of 11,600,000 shares of common stock, prefunded warrants to purchase up to 2,400,000 shares of its common stock and warrants to purchase up to an aggregate of 14,000,000 shares of common stock in a public offering, with H.C. Wainwright & Co., LLC acting as placement agent. The combined purchase price of one share of common stock and the accompanying warrant was $1.00, and the combined purchase price of one pre-funded warrant and accompanying warrant was $0.9999. The warrants are exercisable for five years at an exercise price of $1.00 per share. Placement agent warrants were issued to purchase up to 700,000 shares of common stock, are immediately exercisable for an exercise price of $1.25, and are exercisable for five years from the date of the Purchase Agreement. The Company received gross proceeds of $14.0 million and incurred placement agent's fees and other offering expenses of approximately $2.4 million.

As of March 8, 2021, a total of 6,676,200 warrants issued in the January 2021 Offering to purchase shares of common stock have been exercised. The Company received gross proceeds of approximately $6.8 million.

Exhibit 21.1

SUBSIDIARIES OF HISTOGEN INC.

1. Histogen Therapeutics, Inc., formerly Histogen Inc., incorporated in Delaware on June 25, 2007.

2. Centro de Investigación de Medicina Regenerativa, S.A. de C.V., incorporated in Mexico on October 9, 2014.

EXHIBIT 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-239505 on Form S-8 and Registration Statement No. 333-248074 on Form S-3 of our report dated March 11, 2021, relating to the consolidated financial statements of Histogen Inc., included in this Annual Report on Form 10-K for the year ended December 31, 2020.

/s/ Mayer Hoffman McCann P.C.

San Diego, California
March 11, 2021

Exhibit 31.1

CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Richard W. Pascoe, certify that:

1. I have reviewed this Annual Report on Form 10-K of Histogen Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 11, 2021

By: /s/ Richard W. Pascoe
Richard W. Pascoe
President and Chief Executive Officer

Exhibit 31.2

CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Susan A. Knudson, certify that:

1. I have reviewed this Annual Report on Form 10-K of Histogen Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 11, 2021

By: /s/ Susan A. Knudson
Susan A. Knudson
Executive Vice President, Chief Financial Officer, Chief Compliance Officer and Corporate Secretary

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Histogen Inc. (the "Company") on Form 10-K for the period ending December 31, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Company.

Date: March 11, 2021

By: /s/ Richard W. Pascoe
Richard W. Pascoe
President and Chief Executive Officer

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Histogen Inc. (the "Company") on Form 10-K for the period ending December 31, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Company.

Date: March 11, 2021

By: /s/ Susan A. Knudson
Susan A. Knudson
Executive Vice President, Chief Financial Officer, Chief Compliance Officer and Corporate Secretary