2017 Annual Report

Included in the 2017 Annual Report:
Form 10-K, as filed by Fortress Biotech, Inc.
with the U.S. Securities and Exchange Commission on March 16, 2018

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-K

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

For the Fiscal Year Ended December 31, 2017
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 No. 001-35366

FORTRESS BIOTECH, INC.

(Exact Name of Registrant as Specified in its Charter)

Delaware	**20-5157386**
(State or Other Jurisdiction of Incorporation or Organization)	**(I.R.S. Employer Identification No.)**
2 Gansevoort Street, 9th Floor New York, New York 10014	**10014**
(Address of Principal Executive Offices)	**(Zip Code)**

Registrant's telephone number, including area code: (781) 652-4500

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

(Title of Class)	(Name of exchange on which registered)
Common Stock, par value $0.001 per share	**NASDAQ Capital Market**
9.375% Series A Cumulative Redeemable Perpetual Preferred Stock	**NASDAQ Capital Market**

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

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

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

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See definition 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 ☐ (Do not check if smaller reporting company) 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 is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☒

The aggregate market value of the voting stock held by non-affiliates of the registrant as of the last business day of the registrant's most recently completed second fiscal quarter: $144,508,462 based upon the closing sale price of our common stock of $4.75 on that date. Common stock held by each officer and director and by each person known to own in excess of 5% of outstanding shares of our common stock has been excluded in that such persons may be deemed to be affiliates. The determination of affiliate status in not necessarily a conclusive determination for other purposes.

As of March 13, 2018, there were 51,342,513 shares of the registrant's common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement for its 2018 Annual Meeting of Stockholders are incorporated by reference into Part III hereof.

FORTRESS BIOTECH, INC.
ANNUAL REPORT ON FORM 10-K
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CAUTIONARY NOTE REGARDING FORWARD LOOKING STATEMENTS

Statements in this Annual Report on Form 10-K that are not descriptions of historical facts are forward-looking statements that are based on management's current expectations and are subject to risks and uncertainties that could negatively affect our business, operating results, financial condition and stock price. We have attempted to identify forward-looking statements by terminology including "anticipates," "believes," "can," "continue," "could," "estimates," "expects," "intends," "may," "might," "plans," "potential," "predicts," "should," or "will" or the negative of these terms or other comparable terminology. Factors that could cause actual results to differ materially from those currently anticipated include those set forth under "Item 1A. Risk Factors" including, in particular, risks relating to:

- our growth strategy;
- financing and strategic agreements and relationships;
- our need for substantial additional funds and uncertainties relating to financings;
- our ability to identify, acquire, close and integrate product candidates successfully and on a timely basis;
- our ability to attract, integrate and retain key personnel;
- the early stage of products under development;
- the results of research and development activities;
- uncertainties relating to preclinical and clinical testing;
- the ability to secure and maintain third-party manufacturing, marketing and distribution of our and our subsidiaries' products;
- government regulation;
- patent and intellectual property matters;
- dependence on third-party manufacturers; and
- competition.

We expressly disclaim any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in our expectations or any changes in events, conditions or circumstances on which any such statement is based, except as required by law.

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PART I

Item 1. Business.

Overview

Fortress Biotech, Inc. ("Fortress" or the "Company") is a biopharmaceutical company dedicated to acquiring, developing and commercializing novel pharmaceutical and biotechnology products. Fortress develops and commercializes products both within Fortress and through certain of our subsidiary companies, also referred to herein as the "Fortress Companies." Additionally, the Company maintains a controlling interest in National Holdings Corporation, a diversified independent brokerage company (together with its subsidiaries, herein referred to as "NHLD" or "National"). In addition to its internal development programs, the Company leverages its biopharmaceutical business expertise and drug development capabilities and provides funding and management services to help the Fortress Companies achieve their goals. The Company and the Fortress Companies may seek licensings, acquisitions, partnerships, joint ventures and/or public and private financings to accelerate and provide additional funding to support their research and development programs.

Business Strategy

Our business approach is designed for maximum flexibility, allowing us to invest in a broad array of new technologies with clinical and commercial potential. It enables us to move quickly to take advantage of time-sensitive opportunities when necessary, and provides us with a range of options that allow us to select what we believe is the most advantageous corporate or financial structure for each drug candidate. We seek to acquire and invest in drugs, technologies and operating subsidiaries with high growth potential.

At the end of 2017, in addition to National, we had several consolidated Fortress Companies, which contain licenses to product candidate intellectual property, including Aevitas Therapeutics, Inc. ("Aevitas"), Avenue Therapeutics, Inc. ("Avenue"), Caelum Biosciences, Inc. ("Caelum"), Cellvation, Inc. ("Cellvation"), Checkpoint Therapeutics, Inc. ("Checkpoint"), Cyprium Therapeutics, Inc. ("Cyprium"), Helocyte, Inc. ("Helocyte"), Journey Medical Corporation ("Journey" or "JMC"), Mustang Bio, Inc. ("Mustang"), and Tamid Bio, Inc. ("Tamid"). We also maintained exclusive ownership positions in operational subsidiaries CB Securities Corporation, Innmune Limited and FBIO Acquisition, Inc. (the acquisition vehicle we used to obtain National) and majority ownership positions in acquisition companies for which we are actively seeking product candidate licenses, including Coronado SO Co., Escala Therapeutics, Inc., GeneXion Oncology, Inc., FBIO Acquisition Corp. IV and FBIO Acquisition Corps. VI - XIV.

The Fortress Companies

Aevitas Therapeutics, Inc.

Aevitas is a biopharmaceutical company focused on the development of adeno-associated virus ("AAV") gene therapies in complement-mediated diseases. The proprietary technology, licensed from a leading university, uses AAV based gene therapy to restore lasting production of functional complement regulatory proteins, providing a potentially curative treatment. Aevitas aims to develop these potentially lifelong cures in multiple disease areas, including atypical hemolytic uremic syndrome, paroxysmal nocturnal hemoglobinuria and age-related macular degeneration. Originally incorporated on March 30, 2017, Aevitas is a Delaware corporation and is a majority-owned subsidiary of Fortress.

Avenue Therapeutics, Inc.

Avenue is a specialty pharmaceutical company focused on the development and commercialization of intravenous (IV) Tramadol for the management of moderate to moderately severe postoperative pain. IV Tramadol may fill a gap in the acute pain market between IV acetaminophen/NSAIDS and IV conventional narcotics. Avenue is currently evaluating IV Tramadol in a pivotal Phase 3 program for the management of postoperative pain with data expected in the second quarter of 2018. In February 2015, we purchased the exclusive license to IV Tramadol for the U.S. market from Revogenex Ireland Limited ("Revogenex") and transferred it to Avenue. Avenue completed an initial public offering of its common stock and began trading on the Nasdaq Capital Market on June 26, 2017 under the ticker symbol "ATXI." Originally incorporated on February 9, 2015, Avenue is a Delaware corporation and a controlled subsidiary of Fortress.

Caelum Biosciences, Inc.

Caelum is a clinical stage biotechnology company focused on treatments for rare hematological diseases. Caelum's lead asset, CAEL-101 (mAb 11-1F4), is a novel antibody licensed from Columbia University in January 2017 for the treatment of amyloid light chain ("AL") amyloidosis, a rare systemic disease that can lead to vital organ failure and death. Phase 1a/1b data presented at the American Society of Hematology's 59th Annual Meeting in December 2017 support CAEL-101's potential to be a safe and well-tolerated therapy that promotes amyloid resolution. CAEL-101 has received Orphan Drug Designation from the U.S. Food and Drug Administration as a therapeutic agent for patients with AL amyloidosis, and as a radio-imaging agent in amyloidosis. Caelum expects to initiate a Phase 3 clinical program for CAEL-101 by the first quarter of 2019. Originally incorporated on June 10, 2015, Caelum is a Delaware corporation and a majority-owned subsidiary of Fortress.

Cellvation, Inc.

Cellvation is a clinical-stage biopharmaceutical company developing novel therapeutics for the treatment of traumatic brain injury ("TBI"). TBI is a leading cause of death and disability among adults and children in the United States. Cellvation secured exclusive, worldwide rights to clinical-stage cell therapies for the treatment of severe TBI from Texas Trauma Institute at the University of Texas Health Science Center in Houston, including: CEVA101 which is currently being investigated in separate multi-center Phase 2 studies for adults and children. The Phase 2 studies of CEVA101 are supported by grants in excess of ten million dollars from the National Institutes of Health ("NIH") and Department of Defense. Cellvation is also developing CEVA-D, a novel bioreactor that enhances the anti-inflammatory potency of stem cells without genetic manipulation. In November 2017, Cellvation announced that the U.S. Food and Drug Administration ("FDA") granted CEVA101 (autologous bone marrow-derived stem cells) Regenerative Medicine Advanced Therapy ("RMAT") designation for the treatment of severe TBI. Originally incorporated on June 10, 2015, Cellvation is a Delaware corporation and a majority-owned subsidiary of Fortress.

Checkpoint Therapeutics, Inc.

Checkpoint is a clinical-stage, immuno-oncology biopharmaceutical company focused on the acquisition, development and commercialization of novel treatments for patients with solid tumor cancers. Checkpoint's lead product candidate is a fully-human monoclonal antibody licensed from the Dana-Farber Cancer Institute that targets programmed death-ligand 1 (PD-L1). Checkpoint commenced a Phase 1 clinical study for its anti-PD-L1 antibody, CK-301, in October 2017, evaluating the safety and tolerability of CK-301 in checkpoint therapy-naïve patients with selected recurrent or metastatic cancers and plans to develop CK-301 as a treatment for patients with non-small cell lung cancer ("NSCLC") and other solid tumors. In addition, Checkpoint is developing a small-molecule, targeted anti-cancer agent, CK-101, for the treatment of patients with epidermal growth factor receptor (EGFR) mutation-positive NSCLC. In September 2016, Checkpoint commenced the Phase 1 portion of a Phase 1/2 clinical study for CK-101. Checkpoint's pipeline also includes antibodies that target glucocorticoid-induced TNFR-related protein (GITR) and carbonic anhydrase IX (CAIX), in addition to oral, small-molecule, targeted anti-cancer agents that inhibit bromodomain and extra-terminal (BET) proteins and poly (ADP-ribose) polymerase (PARP). Checkpoint's common stock began trading on the Nasdaq Capital Market on June 26, 2017 under the ticker symbol "CKPT." Originally incorporated on November 10, 2014, Checkpoint is a Delaware corporation and a controlled subsidiary of Fortress.

Cyprium Therapeutics, Inc.

Cyprium is a clinical-stage biopharmaceutical company focused on the development of novel therapies for the treatment of Menkes disease and related copper metabolism disorders. In March 2017, Cyprium and the Eunice Kennedy Shriver National Institute of Child Health and Human Development ("NICHD"), part of the NIH, executed a Cooperative Research and Development Agreement ("CRADA") to advance the clinical development of Phase 3 candidate CUTX-101 (copper histidinate injection) for the treatment of Menkes disease. Cyprium and NICHD also entered into a worldwide, exclusive license agreement to develop and commercialize AAV-based ATP7A gene therapy for use in combination with CUTX-101 for the treatment of Menkes disease and related copper transport disorders. Originally incorporated on June 18, 2014, Cyprium is a Delaware corporation and a majority-owned subsidiary of Fortress.

Helocyte, Inc.

Helocyte is a clinical-stage biopharmaceutical company developing novel immunotherapies for the prevention and treatment of cytomegalovirus ("CMV"), a common virus that is typically asymptomatic in healthy individuals but can cause life-threatening disease in those with weakened or uneducated immune systems. Helocyte's programs were developed in the laboratory of Don J. Diamond, Ph.D., Chair of the Department of Experimental Therapeutics at City of Hope National Medical Center in Duarte, California. Helocyte secured exclusive worldwide rights to Triplex, its universal, multi-antigen T-cell immunotherapeutic vaccine for controlling CMV in stem cell and solid organ transplant recipients. Triplex is currently being investigated in a multicenter Phase 2 clinical study of CMV control in allogeneic hematopoietic stem cell transplant recipients. The study is supported in part by grants from the National Cancer Institute. Helocyte has also secured exclusive worldwide rights to Pentamer, a universal multi-antigen vaccine drug candidate engineered to induce a broad neutralizing antibody response for the prevention of CMV. Pentamer is currently undergoing non-clinical development. Originally incorporated on July 1, 2015, Helocyte is a Delaware corporation and a majority-owned subsidiary of Fortress.

Journey Medical Corporation

Journey is an innovative company focused on developing, acquiring, licensing and commercializing branded dermatology products. Journey's commercial portfolio comprises four marketed products: (1) Targadox®, a 50 mg immediate-release doxycycline hyclate coated tablet that is indicated as adjunctive therapy for severe acne; (2) Luxamend® Wound Cream, a water-based emulsion formulated for the treatment of superficial wounds, minor abrasions, dermal ulcers, donor sites, first- and second-degree burns and radiation; (3) Ceracade® Skin Emulsion, formulated for the treatment of dry skin conditions and pain relief associated with various types of dermatitis; and (4) Triderm®, a topical corticosteroid formulated for treatment of a variety of skin conditions, including eczema, dermatitis, allergies and rash, although JMC did not commence promotion of Triderm® until 2018. Targadox®, Luxamend® and Ceracade® are sold under Journey's name, and Triderm® is sold pursuant to a co-promote agreement. Originally incorporated on July 18, 2014, Journey is a Delaware corporation and a majority-owned subsidiary of Fortress.

Mustang Bio, Inc.

Mustang is a clinical-stage biopharmaceutical company focused on the development and commercialization of novel cancer immunotherapy products designed to leverage the patient's own immune system to eliminate cancer cells. Mustang aims to acquire rights to these technologies by licensing, acquisition, research and development or commercialization. Mustang has partnered with the City of Hope National Medical Center and the Fred Hutchinson Cancer Research Center to develop proprietary chimeric antigen receptor ("CAR") engineered T cell ("CAR T") therapies across many cancers, and with Harvard Medical School's Beth Israel Deaconess Medical Center and the Harvard Stem Cell Institute for the development of CRISPR/Cas9-enhanced CAR T therapies in hematologic malignancies and solid tumors. Mustang's common stock began trading on the Nasdaq Global Market on August 22, 2017 under the ticker symbol "MBIO." Originally incorporated on March 13, 2015, Mustang is a Delaware corporation and a controlled subsidiary of Fortress.

Tamid Bio, Inc.

Tamid is a biopharmaceutical company focused on the development of AAV gene therapies in orphan diseases with unmet medical needs. In November 2017, Tamid entered into three exclusive licensing agreements with the University of North Carolina at Chapel Hill for three preclinical AAV gene therapies, developed in the lab of Matthew Hirsch, Ph.D., Assistant Professor, Ophthalmology at the UNC Gene Therapy center. Tamid's product candidates' targets include: ocular manifestations of Mucopolysaccharidosis type 1 (MPS1); dysferlinopathies; and corneal transplant rejection. Originally incorporated on June 10, 2015, Tamid is a Delaware corporation and a majority-owned subsidiary of Fortress.

National Holdings Corporation

National, a Delaware corporation organized in 1996, operates through its wholly-owned subsidiaries which principally provide financial services. Through its broker-dealer, investment advisory and other subsidiaries, National: (1) offers full service retail brokerage and wealth management services to high net worth individual and institutional clients, (2) provides investment banking, merger and acquisition and advisory services to micro, small and mid-cap high growth companies, (3) engages in trading securities, including making markets in micro and small-cap NASDAQ and other exchange listed stocks, (4) provides liquidity in the United States Treasury marketplace ,and (5) to a lesser extent, provides tax preparation, fixed insurance sales and licensed mortgage brokerage services. National is a majority-owned subsidiary of Fortress.

Product Candidates held by Fortress and Other Intellectual Property

Fortress continues to develop, a lysate (disrupted CTV-1 cells, cell membrane fragments, cell proteins and other cellular components) that activates donor Natural Killer ("NK"), ("CNDO-109"). CTV-1 is a leukemic cell line re-classified as a T-cell acute lymphocytic leukemia ("ALL"). In November 2007, we entered into a license agreement, since amended, with University College London Business PLC ("UCLB"), under which we received an exclusive, worldwide license to develop and commercialize CNDO-109 to activate NK cells for the treatment of cancer-related and other conditions and a non-exclusive license to certain clinical data solely for use in the IND for CNDO-109. The manufacturing process for CNDO-109 activated NK cells is currently under development. We have produced a master cell bank and a working cell bank of CTV-1 cells in collaboration with BioReliance Corp, and we have contracted with Progenitor Cell Therapy, LLC and WuXi AppTec for services related to development, manufacture and testing services. We have sponsored a Phase 1/2 study in patients with AML who were in their first complete remission ("CR1") and who were at a high risk of relapsing. This study has completed enrollment but is remaining open to follow the long-term relapse-free survival status of patients.

With respect to CNDO-109, we have exclusive rights to International Patent Application No. PCT/GB2006/000960 and all pending United States and foreign counterpart applications including granted U.S. Patents No. 8,257,970 and 8,637,308 and the corresponding national phase applications granted in Australia and India and filed in Canada, India, Europe and Japan, directed to the stimulation of NK cells and related CNDO-109 compositions and methods including methods for the treatment of cancer and other conditions. This patent family has been in-licensed on an exclusive basis from UCLB. The CNDO-109 patent has an expiration date of January 2029 in the absence of any patent term extension. By way of an amendment to the license agreement with UCLB, we also have exclusive rights to International Application No. PCT/GB2010/051135 and all pending United States and foreign counterpart applications including pending United States Patent Application Serial No. 12/833,694 and the corresponding national phase applications filed in Brazil, China, Israel, Singapore and South Africa, directed to the preservation of activated NK cells and related compositions and methods. The CNDO-109 patents that may issue from the former patent family would expire in July 2030 in the absence of any patent term extension. The amendment includes rights to certain additional confidential technologies as well.

Fortress is also party to a Development and License Agreement with Effcon Laboratories, Inc. ("Effcon"), which granted Fortress exclusive development and commercialization rights to an extended release formulation of methazalomide. Effcon leads the development efforts in connection therewith under Fortress' supervision and direction.

Fortress is party to a license agreement with GeneMedicine, Inc. ("GeneMedicine"), which granted Fortress exclusive development and commercialization rights over products using GeneMedicine's oncolytic adenovirus technology. Under the GeneMedicine license, we have an exclusive, worldwide license under three patent families assigned to GeneMedicine to develop and commercialize certain compositions of matter directed to (i) recombinant vectors comprising a transcriptional regulatory sequence operably linked to a therapeutic transgene, such as tumor suppressor gene, cytotoxic gene, anti-angiogenic gene and the like; (ii) methods of co-expression of IL-12 and IL-23; and (iii) a method of enhancing transduction efficiency of a recombinant adenovirus expression vector into a tumor cell in a solid tumor. The foregoing three patent families include counterparts in Europe and selected Asian jurisdictions, scheduled to expire in 2024, 2028 and 2026, respectively. The granted U.S. counterparts of the first two patent families enjoy patent term adjustments, which extend the terms of these patents out to 2027 and 2030, respectively, without taking into account any further potential extensions under patent term restoration provisions of U.S. patent laws.

Our goal is to obtain, maintain and enforce patent protection for our and, in some cases, our subsidiaries' product candidates, formulations, processes, methods and any other proprietary technologies, preserve our trade secrets, and operate without infringing on the proprietary rights of other parties, both in the United States and in other countries. Our policy is to actively seek to obtain, where appropriate, the broadest intellectual property protection possible for our and, in some cases, our subsidiaries' product candidates, proprietary information and proprietary technology through a combination of contractual arrangements and patents, both in the United States and abroad. However, patent protection may not afford us with complete protection against competitors who seek to circumvent our patents.

We also depend upon the skills, knowledge, experience and know-how of our and our subsidiaries' management and research and development personnel, as well as that of our advisers, consultants and other contractors. To help protect our proprietary know-how, which is not patentable, and for inventions for which patents may be difficult to enforce, we and our subsidiaries currently rely and will in the future rely on trade secret protection and confidentiality agreements to protect our interests. To this end, we and our subsidiaries require all of our employees, consultants, advisers and other contractors to enter into confidentiality agreements that prohibit the disclosure of confidential information and, where applicable, require disclosure and assignment to us of the ideas, developments, discoveries and inventions important to our business.

National owns the following federally registered marks: vFinance, Inc.®, vFinance.com, Inc.®, AngelSearch® and Gilman Ciocia®.

Competition - *Fortress*

We and our subsidiaries operate in highly competitive segments of the biotechnology and biopharmaceutical markets. We face competition from many different sources, including commercial pharmaceutical and biotechnology enterprises, academic institutions, government agencies, and private and public research institutions. Many of our and our subsidiaries' competitors have significantly greater financial, product development, manufacturing and marketing resources than us. Large pharmaceutical companies have extensive experience in clinical testing and obtaining regulatory approval for drugs. In addition, many universities and private and public research institutes are active in cancer research, some in direct competition with us and our subsidiaries. We and our subsidiaries also may compete with these organizations to recruit scientists and clinical development personnel. Smaller or early stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies.

Each cancer indication for which we or any of our subsidiaries may develop products has a number of established therapies with which our candidates will compete. With respect to CNDO-109, most major pharmaceutical companies and many biotechnology companies are aggressively pursuing new cancer development programs, including both therapies with traditional, as well as novel, mechanisms of action. Some of the anticipated competitor treatments for AML include Daiichi Sankyo, Inc.'s quizartinib, Macrogenic Inc.'s Flotetuzumab, Celgene Corporation's Vidaza (azacitabine) currently approved as a treatment for myelodysplastic syndrome, Agios Inc.'s Ivosidenib and Abbvie Inc./Genentech Inc.'s Venclexta (venetoclax), which are currently being developed as a treatment for AML, any or all of which could change the treatment paradigm of acute leukemia. Each of these compounds is further along in clinical development than is the CDNO-109 activated NK cell product.

Competition - *National*

National is engaged in a highly competitive business. With respect to one or more aspects of its business, National's competitors include member organizations of the New York Stock Exchange and other registered securities exchanges in the United States and Canada, the U.K., Europe and members of FINRA. Many of these organizations have substantially greater personnel and financial resources and more sales offices than National. Discount brokerage firms affiliated with commercial banks provide additional competition, as well as companies that provide electronic on-line trading. In many instances, National is also competing directly for customer funds with investment opportunities offered by real estate, insurance, banking, and savings and loans industries.

The securities industry has become considerably more concentrated and more competitive since National was founded, as numerous securities firms have either ceased operations or have been acquired by or merged into other firms. In addition, companies not engaged primarily in the securities business, but with substantial financial resources, have acquired leading securities firms. These developments have increased competition from firms with greater capital resources than those of National.

Since the adoption of the Gramm-Leach-Bliley Act of 1999, commercial banks and thrift institutions have been able to engage in traditional brokerage and investment banking services, thus increasing competition in the securities industry and potentially increasing the rate of consolidation in the securities industry.

National also competes with other securities firms for successful sales representatives, securities traders and investment bankers. Competition for qualified employees and independent contractors in the financial services industry is intense. National's continued ability to compete effectively depends on its ability to attract new employees and independent contractors and to retain and motivate its existing employees and independent contractors.

In addition, National's tax preparation business is also subject to extensive competition. National competes with national tax return preparers such as H&R Block, Jackson Hewitt, and Liberty Tax, among others. The remainder of the tax preparation industry is highly fragmented and includes regional tax preparation services, accountants, attorneys, small independently owned companies, and financial service institutions that prepare tax returns as ancillary parts of their business. To a much lesser extent, National competes with the on-line and software self-preparer market.

Government Regulation and Product Approval - Fortress

Government authorities in the United States, at the federal, state and local level, and other countries extensively regulate, among other things, the research, development, testing, manufacture, quality control, approval, labeling, packaging, storage, record-keeping, promotion, advertising, distribution, post-approval monitoring and reporting, marketing and export and import of products such as those we and our subsidiaries are developing.

United States Pharmaceutical Product Development Process

In the United States, the FDA regulates pharmaceutical (drug and biologic) products under the Federal Food, Drug and Cosmetic Act, and implementing regulations. Pharmaceutical products are also subject to other federal, state and local statutes and regulations. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations require the expenditure of substantial time and financial resources. Failure to comply with the applicable U.S. requirements at any time during the product-development process, approval process or after approval, may subject an applicant to administrative or judicial sanctions. FDA sanctions could include refusal to approve pending applications, withdrawal of an approval, a clinical hold, warning letters, product recalls, product seizures, total or partial suspension of production or distribution injunctions, fines, refusals of government contracts, restitution, disgorgement or civil or criminal penalties. Any agency or judicial enforcement action could have a material adverse effect on us. The process required by the FDA before a pharmaceutical product may be marketed in the United States generally includes the following:

- completion of preclinical laboratory tests, animal studies and formulation studies according to good laboratory practices ("GLPs") or other applicable regulations;
- submission to the FDA of an Investigational New Product Drug Application ("IND"), which must become effective before human clinical trials may begin in the United States;
- performance of adequate and well-controlled human clinical trials according to the FDA's current good clinical practices ("GCPs"), to establish the safety and efficacy of the proposed pharmaceutical product for its intended use;
- submission to the FDA of a New Drug Application ("NDA") or Biologic License Application ("BLA") for a new pharmaceutical product;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities where the pharmaceutical product is produced to assess compliance with the FDA's current Good Manufacturing Practices ("cGMP"), to assure that the facilities, methods and controls are adequate to preserve the pharmaceutical product's identity, strength, quality and purity;
- potential FDA audit of the preclinical and clinical trial sites that generated the data in support of the NDA/ BLA; and
- FDA review and approval of the NDA/BLA.

The lengthy process of seeking required approvals and the continuing need for compliance with applicable statutes and regulations require the expenditure of substantial resources and approvals are inherently uncertain.

Products for somatic cell therapy are derived from a variety of biologic sources, including directly harvested autologous, allogeneic, or cultured cell lines. Product safety requires that these sources be well characterized, uniform, and not contaminated with hazardous adventitious agents. Also, cells directly from humans pose additional product safety issues. Because of the complex nature of these products, a controlled, reproducible manufacturing process and facility are required and relied on to produce a uniform product. The degree of reliance on a controlled process varies depending on the nature of the product. Because complete chemical characterization of a biologic product is not feasible for quality control, the testing of the biologic potency receives particular attention and is costly.

Before testing any compounds with potential therapeutic value in humans, the pharmaceutical product candidate enters the preclinical testing stage. Preclinical tests include laboratory evaluations of product chemistry, toxicity and formulation, as well as animal studies to assess the potential safety and activity of the pharmaceutical product candidate. The conduct of the preclinical tests must comply with federal regulations and requirements including GLPs. The sponsor must submit the results of the preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature and a proposed clinical protocol, to the FDA as part of the IND. The IND automatically becomes effective 30 days after receipt by the FDA unless the FDA places the IND on a clinical hold within that 30-day time period. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. The FDA may also impose clinical holds on a pharmaceutical product candidate at any time before or during clinical trials due to safety concerns or non-compliance. Accordingly, we cannot be certain that submission of an IND will result in the FDA allowing clinical trials to begin, or that, once begun, issues will not arise that suspend or terminate such clinical trial.

Clinical trials involve the administration of the pharmaceutical product candidate to healthy volunteers or patients under the supervision of qualified investigators, generally physicians not employed by the sponsor. Clinical trials are conducted under protocols detailing, among other things, the objectives of the clinical trial, dosing procedures, subject selection and exclusion criteria, and the parameters to be used to monitor subject safety. Each protocol must be submitted to the FDA if conducted under a U.S. IND. Clinical trials must be conducted in accordance with GCP requirements. Further, each clinical trial must be reviewed and approved by an IRB or ethics committee if conducted outside of the United States, at or servicing each institution at which the clinical trial will be conducted. An IRB or ethics committee is charged with protecting the welfare and rights of trial participants and considers such items as whether the risks to individuals participating in the clinical trials are minimized and are reasonable in relation to anticipated benefits. The IRB or ethics committee also approves the informed consent form that must be provided to each clinical trial subject or his or her legal representative and must monitor the clinical trial until completed. We intend to use third-party clinical research organizations ("CROs") to administer and conduct our planned clinical trials and will rely upon such CROs, as well as medical institutions, clinical investigators and consultants, to conduct our trials in accordance with our clinical protocols and to play a significant role in the subsequent collection and analysis of data from these trials. The failure by any of such third parties to meet expected timelines, adhere to our protocols or meet regulatory standards could adversely impact the subject product development program. Human clinical trials are typically conducted in three sequential phases that may overlap or be combined:

- Phase 1. The pharmaceutical product is usually introduced into healthy human subjects and tested for safety, dosage tolerance, absorption, metabolism, distribution and excretion. In the case of some products for severe or life-threatening diseases, such as cancer treatments, especially when the product may be too inherently toxic to ethically administer to healthy volunteers, the initial human testing is often conducted in patients.
- Phase 2. The pharmaceutical product is evaluated in a limited patient population to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted diseases and to determine dosage tolerance, optimal dosage and dosing schedule.
- Phase 3. Clinical trials are undertaken to further evaluate dosage, clinical efficacy and safety in an expanded patient population at geographically dispersed clinical trial sites. These clinical trials are intended to establish the overall risk/benefit ratio of the product and provide an adequate basis for product labeling. Generally, two adequate and well-controlled Phase 3 clinical trials are required by the FDA for approval of an NDA/BLA or foreign authorities for approval of marketing applications.

Post-approval studies, or Phase 4 clinical trials, may be conducted after initial marketing approval. These studies are used to gain additional experience from the treatment of patients in the intended therapeutic indication and may be requested by the FDA as a condition of approval.

Progress reports detailing the results of the clinical trials must be submitted at least annually to the FDA and written IND safety reports must be submitted to the FDA and the investigators for serious and unexpected adverse events or any finding from tests in laboratory animals that suggests a significant risk for human subjects. Phase 1, Phase 2 and Phase 3 clinical trials may not be completed successfully within any specified period, if at all. The FDA or the sponsor or, if used, its data safety monitoring board may suspend a clinical trial at any time on various grounds, including a finding that the research subjects or patients are being exposed to an unacceptable health risk. Similarly, an IRB or ethics committee can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's or ethics committee's requirements or if the pharmaceutical product has been associated with unexpected serious harm to patients.

Concurrent with clinical trials, companies usually complete additional animal studies and must also develop additional information about the chemistry and physical characteristics of the pharmaceutical product as well as finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the pharmaceutical product candidate and, among other things, must develop methods for testing the identity, strength, quality and purity of the final pharmaceutical product. Additionally, appropriate packaging must be selected, tested and stability studies must be conducted to demonstrate that the pharmaceutical product candidate does not undergo unacceptable deterioration over its shelf life.

United States Review and Approval Processes

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

The NDA/BLA review and approval process is lengthy and difficult and the FDA may refuse to approve an NDA/BLA if the applicable regulatory criteria are not satisfied or may require additional clinical data or other data and information. Even if such data and information is submitted, the FDA may ultimately decide that the NDA/BLA does not satisfy the criteria for approval. If a product receives regulatory approval, the approval may be significantly limited to specific diseases and dosages or the indications for use may otherwise be limited, which could restrict the commercial value of the product. Further, the FDA may require that certain contraindications, warnings or precautions be included in the product labeling. Drug manufacturers and their subcontractors are required to register their establishments with the FDA, and are subject to periodic unannounced inspections by the FDA for compliance with cGMPs, which impose certain procedural and documentation requirements upon us and our third-party manufacturers. We cannot be certain that we, our subsidiaries or our suppliers will be able to comply with the cGMP and other FDA regulatory requirements.

Post-Approval Requirements

Any pharmaceutical products for which we or our subsidiaries receive FDA approvals are subject to continuing regulation by the FDA, including, among other things, record-keeping requirements, reporting of adverse experiences with the product, providing the FDA with updated safety and efficacy information, product sampling and distribution requirements, complying with certain electronic records and signature requirements and complying with FDA promotion and advertising requirements, which include, among others, standards for direct-to-consumer advertising, promoting pharmaceutical products for uses or in patient populations that are not described in the pharmaceutical product's approved labeling (known as "off-label use"), industry-sponsored scientific and educational activities, and promotional activities involving the internet. Failure to comply with FDA requirements can have negative consequences, including adverse publicity, enforcement letters from the FDA, mandated corrective advertising or communications with doctors, and civil or criminal penalties.

The FDA also may require Phase 4 testing, risk minimization action plans and surveillance to monitor the effects of an approved product or place conditions on an approval that could restrict the distribution or use of the product.

Orphan Drugs

Under the Orphan Drug Act, special incentives exist for sponsors to develop products for rare diseases or conditions, which are defined to include those diseases or conditions that affect fewer than 200,000 people in the United States. Requests for orphan drug designation must be submitted before the submission of an NDA or BLA. In June 2012, we were notified by the FDA that CNDO-109 was granted orphan drug designation and in September 2012, the USPTO issued the first U.S. patent covering CNDO-109. If CNDO-109 is commercialized, we will be obligated to pay UCLB annual royalties based upon the net sales of product or if we sublicense CNDO-109, a portion of sub-licensing revenue we receive, if any.

If a product that has an orphan drug designation is the first such product to receive FDA approval for the disease for which it has such designation, the product is entitled to orphan product exclusivity for that use. This means that, subsequent to approval, the FDA may not approve any other applications to market the same drug for the same disease, except in limited circumstances, for seven years. The FDA may approve a subsequent application from another person if the FDA determines that the application is for a different drug or different use, or if the FDA determines that the subsequent product is clinically superior, or that the holder of the initial orphan drug approval cannot assure the availability of sufficient quantities of the drug to meet the public's need. If the FDA approves someone else's application for the same drug that has orphan exclusivity, but for a different use, the competing drug could be prescribed by physicians outside its FDA approval for the orphan use, notwithstanding the existence of orphan exclusivity. A grant of an orphan designation is not a guarantee that a product will be approved. If a sponsor receives orphan drug exclusivity upon approval, there can be no assurance that the exclusivity will prevent another person from receiving approval for the same or a similar drug for the same or other uses.

Pediatric Information

Under the Pediatric Research Equity Act, or PREA, NDAs and BLAs or supplements to NDAs and BLAs must contain data to assess the safety and effectiveness of the treatment for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the treatment is safe and effective. The FDA may grant full or partial waivers, or deferrals, for submission of data. Unless otherwise required by regulation, PREA does not apply to any product for an indication for which orphan designation has been granted.

The Best Pharmaceuticals for Children Act, or BPCA, provides BLA holders a six-month extension of any exclusivity-patent or non-patent-for a product if certain conditions are met. Conditions for exclusivity include the FDA's determination that information relating to the use of a new drug in the pediatric population may produce health benefits in that population, FDA making a written request for pediatric studies, and the applicant agreeing to perform, and reporting on, the requested studies within a specific time frame.

Other Healthcare Laws and Compliance Requirements

In the United States, our and our subsidiaries' activities are potentially subject to regulation by various federal, state and local authorities in addition to the FDA, including the Centers for Medicare and Medicaid Services (formerly the Health Care Financing Administration), other divisions of the United States Department of Health and Human Services (e.g., the Office of Inspector General), the United States Department of Justice and individual United States Attorney offices within the Department of Justice, and state and local governments.

Pharmaceutical Coverage, Pricing and Reimbursement

In the United States and markets in other countries, sales of any products for which we and our subsidiaries receive regulatory approval for commercial sale will depend in part on the availability of reimbursement from third-party payors, including government health administrative authorities, managed care providers, private health insurers and other organizations. Third-party payors are increasingly examining the medical necessity and cost-effectiveness of medical products and services, in addition to their safety and efficacy, and, accordingly, significant uncertainty exists as to the reimbursement status of newly approved therapeutics. Adequate third-party reimbursement may not be available for our products to enable us and our subsidiaries to realize an appropriate return on our investment in research and product development. We are unable to predict the future course of federal or state healthcare legislation and regulations, including the Affordable Care Act.

International Regulation

In addition to regulations in the United States, there are a variety of foreign regulations governing clinical trials and commercial sales and distribution of any product candidates. The approval process varies from country to country, and the time may be longer or shorter than that required for FDA approval.

Government Regulation and Supervision - National

The securities industry, the Broker-Dealer Subsidiaries, and National's investment adviser businesses are subject to extensive regulation by the SEC, FINRA, NFA, state securities regulators and other governmental regulatory authorities. The principal purpose of these regulations is the protection of customers and the securities markets. The SEC is the federal agency charged with the administration of the federal securities laws. Much of the regulation of broker-dealers, however, has been delegated to self-regulatory organizations, such as FINRA, that adopt rules, subject to approval by the SEC, which govern their members and conduct periodic examinations of member firms' operations. Securities firms are also subject to regulation by state securities commissions in the states in which they are registered. All of the Broker-Dealer Subsidiaries are registered broker-dealers with the SEC and members of FINRA. They are licensed to conduct activities as a broker-dealer in all 50 states, the District of Columbia and Puerto Rico.

In addition, as registered broker-dealers and members of FINRA, the Broker-Dealer Subsidiaries are subject to the SEC's Uniform Net Capital Rule 15c3-1 ("Rule 15c3-1"), which is designed to measure the general financial integrity and liquidity of a broker-dealer and requires the maintenance of minimum net capital. Net capital is defined as the net worth of a broker-dealer subject to certain adjustments. In computing net capital, various adjustments are made to net worth that exclude assets not readily convertible into cash. Additionally, the regulations require that certain assets, such as a broker-dealer's position in securities, be valued in a conservative manner so as to avoid overstating of the broker-dealer's net capital.

National Securities is subject to Rule 15c3-1, which, among other things, requires the maintenance of minimum net capital. In February 2015, pursuant to a directive form FINRA, National Securities reverted back to using the alternative method of computing net capital from the aggregate indebtedness method. At September 30, 2017, National Securities had net capital of $9.2 million which was $9.0 million in excess of its required net capital of $250,000. National Securities is exempt from the provisions of Rule 15c-3-3 since it is an introducing broker-dealer that clears all transactions on a fully disclosed basis and promptly transmits all customer funds and securities to clearing brokers. Calculations of net capital and claimed exemptions are reviewed by an independent audit firm on an annual basis.

vFinance Investments is also subject to Rule 15c3-1, which, among other things, requires the maintenance of minimum net capital and requires that the ratio of aggregate indebtedness to net capital, both as defined in Rule 15c3-1, shall not exceed 15 to 1. At September 30, 2017, vFinance Investments had net capital of $1.4 million which was $0.4 million in excess of its required net capital of $1.0 million. vFinance Investments ratio of aggregate indebtedness to net capital was 0.8 to 1. vFinance Investments is exempt from the provisions of Rule 15c-3-3 since it is an introducing broker-dealer that clears all transactions on a fully disclosed basis and promptly transmits all customer funds and securities to clearing brokers. Calculations of net capital and claimed exemptions are reviewed by an independent audit firm on an annual basis.

National's tax preparation business is also subject to extensive regulation. Federal legislation requires income tax return preparers to, among other things, register as a tax preparer, set forth their signatures and identification numbers on all tax returns prepared by them, and retain all tax returns prepared by them for three years. Federal laws also subject income tax preparers to accuracy-related penalties in connection with the preparation of income tax returns. Preparers may be prohibited from further acting as income tax return preparers if they continuously and repeatedly engage in specified misconduct. In addition, authorized IRS e-filer providers are required to comply with certain rules and regulations, as per IRS Publication 1345 and other notices of the IRS applicable to e-filing.

IRS regulations require among other things, that all tax return preparers use a Preparer Tax Identification Number ("PTIN") as their identifying number on federal tax returns filed after December 31, 2010; require all tax return preparers to be authorized to practice before the IRS as a prerequisite to obtaining or renewing a PTIN; causing all previous issued PTIN's to expire on December 31, 2010 unless properly renewed; allowing the IRS to conduct tax compliance checks on tax return preparers; and defining the individuals who are considered "tax return preparers" for the PTIN applicants. The IRS also conducts background checks on PTIN applicants.

The Gramm-Leach-Bliley Act and related Federal Trade Commission regulations require National to adopt and disclose customer privacy policies.

Employees

As of December 31, 2017, we had 68 full-time employees at Fortress and the Fortress Companies and as of September 30, 2017 National had 320 full-time employees and 730 independent contractors.

Executive Officers of Fortress

The following table sets forth certain information about our executive officers as of December 31, 2017.

Name	Age	Position
Lindsay A. Rosenwald, M.D.	62	Chairman of the Board of Directors, President and Chief Executive Officer
Robyn M. Hunter	56	Chief Financial Officer
George Avgerinos, Ph.D.	64	Senior Vice President, Biologics Operations
Michael S. Weiss	51	Executive Vice Chairman Strategic Development

Lindsay A. Rosenwald, M.D. has served as a member of the Board of Directors since October 2009 and as Chairman, President and Chief Executive Officer of the Company since December 2013. In addition, Dr. Rosenwald currently serves as President and Chief Executive Officer of Aevitas Therapeutics, Inc. and Tamid Bio, Inc. From November 2014 to August 2015 he served as President and Chief Executive Officer of Checkpoint Therapeutics, Inc. Dr. Rosenwald currently serves as a member of the board of directors of Aevitas Therapeutics, Inc., Avenue Therapeutics, Inc. (Nasdaq: ATXI), Caelum Biosciences, Inc., Cellvation, Inc., Checkpoint Therapeutics, Inc. (Nasdaq: CKPT), Cyprium Therapeutics, Inc., Helocyte, Inc., Journey Medical Corporation, Mustang Bio, Inc. (Nasdaq: MBIO) and Tamid Bio, Inc. Dr. Rosenwald is Co-Portfolio Manager and Partner of Opus Point Partners Management, LLC, an asset management firm in the life sciences industry, which he joined in 2009. Prior to that, from 1991 to 2008, he served as the Chairman of Paramount BioCapital, Inc. Dr. Rosenwald received his B.S. in finance from Pennsylvania State University and his M.D. from Temple University School of Medicine.

Robyn M. Hunter was appointed as the Company's Chief Financial Officer on June 26, 2017. Ms. Hunter has more than 30 years of financial and operational experience in an array of industries. Since June 2011, Ms. Hunter has served as the Company's Vice President and Corporate Controller where she has implemented financial and operational processes, procedures and policies to facilitate the Company's execution of its growth strategy. From January 2006 to May 2011, Ms. Hunter served as Senior Vice President and Chief Financial Officer of Schochet Associates. From August 2004 to January 2006, Ms. Hunter served as the Corporate Controller for Indevus Pharmaceuticals. From 1990 to 2004, Ms. Hunter held several positions from Accounting Manager to Vice President and Treasurer of The Stackpole Corporation. Ms. Hunter holds a Bachelor of Arts degree in Economics from Union College in Schenectady New York.

George Avgerinos, Ph.D. has served as our Senior Vice President, Biologics Operations since June 2013. Dr. Avgerinos joined us from AbbVie, Inc., where he was Vice President, HUMIRA® Manufacturing Sciences and External Partnerships. In his 22-year career at AbbVie, Inc., formerly Abbott Laboratories, formerly BASF Bioresearch Corporation (BASF), Dr. Avgerinos was responsible for many aspects of biologics development and operations. These included the HUMIRA® operations franchise, global biologics process and manufacturing sciences, biologics CMC, manufacturing operations, and third-party manufacturing. During his tenure, Dr. Avgerinos led and participated in the development of numerous clinical candidates which included the launch of HUMIRA®. He supported expansion of the supply chain to over $9.0 billion in annual global sales. Dr. Avgerinos' efforts on HUMIRA® have been recognized with numerous awards, including the prestigious Abbott's Chairman's award in 2011. Dr. Avgerinos received a B.A. in Biophysics from the University of Connecticut and a Ph.D. in Biochemical Engineering from the Massachusetts Institute of Technology.

Michael S. Weiss has served as our Executive Vice Chairman, Strategic Development since February 2014. He has served as Executive Vice Chairman, Strategic Development of Fortress Biotech since February 2014. He currently serves as a member of the board of directors of several of the Company's subsidiaries, including: Aevitas Therapeutics, Inc., Avenue Therapeutics, Inc. (Nasdaq: AXTI), Caelum Biosciences, Inc., Cellvation, Inc., Checkpoint Therapeutics, Inc. (Nasdaq: CKPT), Cyprium Therapeutics, Inc. Helocyte, Inc., Mustang Bio, Inc. (Nasdaq: MBIO) and Tamid Bio, Inc. Mr. Weiss is currently the Executive Chairman of Mustang Bio, Inc. (where he served as interim CEO from March 2015 to April 2017), the Chairman of the Board of Directors of Checkpoint Therapeutics, Inc. (where he served as interim CEO from August 2015 to October 2015), and Chairman of the Board of Directors of National Holdings Corporation (Nasdaq: NHLD), all three of which are controlled subsidiaries of Fortress. Since December 2011, Mr. Weiss has served in multiple capacities at TG Therapeutics, Inc., a related party, and is currently its Executive Chairman, Chief Executive Officer and President. He is a co-founder of, and has been a managing partner and principal of, Opus Point Partners Management, LLC since 2008. In 1999, Mr. Weiss founded Access Oncology which was later acquired by Keryx Biopharmaceuticals (Nasdaq: KERX) in 2004. Following the merger, Mr. Weiss remained as CEO of Keryx. He began his professional career as a lawyer with Cravath, Swaine & Moore LLP. Mr. Weiss earned his B.S. in Finance from The University of Albany and his J.D. from Columbia Law School.

Available Information

We and certain of our majority-controlled subsidiaries file annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, proxy and information statements and amendments to reports filed or furnished pursuant to Sections 13(a), 14 and 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act. The public may obtain these filings at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC 20549 or by calling the SEC at 1-800-SEC-0330. The SEC also maintains a website at http://www.sec.gov that contains reports, proxy and information statements and other information regarding our Company and other companies that file materials with the SEC electronically. Copies of our and certain of our majority-controlled subsidiaries' reports on Form 10-K, Forms 10-Q and Forms 8-K may be obtained, free of charge, electronically through our website at www.fortressbiotech.com.

ITEM 1A. RISK FACTORS

Investing in our Common Stock involves a high degree of risk. You should consider carefully the risks and uncertainties described below, together with all of the other information in this Annual Report on Form 10-K including the consolidated financial statements and the related notes, as well as the risks, uncertainties and other information set forth in the reports and other materials filed or furnished by our majority-controlled subsidiaries National, Checkpoint, Mustang, and Avenue with the SEC, before deciding to invest in shares of our Common Stock. If any of the following risks or the risks included in the public filings of National, Checkpoint, Mustang or Avenue were to materialize, our business, financial condition, results of operations, and future growth prospects could be materially and adversely affected. In that event, the market price of our Common Stock could decline, and you could lose part of or all of your investment in our Common Stock.

Risks Related to our Growth Strategy

If we acquire, enter into joint ventures with or obtain a controlling interest in companies in the future, it could adversely affect our operating results and the value of our Common Stock thereby diluting stockholder value and disrupting our business.

As part of our growth strategy, we might acquire, enter into joint ventures with, or obtain a significant ownership stake in other companies. Acquisitions of, joint ventures with and investments in other companies involve numerous risks, including, but not necessarily limited to:

- risk of entering new markets in which we have little to no experience;
- diversion of financial and managerial resources from existing operations;
- successfully negotiating a proposed acquisition or investment timely and at a price or on terms and conditions favorable to us;
- the impact of regulatory reviews on a proposed acquisition or investment;
- the outcome of any legal proceedings that may be instituted with respect to the proposed acquisitions or investment;
- with respect to an acquisition, difficulties in integrating operations, technologies, services and personnel; and
- potential inability to maintain relationships with customers of the companies we may acquire or invest in.

If we fail to properly evaluate potential acquisitions, joint ventures or investments, we might not achieve the anticipated benefits of any such transaction, we might incur costs in excess of what we anticipate, and management resources and attention might be diverted from other necessary or valuable activities.

If certain of our subsidiaries cannot innovate and develop products and services and/or continue to commercialize biopharmaceutical products or grow our and their respective businesses, we may not be able to generate revenue.

Our growth strategy also depends on our and our subsidiaries' ability to generate revenue. If we and our subsidiaries cannot innovate and develop products and services or continue to commercialize current and future biopharmaceutical products or grow their respective businesses, we may not be able to generate revenue growth as anticipated.

We may not be able to generate returns for our investors if certain of our subsidiaries, most of which have limited or no operating history, no commercialized revenue generating products, and are not yet profitable, cannot obtain additional third-party financing.

As part of our growth strategy, we have made and will likely continue to make substantial investments in our subsidiaries, which at the time of investment generally have limited or no operating history, no commercialized revenue generating products, and require additional third-party financing to fund product and services development or acquisitions. Our business depends in large part on one or more of our subsidiaries' ability to innovate, in-license, acquire or invest in successful biopharmaceutical products, develop financial services and/or acquire companies in increasingly competitive and highly regulated markets. If certain of our subsidiaries do not successfully obtain additional third-party financing to commercialize products, successfully acquire companies or participate in the financial services industry, as applicable, the value of our businesses and our ownership stakes in our subsidiaries may be materially adversely affected.

If we cannot continue to fund our and certain of our subsidiaries' research and development programs, we and our subsidiaries may be required to reduce product development, which will adversely impact our growth strategy.

Our and certain of our subsidiaries' research and development ("R&D") programs will require substantial additional capital to conduct research, preclinical testing and human studies, establish pilot scale and commercial scale manufacturing processes and facilities, and establish and develop quality control, regulatory, marketing, sales and administrative capabilities to support these programs. We expect to fund our and certain of our subsidiaries' R&D activities from a combination of cash generated from royalties and milestones from our partners in various past, ongoing and future collaborations and additional equity or debt financings from third parties. These financings could depress our stock price. If additional funds are required to support our or our subsidiaries' operations and such funds cannot be obtained on favorable terms, we and certain of our subsidiaries may not be able to develop products, which will adversely impact our growth strategy.

Collaborative relationships with third parties could cause us or certain of our subsidiaries to expend significant resources and incur substantial business risk with no assurance of financial return.

We anticipate substantial reliance upon strategic collaborations for marketing and commercializing our and certain of our subsidiaries' existing product candidates, and we and our subsidiaries may rely even more on strategic collaborations for R&D of other product candidates. We and certain of our subsidiaries may sell product offerings through strategic partnerships with pharmaceutical and biotechnology companies. If we or our subsidiaries are unable to establish or manage such strategic collaborations on terms favorable to us in the future, our revenue and drug development may be limited.

If we or certain of our subsidiaries enter into R&D collaborations during the early phases of drug development, success will in part depend on the performance of research collaborators. Neither we nor certain of our subsidiaries will directly control the amount or timing of resources devoted by research collaborators to activities related to product candidates. Research collaborators may not commit sufficient resources to our or our subsidiaries' R&D programs. If any research collaborator fails to commit sufficient resources, the preclinical or clinical development programs related to the collaboration could be delayed or terminated. Also, collaborators may pursue existing or other development-stage products or alternative technologies in preference to those being developed in collaboration with us or our subsidiaries. Finally, if we or certain of our subsidiaries fail to make required milestone or royalty payments to collaborators or to observe other obligations in agreements with them, the collaborators may have the right to terminate or stop performance of those agreements.

Establishing strategic collaborations is difficult and time-consuming. Our and certain of our subsidiaries' discussions with potential collaborators may not lead to the establishment of collaborations on favorable terms, if at all. Potential collaborators may reject collaborations based upon their assessment of our and our subsidiaries' financial, regulatory or intellectual property position. In addition, there has been a significant number of recent business combinations among large pharmaceutical companies that have resulted in a reduced number of potential future collaborators. Even if we or our subsidiaries successfully establish new collaborations, these relationships may never result in the successful development or commercialization of product candidates or the generation of sales revenue. To the extent that we or our subsidiaries enter into collaborative arrangements, the related product revenues are likely to be lower than if we or our subsidiaries directly marketed and sold products. Such collaborators may also consider alternative product candidates or technologies for similar indications that may be available to collaborate on and whether such a collaboration could be more attractive than the one with us or our subsidiaries for any future product candidate.

Management of our relationships with collaborators will require:

- significant time and effort from our management team, as well as from the management teams of our subsidiaries;
- coordination of our and certain of our subsidiaries' marketing and R&D programs with the respective marketing and R&D priorities of our collaborators; and
- effective allocation of our and our subsidiaries' resources to multiple projects.

As we continue to execute our growth strategy, we may be subject to further government regulation which would adversely affect our operations.

If we engage in business combinations and other transactions that result in holding passive investment interests in a number of entities, we may become subject to regulation under the Investment Company Act of 1940, as amended (the "Investment Company Act"). If we do become subject to the Investment Company Act, we would be required to register as an investment company and could be expected to incur significant registration and compliance costs in the future.

We may not be able to manage our anticipated growth, which may in turn adversely impact our business.

We will need to continue to expend funds on improving our infrastructure to address our anticipated growth. Acquisitions of companies or products could place a strain on our management, and administrative, operational and financial systems. In addition, we may need to hire, train and manage more employees, focusing on their integration with us and corporate culture. Integration and management issues associated with increased acquisitions may require a disproportionate amount of our management's time and attention and distract our management from other activities related to running our business.

We may not be able to hire or retain key officers or employees for our Company, and in some cases, our subsidiaries, to implement our business strategy and develop products and businesses.

Our success depends on the continued contributions of our executive officers, financial, scientific and technical personnel and consultants, and on our ability to attract additional personnel for us and, in some cases, our subsidiaries as we continue to implement our growth strategy and acquire and invest in companies with varied businesses. During our and our subsidiaries' operating history, many essential responsibilities have been assigned to a relatively small number of individuals. However, as we continue to implement our growth strategy and our subsidiaries grow, the demands on our key employees will expand and we will need to recruit additional qualified employees for us and, possibly, for our subsidiaries. The competition for such qualified personnel is intense, and the loss of services of certain key personnel or our or our subsidiaries' inability to attract additional personnel to fill critical positions could adversely affect our business.

We currently depend heavily upon the efforts and abilities of our management team and the management teams of our subsidiaries. The loss or unavailability of the services of any of these individuals could have a material adverse effect on our business, prospects, financial condition and results. In addition, we have not obtained, do not own, nor are we the beneficiary of key-person life insurance for any of our and our subsidiaries' key personnel. We only maintain a limited amount of directors' and officers' liability insurance coverage. There can be no assurance that this coverage will be sufficient to cover the costs of the events that may occur, in which case, there could be a substantial impact on our and our subsidiaries' ability to continue operations.

Our and our subsidiaries' employees, consultants, or third-party partners may engage in misconduct or other improper activities, including but not necessarily limited to noncompliance with regulatory standards and requirements or internal procedures, policies or agreements to which such employees, consultants and partners are subject, any of which could have a material adverse effect on our business.

We and our subsidiaries are exposed to the risk of employee fraud or other misconduct. Misconduct by employees, consultants, or third party partners could include intentional failures to comply with FDA regulations, provide accurate information to the FDA, comply with manufacturing standards we have established, comply with federal and state healthcare fraud and abuse laws and regulations, report financial information or data accurately, comply with internal procedures, policies or agreements to which such employees, consultants or partners are subject, or disclose unauthorized activities to us and our subsidiaries. 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 commission, customer incentive programs and other business arrangements. Employee, consultant, or third-party misconduct could also 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. The precautions we and our subsidiaries take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us and our subsidiaries 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 or our subsidiaries, and we or our subsidiaries are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business and results of operations, including the imposition of significant fines or other sanctions.

We and our subsidiaries receive a large amount of proprietary information from potential or existing licensors of intellectual property and potential acquisition target companies, all pursuant to confidentiality agreements. The confidentiality and proprietary invention assignment agreements that we and our subsidiaries have in place with each of our employees and consultants prohibit the unauthorized disclosure of such information, but such employees or consultants may nonetheless disclose such information through negligence or willful misconduct. Any such unauthorized disclosures could subject us and our subsidiaries to monetary damages and/or injunctive or equitable relief. The notes, analyses and memoranda that we and our subsidiaries have generated based off such information are also valuable to our businesses, and the unauthorized disclosure or misappropriation of such materials by our and our subsidiaries' employees and consultants could significantly harm our strategic initiatives – especially if such disclosures are made to our competitor companies.

Certain of our officers and directors serve in similar roles with our subsidiaries, affiliates, related parties and other parties with whom we transact business; ongoing and future relationships and transactions between these parties could result in conflicts of interest.

We share directors and/or officers with certain of our subsidiaries, affiliates, related parties or other companies with which we transact business, and such arrangements could create conflicts of interest in the future, including with respect to the allocation of corporate opportunities. While we believe that we have put in place policies and procedures to identify such conflicts and that any existing agreements that may give rise to such conflicts and any such policies or procedures were negotiated at arm's length in conformity with fiduciary duties, such conflicts of interest may nonetheless arise. The existence and consequences of such potential conflicts could expose us and our subsidiaries to lost profits, claims by our investors and creditors, and harm to our and our subsidiaries' results of operations.

Risks Related to Our Biopharmaceutical Business and Industry

We are an early-stage company, with limited operating history on which stockholders can base an investment decision; we also have numerous early-stage subsidiaries that rely heavily on third parties for the development and manufacturing of their products and product candidates.

We are primarily an early-stage biopharmaceutical company and certain of our subsidiaries, on whose success we largely rely, are also early-stage biopharmaceutical companies. To date, we and certain of our subsidiaries have engaged primarily in R&D and investment activities and have not generated any revenues from product sales. We and certain of our subsidiaries have incurred significant net losses since our inception. As of December 31, 2017, we had an accumulated deficit of approximately $312.1 million. We and certain of our subsidiaries have not demonstrated the ability to perform the functions necessary for the successful commercialization of any of our products. The successful commercialization of our and certain of our subsidiaries' products will require us and our subsidiaries to perform or contract with third parties for performance of a variety of critical functions, including, but not necessarily limited to:

- identifying, developing, and commercializing product candidates;
- entering into successful licensing and other arrangements with product development partners;
- continuing to undertake pre-clinical development and designing and executing clinical trials;
- participating in regulatory approval processes;
- formulating and manufacturing products for clinical development programs and commercial sale; and
- conducting sales and marketing activities.

Our operations have been limited to acquiring, developing and securing the proprietary rights for, and undertaking pre-clinical development and clinical trials of product candidates, and making investments in other companies. These operations provide a limited basis for our stockholders and prospective investors to assess our ability to commercialize product candidates, develop potential product candidates and make successful investments in other companies, as well as for you to assess the advisability of investing in our securities. Each of these requirements will require substantial time, effort and financial resources.

If we or certain of our subsidiaries are unable to establish or maintain sales and marketing capabilities or fail to enter into agreements with third parties to market, distribute and sell products that may be successfully developed, neither we nor our subsidiaries may be able to effectively market and sell products and continue to generate product revenue.

Neither we nor our biopharmaceutical subsidiaries (other than Journey Medical Corporation) currently have the infrastructure for the sales, marketing and distribution of any of our product candidates, and we and certain of our subsidiaries must build and maintain this infrastructure or make arrangements with third parties to perform these functions in order to continue to commercialize any products that we may successfully develop. The establishment and development of a sales force, either by us, certain of our subsidiaries or jointly with a partner, or the establishment of a contract sales force to market any products we or our subsidiaries may develop, is expensive and time-consuming and could delay any product launch or compromise the successful commercialization of products. If we, certain of our subsidiaries, or our respective partners, are unable to establish and maintain sales and marketing capabilities or any other non-technical capabilities necessary to commercialize any products that may be successfully developed, we or certain of our subsidiaries will need to contract with third parties to market and sell such products. We or certain of our subsidiaries may not be able to establish arrangements with third parties on acceptable terms, or at all.

If any of our or certain of our subsidiaries' product candidates that are successfully developed do not achieve broad market acceptance among physicians, patients, healthcare payors and the medical community, the revenues that any such product candidates generate from sales will be limited.

Even if our or certain of our subsidiaries' product candidates receive regulatory approval, they may not gain market acceptance among physicians, patients, healthcare payors and the medical community. Coverage and reimbursement of our or certain of our subsidiaries' product candidates by third-party payors, including government payors, generally is also necessary for commercial success. The degree of market acceptance of any approved products will depend on a number of factors, including, but not necessarily limited to:

- the efficacy and safety as demonstrated in clinical trials;
- the timing of market introduction of such product candidate as well as competitive products;
- the clinical indications for which the product is approved;
- acceptance by physicians, major operators of hospitals and clinics and patients of the product as a safe and effective treatment;
- the potential and perceived advantages of product candidates over alternative treatments;
- the safety of product candidates seen in a broader patient group, including its use outside the approved indications;
- the cost of treatment in relation to alternative treatments;
- the availability of adequate reimbursement and pricing by third parties and government authorities;
- the approval, availability, market acceptance and reimbursement for a companion diagnostic, if any;
- changes in regulatory requirements by government authorities for our product candidates;
- relative convenience and ease of administration;
- the prevalence and severity of side effects and adverse events;
- the effectiveness of our sales and marketing efforts; and
- unfavorable publicity relating to the product.

If any product candidate is approved but does not achieve an adequate level of acceptance by physicians, hospitals, healthcare payors and patients, we or certain of our subsidiaries may not generate sufficient revenue from these products and in turn we may not become or remain profitable.

Healthcare reform and changes to restrictions on reimbursements are difficult to predict and may limit our financial returns.

Our ability and the ability of certain of our subsidiaries and all of our respective collaborators to commercialize product candidates that are successfully developed may depend, in part, on the extent to which government health administration authorities, private health insurers and other organizations will reimburse consumers for the cost of these products. These third parties are increasingly challenging both the need for and the price of new drug products. Significant uncertainty exists as to the reimbursement status of newly approved therapeutics. Adequate third-party reimbursement may not be available for our or certain of our subsidiaries' product candidates, which would prevent those product candidates from selling at price levels sufficient to realize an appropriate return on investments in research and product development.

Additionally, we are unable to predict the future course of federal or state health care legislation and regulations, including regulations related to the health care reform legislation enacted in March 2010, known as the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Affordability Reconciliation Act, or collectively the ACA. The Affordable Care Act and any revisions or replacements of that Act, any substitute legislation, and other changes in the law or regulatory framework could have a material adverse effect on our business.

Among the provisions of the ACA of importance to our potential product candidates are:

- an annual, nondeductible fee on any entity that manufactures, or imports specified branded prescription drugs and biologic agents, apportioned among these entities according to their market share in certain government healthcare programs;

- an increase in the statutory minimum rebates a manufacturer must pay under the Medicaid Drug Rebate Program to 23.1% and 13.0% of the average manufacturer price for branded and generic drugs, respectively;
- expansion of healthcare fraud and abuse laws, including the federal False Claims Act and the federal Anti-Kickback Statute, new government investigative powers and enhanced penalties for non-compliance;
- a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 50% point-of-sale discounts off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for a manufacturer's outpatient drugs to be covered under Medicare Part D;
- extension of a manufacturer's Medicaid rebate liability to covered drugs dispensed to individuals who are enrolled in Medicaid managed care organizations;
- expansion of eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to additional individuals and by adding new mandatory eligibility categories for certain individuals with income at or below 138% of the federal poverty level, thereby potentially increasing a manufacturer's Medicaid rebate liability;
- expansion of the entities eligible for discounts under the 340B Drug Pricing Program;
- the new requirements under the federal Open Payments program and its implementing regulations;
- a new requirement to annually report drug samples that manufacturers and distributors provide to physicians; and
- a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research.

The Supreme Court upheld the ACA in the main challenge to the constitutionality of the law in 2012. The Supreme Court also upheld federal subsidies for purchasers of insurance through federally facilitated exchanges in a decision released in June 2015. Any remaining legal challenges to the ACA are viewed generally as not significantly impacting the implementation of the law if the plaintiffs prevail.

The U.S. President signed an Executive Order in 2017 instructing federal agencies to waive or delay requirements of the ACA that impose economic or regulatory burdens on states, families, the health-care industry and others. Modifications to or repeal of all or certain provisions of the ACA have been attempted in Congress as a result of the outcome of the recent presidential and congressional elections, consistent with statements made by the incoming administration and members of Congress during the presidential and congressional campaigns and following the election. In January 2017, Congress voted to adopt a budget resolution for fiscal year 2017, or the Budget Resolution, that authorizes the implementation of legislation that would repeal portions of the ACA. The Budget Resolution is not a law. However, it is widely viewed as the first step toward the passage of legislation that would repeal certain aspects of the ACA. In March 2017, following the passage of the budget resolution for fiscal year 2017, the U.S. House of Representatives passed legislation known as the American Health Care Act of 2017, which, if enacted, would amend or repeal significant portions of the ACA. Attempts in the Senate in 2017 to pass similar ACA repeal legislation, including the Better Care Reconciliation Act of 2017, were unsuccessful. However, in December 2017, the Tax Cuts and Jobs Act was enacted, which includes a provision that effectively repeals the ACA's individual mandate by reducing the tax penalty for failing to maintain minimum essential coverage to zero.

Legislative proposals such as expanding the Medicaid drug rebate program to the Medicare Part D program, providing authority for the government to negotiate drug prices under the Medicare Part D program and lowering reimbursement for drugs covered under the Medicare Part B program have been raised in Congress but have been met with opposition and have not been enacted so far.

The administration can rely on its existing statutory authority to make policy changes that could have an impact on the drug industry. For example, the Medicare program has in the past proposed to test alternative payment methodologies for drugs covered under the Part B program and finalized a proposal to pay hospitals less for Part B-covered drugs purchased through the 340B Drug Pricing Program effective January 1, 2018.

We expect that the ACA, as well as other healthcare reform measures that may be adopted in the future, may result in more rigorous coverage criteria and in additional downward pressure on the price that we receive for any approved drug. Any reduction in reimbursement from Medicare or other government healthcare programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability or commercialize our drugs.

The United Kingdom's announced withdrawal from the EU could have a negative effect on global economic conditions and financial markets, EU regulatory procedures and our business.

In June 2016, a majority of voters in the United Kingdom, or the UK, elected in a national referendum to withdraw from the EU. In March 2017, the UK government formally initiated the withdrawal process. That pending withdrawal, currently scheduled to occur in or before March 2019, has created significant uncertainty about the future relationship between the UK and the EU, including with respect to the laws and regulations that will apply as the UK determines which EU laws to replace or replicate upon withdrawal. The pending withdrawal has also given rise to calls for the governments of other EU member states to consider withdrawal. These developments, or the perception that any of them could occur, have had and may continue to have a material adverse effect on global economic conditions and the stability of global financial markets, and may significantly reduce global market liquidity and restrict the ability of key market participants to operate in certain financial markets. Any of these factors could depress economic activity and restrict access to capital, which could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

The UK's withdrawal from the EU also means that the EMA, from which we and certain of our subsidiaries must obtain approval to sell any product in the EU, must relocate from its current headquarters in the UK to a new location within the EU. This relocation of the EMA could significantly disrupt its operations, which could cause delays in the EMA's review and approval of marketing authorization applications. Such a disruption could impact any future applications for EMA approval of our and our subsidiaries' drug candidates, which could have a material adverse effect on our business, financial condition and results of operations and growth prospects.

Our, and our subsidiaries', current and future relationships with customers and third-party payors in the United States and elsewhere may be subject, directly or indirectly, to applicable anti-kickback, fraud and abuse, false claims, transparency, health information privacy and security and other healthcare laws and regulations, which could expose us or our subsidiaries to criminal sanctions, civil penalties, contractual damages, reputational harm, administrative burdens and diminished profits and future earnings.

Healthcare providers, physicians and third-party payors in the US and elsewhere will play a primary role in the recommendation and prescription of any product candidates for which we, or our subsidiaries, obtain marketing approval. Our, and our subsidiaries', future arrangements with third-party payors and customers may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations, including, without limitation, the federal Anti-Kickback Statute and the federal False Claims Act, which may constrain the business or financial arrangements and relationships through which we and our subsidiaries sell, market and distribute any product candidates for which we obtain marketing approval. In addition, we or our subsidiaries may be subject to transparency laws and patient privacy regulation by the federal and state governments and by governments in foreign jurisdictions in which we conduct our business. The applicable federal, state and foreign healthcare laws and regulations that may affect our ability to operate, or our subsidiaries' ability to operate, include, but are not necessarily limited to:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward, or in return for, either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made under federal and state healthcare programs, such as Medicare and Medicaid;

- federal civil and criminal false claims laws and civil monetary penalty laws, including the federal False Claims Act, which impose criminal and civil penalties, including civil whistleblower or qui tam actions, against individuals or entities for knowingly presenting, or causing to be presented, to the federal government, including the Medicare and Medicaid programs, claims for payment that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government; the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters;

- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, or HITECH, and their respective implementing regulations, which impose obligations on covered healthcare providers, health plans, and healthcare clearinghouses, as well as their business associates that create, receive, maintain or transmit individually identifiable health information for or on behalf of a covered entity, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;

- the federal Open Payments program, which requires manufacturers of certain drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program, with specific exceptions, to report annually to the Centers for Medicare & Medicaid Services, or CMS, information related to "payments or other transfers of value" made to physicians, which is defined to include doctors, dentists, optometrists, podiatrists and chiropractors, and teaching hospitals and applicable manufacturers and applicable group purchasing organizations to report annually to CMS ownership and investment interests held by the physicians and their immediate family members. Data collection began on August 1, 2013 with requirements for manufacturers to submit reports to CMS by March 31, 2014 and 90 days after the end each subsequent calendar year. Disclosure of such information was made by CMS on a publicly available website beginning in September 2014; and

- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws, which may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers; state and foreign laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government or otherwise restrict payments that may be made to healthcare providers; state and foreign laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures; and state and foreign laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Efforts to ensure that our business and our subsidiaries' business arrangements with third parties will comply with applicable healthcare laws and regulations may involve substantial costs. It is possible that governmental authorities will conclude that our or our subsidiaries' business practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our or our subsidiaries' operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, including, without limitation, damages, fines, imprisonment, exclusion from participation in government healthcare programs, such as Medicare and Medicaid, and the curtailment or restructuring of our operations, which could have a material adverse effect on our business. If any of the physicians or other healthcare providers or entities with whom we expect to do business, including our collaborators, is found not to be in compliance with applicable laws, it may be subject to criminal, civil or administrative sanctions, including exclusions from participation in government healthcare programs, which could also materially affect our business.

Failure to be included in formularies developed by managed care organizations and coverage by other organizations may negatively impact the utilization of our and certain of our subsidiaries' products, which could harm our and our subsidiaries' market shares and could have a material adverse effect on our business and financial condition.

Managed care organizations and other third party payors try to negotiate the pricing of medical services and products to control their costs. Managed care organizations and pharmacy benefit managers typically develop formularies to reduce their cost for medications. Formularies can be based on the prices and therapeutic benefits of the available products. Due to their lower costs, generic products are often favored. The breadth of the products covered by formularies varies considerably from one managed care organization to another, and many formularies include alternative and competitive products for treatment of particular medical conditions. Failure to be included in such formularies or to achieve favorable formulary status may negatively impact the utilization and market share of our and certain of our subsidiaries' products. If our and our subsidiaries' products are not included within an adequate number of formularies or adequate reimbursement levels are not provided, or if those policies increasingly favor generic products, this could have a material adverse effect on our business and financial condition.

Our product candidates and certain of our subsidiaries' product candidates are at an early stage of development and may not be successfully developed or commercialized.

Our existing product candidates, and most of our subsidiaries' product candidates remain in the early stage of development and will require substantial further capital expenditures, development, testing and regulatory clearances prior to commercialization. The development and regulatory approval process takes several years, and it is not likely that our product candidates or all our subsidiaries' product candidates, even if successfully developed and approved by the FDA, would be commercially available for several years. Of the large number of drugs in development, only a small percentage successfully completes the FDA regulatory approval process and is commercialized. Accordingly, even if we and our subsidiaries are able to obtain the requisite financing to fund development programs, we cannot assure you that any of our or our subsidiaries' product candidates will be successfully developed or commercialized, which could result in the failure of our business and a loss of your investment in our Company.

Because we and certain of our subsidiaries in-license certain product candidates from third parties, any dispute with the licensors or the non-performance of such license agreements may adversely affect our and our subsidiaries' ability to develop and commercialize the applicable product candidates.

All of our existing product candidates and certain of our subsidiaries' product candidates, including related intellectual property rights, were in-licensed from third parties. Under the terms of the license agreements, the licensors generally have the right to terminate such agreements in the event of a material breach. The licenses require us and certain of our subsidiaries to make annual, milestone or other payments prior to commercialization of any product and our and our subsidiaries' ability to make these payments depends on the ability to generate cash in the future. These license agreements also generally require the use of diligent and reasonable efforts to develop and commercialize product candidates.

If there is any conflict, dispute, disagreement or issue of non-performance between us or one of our subsidiaries, on the one hand, and the respective licensing partner, on the other hand, regarding the rights or obligations under the license agreements, including any conflict, dispute or disagreement arising from a failure to satisfy payment obligations under such agreements, the ability to develop and commercialize the affected product candidate may be adversely affected.

The types of disputes which may arise between us and our subsidiaries and the third parties from whom we and our subsidiaries license intellectual property include, but are not limited to:

- the scope of rights granted under such license agreements and other interpretation-related issues;
- the extent to which our technology and processes infringe on intellectual property of the licensor that is not subject to such license agreements;
- the sublicensing of patent and other rights under our license agreements and/or collaborative development relationships, and the rights and obligations associated with such sublicensing;
- the diligence and development obligations under license agreements (which may include specific diligence milestones) and what activities or achievements satisfy those diligence obligations;
- whether or not the milestones associated with certain milestone payment obligations have been achieved or satisfied;
- the applicability or scope of indemnification claims or obligations under such license agreements;
- the permissibility and advisability of, and strategy regarding, the pursuit of potential third-party infringers of the intellectual property that is the subject of such license agreements;
- the calculation of royalty, sublicense revenue and other payment obligations under such license agreements;
- the extent to which license rights, if any, are retained by licensors under such license agreements;
- whether or not a material breach has occurred under such license agreements and the extent to which such breach, if deemed to have occurred, is or can be cured within applicable cure periods, if any;
- disputes regarding patent filing and prosecution decisions, as well as payment obligations regarding past and ongoing patent expenses;
- the inventorship and ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors and us and our partners; and
- the priority of invention of patented technology.

In addition, the agreements under which we and our subsidiaries currently license intellectual property or technology from third parties are complex, and certain provisions in such agreements may be susceptible to multiple interpretations or may conflict in such a way that puts us in breach of one or more agreements, which would make us susceptible to lengthy and expensive disputes with one or more of such third-party licensing partners. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our and our subsidiaries' rights to the relevant intellectual property or technology, or increase what we believe to be our and our subsidiaries' financial or other obligations under the relevant agreements, either of which could have a material adverse effect on our business, financial condition, results of operations and prospects. Moreover, if disputes over intellectual property that we or our subsidiaries have licensed prevent or impair our ability to maintain our current licensing arrangements on commercially acceptable terms, we or our subsidiaries may be unable to successfully develop and commercialize the affected product candidates, which could have a material adverse effect on our business, financial conditions, results of operations and prospects.

Product candidates that we or certain of our subsidiaries advance into clinical trials may not receive regulatory approval.

Pharmaceutical development has inherent risk. We and certain of our subsidiaries will be required to demonstrate through well-controlled clinical trials that product candidates are effective with a favorable benefit-risk profile for use in their target indications before seeking regulatory approvals for their commercial sale. Success in early clinical trials does not mean that later clinical trials will be successful, as product candidates in later-stage clinical trials may fail to demonstrate sufficient safety or efficacy despite having progressed through initial clinical testing. Also, we or our subsidiaries may need to conduct additional clinical trials that are not currently anticipated. Companies frequently suffer significant setbacks in advanced clinical trials, even after earlier clinical trials have shown promising results. As a result, product candidates that we or our subsidiaries advance into clinical trials may not receive regulatory approval.

In addition, even if our or certain of our subsidiaries' product candidates were to obtain approval, regulatory authorities may approve any of such product candidates or any future product candidate for fewer or more limited indications than we or our subsidiaries request, may not approve the price we or our subsidiaries intend to charge for our products, may grant approval contingent on the performance of costly post-marketing clinical trials, or may approve a product candidate with a label that does not include the labeling claims necessary or desirable for the successful commercialization of that product candidate. Any of these scenarios could compromise the commercial prospects for one or more of our or our subsidiaries current or future product candidates.

Moreover, in all interactions with regulatory authorities, the company is exposed to liability risks under the Foreign Corrupt Practices Act or similar anti-bribery laws.

Any product candidates we or certain of our subsidiaries advance into clinical development are subject to extensive regulation, which can be costly and time consuming, cause unanticipated delays or prevent the receipt of the required approvals to commercialize product candidates.

The clinical development, manufacturing, labeling, storage, record-keeping, advertising, promotion, import, export, marketing and distribution of any product candidate, including our product candidates, and certain of our subsidiaries' product candidates, is subject to extensive regulation by the FDA in the United States and by comparable health authorities in foreign markets. In the United States, neither we nor our subsidiaries are permitted to market our product candidates until such product candidate's Biologics License Application ("BLA") or New Drug Application is approved by the FDA. The process of obtaining approval is expensive, often takes many years and can vary substantially based upon the type, complexity and novelty of the products involved. Certain of our subsidiaries' development of individualized immunotherapies, if any, will face similar challenges. In addition to the significant clinical testing requirements, our and our subsidiaries' ability to obtain marketing approval for product candidates depends on obtaining the final results of required non-clinical testing, including characterization of the manufactured components of our and our subsidiaries' product candidates and validation of our and our subsidiaries' manufacturing processes. The FDA may determine that our or our subsidiaries' product manufacturing processes, testing procedures or facilities are insufficient to justify approval. Approval policies or regulations may change, and the FDA has substantial discretion in the pharmaceutical approval process, including the ability to delay, limit or deny approval of a product candidate for many reasons. Despite the time and expense invested in clinical development of product candidates, regulatory approval is never guaranteed.

The FDA and other regulatory agencies can delay, limit or deny approval of a product candidate for many reasons, including, but not limited to:

- the FDA or comparable foreign regulatory authorities may disagree with the design or implementation of our clinical trials or those of certain of our subsidiaries;
- our or certain of our subsidiaries' inability to demonstrate to the satisfaction of the FDA that a product candidate is safe and effective for any indication;
- the FDA may not accept clinical data from trials which are conducted by individual investigators or in countries where the standard of care is potentially different from that of the United States;

- the results of clinical trials may not meet the level of statistical significance required by the FDA for approval;
- the FDA may disagree with the interpretation of data from preclinical studies or clinical trials;
- the FDA may fail to approve the manufacturing processes or facilities or those of third-party manufacturers with which we, or certain of our subsidiaries or our respective collaborators contract for clinical and commercial supplies; or
- the approval policies or regulations of the FDA may significantly change in a manner rendering the clinical data insufficient for approval or the product characteristics or benefit-risk profile unfavorable for approval.

With respect to foreign markets, approval procedures vary among countries and, in addition to the aforementioned risks, can involve additional product testing, administrative review periods and agreements with pricing authorities. In addition, recent events raising questions about the safety of certain marketed pharmaceuticals may result in increased cautiousness by the FDA and comparable foreign regulatory authorities in reviewing new pharmaceuticals based on safety, efficacy or other regulatory considerations and may result in significant delays in obtaining regulatory approvals. Any delay in obtaining, or inability to obtain, applicable regulatory approvals would prevent us or our subsidiaries from commercializing our product candidates.

Any product candidate we or certain of our subsidiaries advance into clinical trials may cause unacceptable adverse events or have other properties that may delay or prevent their regulatory approval or commercialization or limit their commercial potential.

Unacceptable adverse events caused by any of our or certain of our subsidiaries' product candidates that we advance into clinical trials could cause regulatory authorities to interrupt, delay or stop clinical trials and could result in the denial of regulatory approval by the FDA or other regulatory authorities for any or all targeted indications and markets. This, in turn, could prevent us or certain of our subsidiaries from commercializing the affected product candidate and generating revenues from its sale. For example, in Phase 1/2 oncology trials, dose limiting toxicity ("DLT") stopping rules are commonly applied.

Neither we nor certain of our subsidiaries have completed testing of all our product candidates for the treatment of the indications for which we intend to seek product approval in humans, and we currently do not know the extent of adverse events, if any, that will be observed in patients who receive any of our or our subsidiaries' product candidates. If any of our or our subsidiaries' product candidates cause unacceptable adverse events in clinical trials, neither we nor our subsidiaries may be able to obtain regulatory approval or commercialize such products or, if such product candidates are approved for marketing, future adverse events could cause us or certain of our subsidiaries to withdraw such products from the market.

Delays in the commencement of our and certain of our subsidiaries' clinical trials could result in increased costs and delay our or certain of our subsidiaries' ability to pursue regulatory approval.

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

- obtaining regulatory clearance to commence a clinical trial;
- identifying, recruiting and training suitable clinical investigators;
- reaching agreement on acceptable terms with prospective clinical research organizations ("CROs") and trial sites, the terms of which can be subject to extensive negotiation, may be subject to modification from time to time and may vary significantly among different CROs and trial sites;
- obtaining sufficient quantities of a product candidate for use in clinical trials;
- obtaining Institutional Review Board ("IRB") or ethics committee approval to conduct a clinical trial at a prospective site;
- identifying, recruiting and enrolling patients to participate in a clinical trial; and
- retaining (or replacing) patients who have initiated a clinical trial but may withdraw due to adverse events from the therapy, insufficient efficacy, fatigue with the clinical trial process or personal issues.

Any delays in the commencement of our or certain of our subsidiaries' clinical trials will delay our or our subsidiaries' ability to pursue regulatory approval for product candidates. In addition, many of the factors that cause, or lead to, a delay in the commencement of clinical trials may also ultimately lead to the denial of regulatory approval of a product candidate.

Suspensions or delays in the completion of clinical testing could result in increased costs and delay or prevent our or certain of our subsidiaries' ability to complete development of that product or generate product revenues.

Once a clinical trial has begun, patient recruitment and enrollment may be slower than we anticipate. Clinical trials may also be delayed as a result of ambiguous or negative interim results or difficulties in obtaining sufficient quantities of product manufactured in accordance with regulatory requirements and on a timely basis. Further, a clinical trial may be modified, suspended or terminated by us or our subsidiaries, an IRB, an ethics committee or a data safety monitoring committee overseeing the clinical trial, any clinical trial site with respect to that site, or the FDA or other regulatory authorities, due to a number of factors, including, but not necessarily limited to:

- failure to conduct the clinical trial in accordance with regulatory requirements or our or our subsidiaries' clinical protocols;
- inspection of the clinical trial operations or clinical trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold;
- stopping rules contained in the protocol;
- unforeseen safety issues or any determination that the clinical trial presents unacceptable health risks; and
- lack of adequate funding to continue the clinical trial.

Changes in regulatory requirements and guidance also may occur, and we or certain of our subsidiaries may need to amend clinical trial protocols to reflect these changes. Amendments may require us or certain of our subsidiaries to resubmit clinical trial protocols to IRBs for re-examination, which may in turn impact the costs and timing of, and the likelihood of successfully completing, a clinical trial. If we or our subsidiaries experience delays in the completion of, or if we must suspend or terminate, any clinical trial of any product candidate, our ability or the ability of our subsidiaries to obtain regulatory approval for that product candidate will be delayed and the commercial prospects, if any, for the product candidate may suffer as a result. In addition, many of these factors may also ultimately lead to the denial of regulatory approval of a product candidate.

Even if approved, any product candidates that we or certain of our subsidiaries may develop and market may be later withdrawn from the market or subject to promotional limitations.

Neither we nor certain of our subsidiaries may be able to obtain the labeling claims necessary or desirable for the promotion of our product candidates if approved. We and certain of our subsidiaries may also be required to undertake post-marketing clinical trials. If the results of such post-marketing studies are not satisfactory or if adverse events or other safety issues arise after approval, the FDA or a comparable regulatory agency in another country may withdraw marketing authorization or may condition continued marketing on commitments from us or our subsidiaries that may be expensive and/or time consuming to complete. In addition, if we or others identify adverse side effects after any of our or our subsidiaries' products are on the market, or if manufacturing problems occur, regulatory approval may be withdrawn and reformulation of our or our subsidiaries' products, additional clinical trials, changes in labeling of our or our subsidiaries' products and additional marketing applications may be required. Any reformulation or labeling changes may limit the marketability of such products if approved.

We and certain of our subsidiaries currently rely predominantly on third parties to manufacture our preclinical and clinical pharmaceutical supplies and expect to continue to rely heavily on them and other contractors to produce commercial supplies of our products, and our dependence on third-party suppliers could adversely impact our business.

We and certain of our subsidiaries depend heavily on third party manufacturers for product supply. If our or our subsidiaries' contract manufacturers cannot successfully manufacture material that conforms to our specifications and with FDA regulatory requirements, we will not be able to secure and/or maintain FDA approval for those products. Our and our subsidiaries' third-party suppliers will be required to maintain compliance with cGMPs and will be subject to inspections by the FDA and comparable agencies and authorities in other jurisdictions to confirm such compliance. In the event that the FDA or such other agencies determine that our third-party suppliers have not complied with cGMP or comparable authorities, the relevant clinical trials could be terminated or subjected to a clinical hold until such time as we are able to obtain appropriate replacement material and/or applicable compliance and commercial product could be unfit for sale. Any delay, interruption or other issues that arise in the manufacture, packaging, or storage of our products as a result of a failure of the facilities or operations of our third-party suppliers to pass any regulatory agency inspection could significantly impair our ability to develop and commercialize our and our subsidiaries' products.

We and certain of our subsidiaries also rely on our manufacturers to purchase from third-party suppliers the materials necessary to produce product candidates for anticipated clinical trials. There are a small number of suppliers for certain capital equipment and raw materials that are used to manufacture those products. We do not have any control over the process or timing of the acquisition of these raw materials by our manufacturers. Moreover, we currently do not have any agreements for the commercial production of these raw materials. Any significant delay in the supply the raw material components for an ongoing clinical trial could considerably delay completion of our and our subsidiaries' clinical trials, product testing and potential regulatory approval.

We do not expect to have the resources or capacity to commercially manufacture our and certain of our subsidiaries' products internally, if approved, and will likely continue to be heavily dependent upon third-party manufacturers. Our dependence on third parties to manufacture and supply clinical trial materials and any approved products may adversely affect our and our subsidiaries' ability to develop and commercialize products in a timely or cost-effective manner, or at all.

We and certain of our subsidiaries rely on third parties to conduct clinical trials. If these third parties do not meet agreed upon deadlines or otherwise conduct the trials as required, our or our subsidiaries' clinical development programs could be delayed or unsuccessful and neither we nor our subsidiaries may be able to obtain regulatory approval for or commercialize our product candidates when expected or at all.

Neither we nor certain of our subsidiaries have the ability to conduct all aspects of our preclinical testing or clinical trials ourselves. We and certain of our subsidiaries intend to and do use CROs to conduct planned clinical trials and will and do rely upon such CROs, as well as medical institutions, clinical investigators and consultants, to conduct our trials in accordance with specified clinical protocols. These CROs, investigators and other third parties will and do play a significant role in the conduct of our and certain of our subsidiaries' trials and the subsequent collection and analysis of data from the clinical trials.

There is no guarantee that any CROs, investigators and other third parties upon which we and our subsidiaries rely for administration and conduct of our clinical trials will devote adequate time and resources to such trials or perform as contractually required. If any of these third parties fail to meet expected deadlines, fail to adhere to our clinical protocols or otherwise perform in a substandard manner, our or our subsidiaries' clinical trials may be extended, delayed or terminated. If any of the clinical trial sites terminate for any reason, we or our subsidiaries may lose follow-up information on patients enrolled in our ongoing clinical trials unless the care of those patients is transferred to another qualified clinical trial site. In addition, principal investigators for our and our subsidiaries' clinical trials may serve as scientific advisers or consultants to us from time to time and receive cash or equity compensation in connection with such services. If these relationships and any related compensation result in perceived or actual conflicts of interest, the integrity of the data generated at the applicable clinical trial site may be jeopardized.

We and certain of our subsidiaries rely on clinical data and results obtained by third parties that could ultimately prove to be inaccurate or unreliable.

As part of the strategy implemented by us and our subsidiaries to mitigate development risk, we and certain of our subsidiaries seek to develop product candidates with validated mechanisms of action and we utilize biomarkers to assess potential clinical efficacy early in the development process. This strategy necessarily relies upon clinical data and other results produced or obtained by third parties, which may ultimately prove to be inaccurate or unreliable. If the third party data and results we and certain of our subsidiaries rely upon prove to be inaccurate, unreliable or not applicable to the product candidates of us and our subsidiaries, we could make inaccurate assumptions and conclusions about the product candidates of us and our subsidiaries, and our research and development efforts could be compromised and called into question during the review or any marketing applications we submit.

If our competitors develop treatments for any of the target indications of our or certain of our subsidiaries' product candidates that are approved more quickly, marketed more successfully or demonstrated to be more effective, the commercial opportunity with respect to that product candidate will be reduced or eliminated.

We and certain of our subsidiaries operate in highly competitive segments of the biopharmaceutical markets and face competition from many different sources, including commercial pharmaceutical enterprises, academic institutions, government agencies, and private and public research institutions. Our and our subsidiaries' product candidates, if successfully developed and approved, will compete with established therapies, as well as new treatments that may be introduced by our competitors. Many of our and our subsidiaries' competitors have significantly greater financial, product development, manufacturing and marketing resources than those of ours and our subsidiaries. Large pharmaceutical companies have extensive experience in clinical testing and obtaining regulatory approval for drugs. In addition, many universities and private and public research institutes are active in clinical and pre-clinical research, some in direct competition with us. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. New developments, including the development of other biological and pharmaceutical technologies and methods of treating disease, occur in the pharmaceutical and life sciences industries at a rapid pace. Developments by competitors may render our and our subsidiaries' product candidates obsolete or noncompetitive. We and our subsidiaries will also face competition from these third parties in establishing clinical trial sites and patient registration for clinical trials and in identifying and in-licensing new product candidates.

We or certain of our subsidiaries may incur substantial product liability or indemnification claims relating to the clinical testing of product candidates.

We and certain of our subsidiaries face an inherent risk of product liability exposure related to the testing of product candidates in human clinical trials, and claims could be brought against us if use or misuse of one of our or our subsidiaries' product candidates causes, or merely appears to have caused, personal injury or death. While we and our subsidiaries have and/or intend to maintain product liability insurance relating to clinical trials, that coverage may not be sufficient to cover potential claims and we or our subsidiaries may be unable to maintain such insurance. Any claims against us or our subsidiaries, regardless of their merit, could severely harm our or our subsidiaries' financial condition, strain management and other resources or destroy the prospects for commercialization of the product which is the subject of any such claim. We are unable to predict if we or our subsidiaries will be able to obtain or maintain product liability insurance for any products that may be approved for marketing. Additionally, we and certain of our subsidiaries have entered into various agreements under which we indemnify third parties for certain claims relating to product candidates. These indemnification obligations may require us or our subsidiaries to pay significant sums of money for claims that are covered by these indemnifications.

We and certain of our subsidiaries may use biological materials and hazardous materials, and any claims relating to improper handling, storage or disposal of these materials could be time consuming and costly.

We and certain of our subsidiaries may use hazardous materials, including chemicals and biological agents and compounds that could be dangerous to human health and safety or the environment. Our and certain of our subsidiaries' operations may also produce hazardous waste products. Federal, state and local laws and regulations govern the use, generation, manufacture, storage, handling and disposal of these materials and wastes. Compliance with applicable environmental laws and regulations may be expensive, and current or future environmental laws and regulations may impair our product development efforts. In addition, neither we nor our subsidiaries can entirely eliminate the risk of accidental injury or contamination from these materials or wastes. Neither we nor our subsidiaries carry specific biological or hazardous waste insurance coverage, and our property and casualty and general liability insurance policies specifically exclude coverage for damages and fines arising from biological or hazardous waste exposure or contamination. Accordingly, in the event of contamination or injury, we or any of our subsidiaries could be held liable for damages or penalized with fines in an amount exceeding our respective resources, and clinical trials or regulatory approvals could be suspended.

Although we maintain workers' compensation insurance to cover costs and expenses incurred due to injuries to our and our subsidiaries' employees resulting from the use of hazardous materials, this insurance may not provide adequate coverage against potential liabilities. Neither we nor our subsidiaries maintain insurance for environmental liability or toxic tort claims that may be asserted in connection with the storage or disposal of biological or hazardous materials.

In addition, we and certain of our subsidiaries may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. These current or future laws and regulations may impair our research, development or production efforts. Failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions.

Our success depends upon our and certain of our subsidiaries' ability to obtain and maintain intellectual property rights and take advantage of certain regulatory market exclusivity periods.

Our success depends, in large part, on our and certain of our subsidiaries' ability to obtain patent protection for product candidates and their formulations and uses. The patent application process is subject to numerous risks and uncertainties, and there can be no assurance that we, our subsidiaries, or our respective partners will be successful in obtaining patents. These risks and uncertainties include, but are not necessarily limited to, the following:

- patent applications may not result in any patents being issued, or the scope of issued patents may not extend to competitive product candidates and their formulations and uses developed or produced by others;
- our and our subsidiaries' competitors, many of which have substantially greater resources than us, our subsidiaries, or our partners, and many of which have made significant investments in competing technologies, may seek, or may already have obtained, patents that may limit or interfere with our or our subsidiaries' ability to make, use, and sell potential product candidates;
- there may be significant pressure on the U.S. government and other international governmental bodies to limit the scope of patent protection both inside and outside the United States for disease treatments that prove successful as a matter of public policy regarding worldwide health concerns; and
- countries other than the United States may have patent laws less favorable to patentees than those upheld by U.S. courts, allowing foreign competitors a better opportunity to create, develop and market competing products.

In addition, patents that may be issued or in-licensed may be challenged, invalidated, modified, revoked, circumvented, found to be unenforceable, or otherwise may not provide any competitive advantage. Moreover, we or our subsidiaries may be subject to a third-party pre-issuance submission of prior art to the PTO, or become involved in opposition, derivation, reexamination, *inter partes* review, post-grant review or interference proceedings challenging our patent rights or the patent rights of others. The costs of these proceedings could be substantial, and it is possible that our efforts to establish priority of invention would be unsuccessful, resulting in a material adverse effect on our US patent position. An adverse determination in any such submission, patent office trial, proceeding or litigation could reduce the scope of, render unenforceable, or invalidate, our patent rights, allow third parties to commercialize our technology or products and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize products without infringing third-party patent rights. In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates. Third parties are often responsible for maintaining patent protection for our product candidates and those of our subsidiaries, at our and their expense. If that party fails to appropriately prosecute and maintain patent protection for a product candidate, our and our subsidiaries' ability to develop and commercialize or products may be adversely affected and we may not be able to prevent competitors from making, using and selling competing products. Such a failure to properly protect intellectual property rights relating to any of our or our subsidiaries' product candidates could have a material adverse effect on our financial condition and results of operations.

In addition, U.S. patent laws may change, which could prevent or limit us or our subsidiaries from filing patent applications or patent claims to protect products and/or technologies or limit the exclusivity periods that are available to patent holders. For example, on September 16, 2011, the Leahy-Smith America Invents Act (the "Leahy-Smith Act"), was signed into law, and includes a number of significant changes to U.S. patent law. These include changes to transition from a "first-to-invent" system to a "first-to-file" system and to the way issued patents are challenged. The formation of the Patent Trial and Appeal Board now provides a quicker and less expensive process for challenging issued patents. These changes may favor larger and more established companies that have more resources to devote to patent application filing and prosecution. The USPTO implemented the America Invents Act on March 16, 2013.

We and our subsidiaries and our respective partners also rely on trade secrets and proprietary know-how to protect product candidates. Although we have taken steps to protect our and our subsidiaries' trade secrets and unpatented know-how, including entering into confidentiality agreements with third parties, and confidential information and inventions agreements with employees, consultants and advisers, third parties may still come upon this same or similar information independently. Despite these efforts, any of these parties may breach the agreements and may unintentionally or willfully disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, some courts inside and outside the United States are less willing or unwilling to protect trade secrets. Moreover, if any of our trade secrets were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent them, or those to whom they communicate it, from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to or independently developed by a competitor, our competitive position would be harmed.

We also may rely on the regulatory period of market exclusivity for any of our or our subsidiaries' biologic product candidates that are successfully developed and approved for commercialization. Although this period in the United States is generally 12 years from the date of marketing approval (depending on the nature of the specific product), there is a risk that the U.S. Congress could amend laws to significantly shorten this exclusivity period, as initially proposed by President Obama. Once any regulatory period of exclusivity expires, depending on the status of our and our subsidiaries' patent coverage and the nature of the product, we may not be able to prevent others from marketing products that are biosimilar to or interchangeable with our or our subsidiaries' products, which would materially adversely affect us.

If we, certain of our subsidiaries or our respective partners are sued for infringing intellectual property rights of third parties, it will be costly and time consuming, and an unfavorable outcome in that litigation would have a material adverse effect on our business.

Our success also depends on our ability, many of our subsidiaries' ability and the ability of any of our respective current or future collaborators to develop, manufacture, market and sell product candidates without infringing the proprietary rights of third parties. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we and our subsidiaries are developing products, some of which may be directed at claims that overlap with the subject matter of our or our subsidiaries' intellectual property. Because patent applications can take many years to issue, there may be currently pending applications, unknown to us, which may later result in issued patents that our or our subsidiaries' product candidates or proprietary technologies may infringe. Similarly, there may be issued patents relevant to our or our subsidiaries' product candidates of which we are not aware. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the US and other jurisdictions are typically not published until 18 months after a first filing, or in some cases not at all. Therefore, we and our subsidiaries cannot know with certainty whether we and our subsidiaries or our licensors were the first to make the inventions claimed in patents or pending patent applications that we and our subsidiaries own or licensed, or that we and our subsidiaries or our licensors were the first to file for patent protection of such inventions. In the event that a third party has also filed a US patent application relating to our product candidates or a similar invention, depending upon the priority dates claimed by the competing parties, we may have to participate in interference proceedings declared by the PTO to determine priority of invention in the US. The costs of these proceedings could be substantial, and it is possible that our efforts to establish priority of invention would be unsuccessful, resulting in a material adverse effect on our U.S. patent position. As a result, the issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain.

There is a substantial amount of litigation involving patent and other intellectual property rights in the biotechnology and biopharmaceutical industries generally. If a third-party claims that we, our subsidiaries or any of our respective licensors, suppliers or collaborators infringe the third party's intellectual property rights, we or our subsidiaries may have to, among other things:

- obtain licenses, which may not be available on commercially reasonable terms, if at all;
- abandon an infringing product candidate or redesign products or processes to avoid infringement;
- pay substantial damages, including the possibility of treble damages and attorneys' fees, if a court decides that the product or proprietary technology at issue infringes on or violates the third party's rights;
- pay substantial royalties, fees and/or grant cross-licenses to product candidates; and/or
- defend litigation or administrative proceedings which may be costly regardless of outcome, and which could result in a substantial diversion of financial and management resources.

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

Competitors may infringe our or certain of our subsidiaries' patents or the patents of our respective licensors. To counter infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time consuming. Any claims we or our subsidiaries assert against accused infringers could provoke these parties to assert counterclaims against us or our subsidiaries alleging that we or our subsidiaries infringe their patents; or provoke those parties to petition the PTO to institute *inter partes* review against the asserted patents, which may lead to a finding that all or some of the claims of the patent are invalid. In addition, in a patent infringement proceeding, a court may decide that a patent of ours or our subsidiaries is invalid or unenforceable, in whole or in part, construe the patent's claims narrowly or refuse to stop the other party from using the technology at issue on the grounds that our or our subsidiaries' patents do not cover the technology in question. An adverse result in any litigation or defense proceedings could put one or more of our or our subsidiaries' patents at risk of being invalidated, found to be unenforceable, or interpreted narrowly and could likewise put patent applications at risk of not issuing. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our or our subsidiaries' confidential information could be compromised by disclosure during this type of litigation.

We or certain of our subsidiaries may be subject to claims that our or our subsidiaries' consultants or independent contractors have wrongfully used or disclosed to us or our subsidiaries alleged trade secrets of their other clients or former employers.

As is common in the biopharmaceutical industry, we and certain of our subsidiaries engage the services of consultants to assist in the development of product candidates. Many of these consultants were previously employed at, or may have previously been or are currently providing consulting services to, other pharmaceutical companies, including our and our subsidiaries' competitors or potential competitors. We or our subsidiaries may become subject to claims related to whether these consultants have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of their former employers or their former or current customers. Litigation may be necessary to defend against these claims. Even if we or our subsidiaries are successful in defending these claims, litigation could result in substantial costs and be a distraction to management.

Any product for which we or our subsidiaries obtain marketing approval could be subject to restrictions or withdrawal from the market and we or our subsidiaries may be subject to penalties if we fail to comply with regulatory requirements or if we experience unanticipated problems with products, when and if any of them is approved.

Any product for which we or our subsidiaries obtain marketing approval, along with the manufacturing processes and facilities, post-approval clinical data, labeling, advertising and promotional activities for such product, will be subject to continual requirements of and review by the FDA and comparable regulatory authorities. These requirements include submissions of safety and other post-marketing information and reports, registration requirements, cGMP requirements relating to quality control, quality assurance and corresponding maintenance of records and documents, requirements regarding the distribution of samples to physicians and recordkeeping, and requirements regarding company presentations and interactions with healthcare professionals. Even if we or our subsidiaries obtain regulatory approval of a product, the approval may be subject to limitations on the indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for costly post-marketing testing and surveillance to monitor the safety or efficacy of the product. We or our subsidiaries also may be subject to state laws and registration requirements covering the distribution of products. Later discovery of previously unknown problems with products, manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may result in actions such as:

- restrictions on product manufacturing, distribution or use;
- restrictions on the labeling or marketing of a product;
- requirements to conduct post-marketing studies or clinical trials;
- warning letters;
- withdrawal of the products from the market;
- refusal to approve pending applications or supplements to approved applications that we or our subsidiaries submit;
- voluntary or mandatory recall;
- fines;
- suspension or withdrawal of marketing or regulatory approvals;
- refusal to permit the import or export of products;
- product seizure or detentions;
- injunctions or the imposition of civil or criminal penalties; and
- adverse publicity.

If we, our subsidiaries or our respective suppliers, third-party contractors, clinical investigators or collaborators are slow to adapt, or are unable to adapt, to changes in existing regulatory requirements or adoption of new regulatory requirements or policies, we, our subsidiaries, or our respective collaborators may lose marketing approval for products when and if any of them are approved, resulting in decreased revenue from milestones, product sales or royalties.

Internet and internal computer system failures or compromises of our systems or the security of confidential information could damage our reputation and harm our business.

Although a significant portion of our business is conducted using traditional methods of contact and communications such as face-to-face meetings, a portion of our business and the business of our subsidiaries is conducted through the Internet. We could experience system failures and degradations in the future. We also rely on space and office-sharing arrangements that impose additional burdens on our ability to maintain the security of confidential information. We cannot assure you that we will be able to prevent an extended and/or material system failure or the unintentional disclosure of confidential information if any of the following or similar events occurs:

- human error;
- subsystem, component, or software failure;
- a power or telecommunications failure;
- an earthquake, fire, or other natural disaster or act of God;
- hacker attacks or other intentional acts of vandalism; or
- terrorist acts or war.

We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative or executive action, either in the United States or abroad.

We cannot predict the likelihood, nature or extent of how government regulation that may arise from future legislation or administrative or executive action taken by the U.S. presidential administration may impact our business and industry. In particular, the U.S. President has taken several executive actions, including the issuance of a number of Executive Orders, that could impose significant burdens on, or otherwise materially delay, the FDA's ability to engage in routine regulatory and oversight activities such as implementing statutes through rulemaking, issuance of guidance, and review and approval of marketing applications. Notably, on January 23, 2017, President Trump ordered a civilian hiring freeze for all executive departments and agencies, including the FDA, which prohibits the FDA from filling employee vacancies or creating new positions. Under the terms of the order, the freeze will remain in effect until implementation of a plan to be recommended by the Director for the Office of Management and Budget ("OMB") in consultation with the Director of the Office of Personnel Management, to reduce the size of the federal workforce through attrition. An under-staffed FDA could result in delays in FDA's responsiveness or in its ability to review submissions or applications, issue regulations or guidance or implement or enforce regulatory requirements in a timely fashion or at all. Moreover, on January 30, 2017, President Trump issued an Executive Order, applicable to all executive agencies, including the FDA, which requires that for each notice of proposed rulemaking or final regulation to be issued in fiscal year 2017, the agency shall identify at least two existing regulations to be repealed, unless prohibited by law. These requirements are referred to as the "two-for-one" provisions. This Executive Order includes a budget neutrality provision that requires the total incremental cost of all new regulations in the 2017 fiscal year, including repealed regulations, to be no greater than zero, except in limited circumstances. For fiscal years 2018 and beyond, the Executive Order requires agencies to identify regulations to offset any incremental cost of a new regulation and approximate the total costs or savings associated with each new regulation or repealed regulation. In interim guidance issued by the Office of Information and Regulatory Affairs within OMB on February 2, 2017, the administration indicates that the "two-for-one" provisions may apply not only to agency regulations, but also to significant agency guidance documents. It is difficult to predict how these requirements will be implemented, and the extent to which they will impact the FDA's ability to exercise its regulatory authority. If these executive actions impose constraints on the FDA's ability to engage in oversight and implementation activities in the normal course, our business may be negatively impacted.

Risks Relating to our Finances, Capital Requirements and Other Financial Matters

We are an early-stage company with a history of operating losses that is expected to continue, and we are unable to predict the extent of future losses, whether we will generate significant or any revenues or whether we will achieve or sustain profitability.

We are an early-stage company and our prospects must be considered in light of the uncertainties, risks, expenses and difficulties frequently encountered by companies in their early stages of operations. We continue to generate operating losses in all periods including losses from operations of approximately $101.2 million, $65.7 million and $50.5 million for the years ended December 31, 2017, 2016 and 2015, respectively. At December 31, 2017, we had an accumulated deficit of approximately $312.1 million. We expect to make substantial expenditures and incur increasing operating costs and interest expense in the future and our accumulated deficit will increase significantly as we expand development and clinical trial activities for our product candidates and finance investments in certain of our existing and new subsidiaries in accordance with our growth strategy. Our losses have had, and are expected to continue to have, an adverse impact on our working capital, total assets and stockholders' equity. Because of the risks and uncertainties associated with product development and our investments in certain of our subsidiaries, we are unable to predict the extent of any future losses, whether we will ever generate significant or any revenues or if we will ever achieve or sustain profitability.

At December 31, 2017, the total amount of debt outstanding was $67.5 million. If we default on our obligations, the holders of our debt may declare the outstanding amounts immediately payable together with accrued interest. If an event of default occurs, we may not be able to cure it within any applicable cure period, if at all. If the maturity of our indebtedness is accelerated, we may not have sufficient funds available for repayment or we may not have the ability to borrow or obtain sufficient funds to replace the accelerated indebtedness on terms acceptable to us, or at all. In addition, the promissory note with IDB may limit our ability to finance future operations or satisfy capital needs or to engage in, expand or pursue our business activities. It may also prevent us from engaging in activities that could be beneficial to our business and our stockholders unless we repay the outstanding debt, which may not be desirable or possible.

We may need substantial additional funding and may be unable to raise capital when needed, which may force us to delay, curtail or eliminate one or more of our R&D programs, commercialization efforts and planned acquisitions and potentially change our growth strategy.

Our operations have consumed substantial amounts of cash since inception. During the years ended December 31, 2017, 2016 and 2015 we incurred R&D expenses of approximately $52.5 million, $35.1 million and $29.8 million, respectively. We expect to continue to spend significant amounts on our growth strategy. We believe that our current cash and cash equivalents will enable us to continue to fund operations in the normal course of business for at least the next 12 months. Until such time, if ever, as we can generate a sufficient amount of product revenue and achieve profitability, we expect to seek to finance potential cash needs. Our ability to obtain additional funding when needed, changes to our operating plans, our existing and anticipated working capital needs, the acceleration or modification of our planned R&D activities, expenditures, acquisitions and growth strategy, increased expenses or other events may affect our need for additional capital in the future and require us to seek additional funding sooner than anticipated. In addition, if we are unable to raise additional capital when needed, we might have to delay, curtail or eliminate one or more of our R&D programs and commercialization efforts and potentially change our growth strategy.

Raising additional funds by issuing securities or through licensing or lending arrangements may cause dilution to our existing stockholders, restrict our operations or require us to relinquish proprietary rights.

To the extent that we raise additional capital by issuing equity securities, the share ownership of existing stockholders will be diluted. Any future debt financing may involve covenants that restrict our operations, including limitations on our ability to incur liens or additional debt, pay dividends, redeem our stock, make certain investments and engage in certain merger, consolidation or asset sale transactions, among other restrictions. In addition, if we raise additional funds through licensing or sublicensing arrangements, it may be necessary to relinquish potentially valuable rights to our or our subsidiaries' product candidates, or grant licenses on terms that are not favorable to us.

If we fail to maintain proper and effective internal control over financial reporting in the future, our ability to produce accurate and timely financial statements could be impaired, which could harm our operating results, investors' views of us and, as a result, the value of our Common Stock.

Pursuant to Section 404 of the Sarbanes Oxley Act of 2002 and related rules, our management is required to report on, and our independent registered public accounting firm is required to attest to, the effectiveness of our internal control over financial reporting. The rules governing the standards that must be met for management to assess our internal control over financial reporting are complex and require significant documentation, testing and possible remediation. To comply with the requirements of being a reporting company under the Exchange Act, we may need to further upgrade our systems, including information technology, implement additional financial and management controls, reporting systems and procedures and hire additional accounting and finance staff. If material weaknesses or deficiencies in our internal controls exist and go undetected, our financial statements could contain material misstatements that, when discovered in the future could cause us to fail to meet our future reporting obligations and cause the price of our Common Stock to decline.

Risks Associated with our Capital Stock

Some of our executives, directors and principal stockholders can control our direction and policies, and their interests may be adverse to the interests of our other stockholders.

At December 31, 2017, Lindsay A. Rosenwald, M.D. our Chairman, President and Chief Executive Officer, beneficially owned 13.0% of our issued and outstanding capital stock, including 40,000 Series A Preferred Shares. At December 31, 2017, Michael S. Weiss, our Executive Vice Chairman, Strategic Development, beneficially owned 15.2% of our issued and outstanding capital stock. By virtue of their holdings and membership on our Board of Directors, Dr. Rosenwald and Mr. Weiss may individually influence our management and our affairs and may make it difficult for us to consummate corporate transactions such as mergers, consolidations or the sale of all or substantially all of our assets that may be favorable from our standpoint or that of our other stockholders.

The market price of our Common Stock may be volatile and may fluctuate in a way that is disproportionate to our operating performance.

Our stock price may experience substantial volatility as a result of a number of factors, including, but not necessarily limited to:

- announcements we make regarding our or our subsidiaries' current product candidates, acquisition of potential new product candidates and companies and/or in-licensing through multiple subsidiaries;
- sales or potential sales of substantial amounts of our Common Stock or issuance of debt;
- our or our subsidiaries' delay or failure in initiating or completing pre-clinical or clinical trials or unsatisfactory results of any of these trials;
- announcements about us, our subsidiaries or about our competitors, including clinical trial results, regulatory approvals or new product introductions;
- developments concerning our or our subsidiaries' licensors and/or product manufacturers;
- litigation and other developments relating to our or our subsidiaries' patents or other proprietary rights or those of our competitors;
- conditions in the pharmaceutical or biotechnology industries;
- governmental regulation and legislation;
- unstable regional political and economic conditions, such as those caused by the U.S. presidential administration change;
- variations in our anticipated or actual operating results; and
- change in securities analysts' estimates of our performance, or our failure to meet analysts' expectations.

Many of these factors are beyond our control. The stock markets in general, and the market for pharmaceutical and biotechnological companies in particular, have historically experienced extreme price and volume fluctuations. These fluctuations often have been unrelated or disproportionate to the operating performance of these companies. These broad market and industry factors could reduce the market price of our Common Stock, regardless of our actual operating performance.

Sales of a substantial number of shares of our Common Stock, or the perception that such sales may occur, may adversely impact the price of our Common Stock.

Almost all of the 50,991,285 million outstanding shares of our Common Stock, inclusive of outstanding equity awards, as of December 31, 2017 are available for sale in the public market, either pursuant to Rule 144 under the Securities Act of 1933, as amended (the "Securities Act"), or an effective registration statement. In addition, pursuant to our current shelf registration statement on Form S-3, we may issue and sell shares of our common stock having an aggregate offering price of up to $53.0 million from time to time. Any sale of a substantial number of shares of our Common Stock could cause a drop in the trading price of the Common Stock on the Nasdaq Stock Market.

We and certain of our subsidiaries have never paid and currently do not intend to pay cash dividends in the near future except for the dividend we pay on our Preferred A shares. As a result, capital appreciation, if any, will be your sole source of gain.

We and certain of our subsidiaries have never paid cash dividends on any of our or their capital stock, or made stock dividends, except for the dividend we pay on our Preferred A shares, and we and many of our subsidiaries currently intend to retain future earnings, if any, to fund the development and growth of our businesses, and retain our stock positions. In addition, the terms of existing and future debt agreements may preclude us and certain of our subsidiaries from paying cash of stock dividends. Equally, our subsidiaries are governed by their own boards of directors with individual governance and decision-making regimes and mandates to oversee such subsidiaries in accordance with their respective fiduciary duties. As a result, we alone cannot determine the acts of our subsidiaries that could maximize value to you, such as declaring cash or stock dividends. As a result, capital appreciation, if any, of our Common Stock will be your sole source of gain for the foreseeable future.

Provisions in our certificate of incorporation, our bylaws and Delaware law might discourage, delay or prevent a change in control of our Company or changes in our management and, therefore, depress the trading price of our Common Stock.

Provisions of our certificate of incorporation, our bylaws and Delaware law may have the effect of deterring unsolicited takeovers or delaying or preventing a change in control of our Company or changes in our management, including transactions in which our stockholders might otherwise receive a premium for their shares over then-current market prices. In addition, these provisions may limit the ability of stockholders to approve transactions that they may deem to be in their best interests. These provisions include:

- the inability of stockholders to call special meetings; and
- the ability of our Board of Directors to designate the terms of and issue new series of preferred stock without stockholder approval, which could include the right to approve an acquisition or other change in our control or could be used to institute a rights plan, also known as a poison pill, that would work to dilute the stock ownership of a potential hostile acquirer, likely preventing acquisitions that have not been approved by our Board of Directors.

In addition, the Delaware General Corporation Law prohibits a publicly held Delaware corporation from engaging in a business combination with an interested stockholder, generally a person which together with its affiliates owns, or within the last three years has owned, 15% of our voting stock, for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner.

The existence of the foregoing provisions and anti-takeover measures could limit the price that investors might be willing to pay in the future for shares of our Common Stock. They could also deter potential acquirers of our Company, thereby reducing the likelihood that you could receive a premium for your Common Stock in an acquisition.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Fortress

On October 3, 2014, we entered into a 15-year lease for office space at 2 Gansevoort Street, New York, NY 10014, at an average annual rent of $2.7 million. We took possession of this space, which serves as our principal executive offices, in December 2015, and took occupancy in April 2016. Total rent expense, over the full term of the lease for this space will approximate $40.7 million. In conjunction with the lease, we entered into Desk Space Agreements with two related parties: OPPM and TGTX, to occupy 10% and 45%, respectively, of the office space that requires them to pay their share of the average annual rent of $0.3 million and $1.1 million, respectively. The total net rent expense to us will approximate $16.0 million over the lease term. These initial rent allocations will be adjusted periodically for each party based upon actual percentage of the office space occupied. Additionally, we have reserved the right to execute desk space agreements with other third parties and those arrangements will also affect the cost of the lease actually borne by us.

In October 2015, we entered into a 5-year lease for approximately 6,100 square feet of office space in Waltham, MA at an average annual rent of approximately $0.2 million. We took occupancy of this space in January 2016.

Journey

In June 2017, Journey extended its lease for 2,295 square feet of office space in Scottsdale, AZ by one year, at an average annual rent of approximately $55,000, which represents the total rent expense under the extended term of the lease. Journey originally took occupancy of this space in November 2014 and extended the lease term by one year in June 2016.

Mustang

On October 27, 2017, Mustang entered into a lease agreement with WCS - 377 Plantation Street, Inc., a Massachusetts nonprofit corporation ("Landlord"). Pursuant to the terms of the lease agreement, Mustang agreed to lease 27,043 sf from the Landlord, located at 377 Plantation Street in Worcester, MA (the "Facility"), through November 2026, subject to additional extensions at Mustang's option. Base rent, net of abatements of $0.6 million over the lease term, totals approximately $3.6 million, on a triple-net basis. Mustang plans to make improvements to the facility of approximately $3.5 million.

The Facility is expected to be operational for the production of personalized CAR T therapies in 2018.

National

National owns no real property. Its corporate headquarters are in space leased by National in New York, NY and Boca Raton, FL. Independent contractors individually lease the branch offices that are operated by those independent contractors. National also leases additional office space, all of which are set forth in the table below.

National's leases expire between November of 2017 and October 2026. National believes the rent at each of its locations is reasonable based on current market rates and conditions. We consider the facilities of National and those of its subsidiaries to be reasonably insured and adequate for the foreseeable needs of National and its subsidiaries.

The following chart provides information related to these lease obligations as of September 30, 2017:

Address	Approximate Square Footage	Approximate Annual Base Lease Rental	Note	Lease Termination Date
200 Vesey Street, 25th Floor, New York, NY	15,988	$ 767,424		27-Feb-26
410 Park Ave, 14th Floor, New York, NY	11,885	$ 594,250	(a)	30-Oct-18
600 University Street, Suite 2900, Seattle, WA	9,860	$ 295,275		31-Oct-26
2875 NE 191st Street, Suite 601, Aventura, FL	5,208	$ 237,745		31-May-21
1200 N. Federal Highway, Suite 400, Boca Raton, FL	11,510	$ 213,741		31-Aug-21
14802 N. Dale Mabry Blvd., Suite 101 and 204, Tampa, FL	7,038	$ 156,174		31-Dec-21
35-30 Francis Lewis Blvd., Suite 205, Flushing, NY	4,600	$ 142,140		31-Aug-21
2711 North Haskell Avenue, Suite 2950, Dallas, TX	5,253	$ 120,000		month to month
540 Gidney Ave, Newburgh, NY	4,535	$ 95,034		30-Jun-21
11 Raymond Ave, Suite 22, Poughkeepsie, NY	3,558	$ 97,409		30-Jun-18
4000 Rt. 66, Suite 331, Tinton Falls, NJ	6,721	$ 92,101		30-Nov-20
500 Portion Rd, Suite 2 & 4, Lake Ronkonkoma, NY	3,727	$ 90,423		1-Jan-18
181 East Jericho Turnpike, 2nd Floor, Mineola, NY	3,165	$ 83,944		30-Apr-25
7370 College Parkway, Fort Meyers, FL	3,749	$ 71,718		30-Nov-19
1550-1556 Third Ave, Suite 306, New York, NY	1,212	$ 66,830		30-Nov-17
5839 Main St, Williamsville, NY	3,159	$ 65,791		31-Dec-18
3535 Military Trail, Suite 201/202, Jupiter, FL	2,944	$ 65,195		Six months notice
28050 US Hwy 19 North, Suite 300, Clearwater, FL	3,165	$ 60,452		30-Apr-20
1200 N. Federal Highway, Suite 215, Boca Raton, FL	3,214	$ 54,638		31-Jul-20
11 Raymond Ave, Suite 21, Poughkeepsie, NY	2,200	$ 54,341		31-Jul-20
1580 South Main Street, Suite 101, Boerne, TX	2,224	$ 44,480		28-Feb-20
1501 W. Fairbanks Ave, Winter Park, FL	1,840	$ 36,000		Six months notice
20 Squadron Blvd., Suite 103, New City, NY	2,042	$ 34,900		31-Aug-19
3301 Bonita Beach Rd, Suite 107, Bonita Beach, FL	1,740	$ 26,970		31-Aug-18
44 Stelton Rd, Suite 235, Piscataway, NJ	1,242	$ 23,158		month to month
2170 West State Road 434, Suite 376, Longwood, FL	940	$ 15,927		30-Sep-18

(a) This lease is sublet to an unaffiliated entity

Item 3. Legal Proceedings

Fortress Biotech, Inc.

Dr. Falk Pharma, GmbH ("Dr. Falk Pharma") and Fortress are among the parties to that certain Collaboration Agreement dated March 20, 2012, whereby they agreed to collaborate to develop a product for treatment of Crohn's disease. A dispute has arisen between Dr. Falk Pharma and Fortress with respect to their relative rights and obligations under the Collaboration Agreement. Specifically, Dr. Falk Pharma contends that it fulfilled its contractual obligations to Fortress and is entitled to the final milestone payment due under the Collaboration Agreement - EUR 2.5 million. Fortress contends that no such payment is due because a condition of the EUR 2.5 million payment was the delivery of a clinical study report that addressed the primary and secondary objectives of a Phase II trial, and Fortress contends that Dr. Falk Pharma failed to deliver such report. Dr. Falk Pharma disputes that it failed to deliver such report and further disputes that the delivery of such report is a condition of Fortress's obligation to make the EUR 2.5 million payment. After the parties' attempts to negotiate a settlement of the dispute were unsuccessful, Dr. Falk Pharma filed a lawsuit against Fortress in Frankfurt, Germany to recover the EUR 2.5 million plus interest and attorneys' fees, and Fortress was served with the English translation of the lawsuit on August 11, 2016. Fortress retained counsel in Germany and, on December 14, 2016, filed an answer to the complaint, denying that it had any liability to Dr. Falk Pharma. On August 2, 2017, Fortress received a judgment from the court in Frankfurt awarding the full amount (EUR 2.5 million) plus interest to Dr. Falk Pharma. Fortress appealed the decision to the Higher Regional Court of Frankfurt on August 28, 2017 and intends to continue to defend its position vigorously on appeal.

Fortress Biotech, Inc. and Mustang Bio, Inc.

On January 15, 2016, Dr. Winson Tang ("Tang") filed a Complaint against us in the Superior Court of the State of California, County of Los Angeles. *Winson Tang v. Lindsay Rosenwald et al.,* Case No. BC607346. As amended, the Complaint alleged a breach of contract by us and two of our officers, Dr. Rosenwald and Mr. Weiss, and two claims against other Defendants, including Mustang. On November 3, 2017, Tang and Defendants entered into a Settlement Agreement regarding this matter.

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 for Common Stock

We became a public company on November 17, 2011. Our Common Stock is listed for trading on the NASDAQ Capital Market under the symbol "FBIO." The following table sets forth the high and low intraday sales prices of our Common Stock for each full quarterly period within the two most recent fiscal years.

	2017		2016	
	High	Low	High	Low
First quarter	$ 3.91	$ 2.25	$ 3.29	$ 2.34
Second quarter	$ 4.98	$ 3.15	$ 4.15	$ 2.44
Third quarter	$ 4.89	$ 3.83	$ 3.14	$ 2.38
Fourth quarter	$ 4.84	$ 3.26	$ 3.01	$ 1.95

Holders of Record

As of March 13, 2018, there were approximately 345 holders of record of our Common Stock. The actual number of stockholders is greater than this number of record holders and includes stockholders who are beneficial owners, but whose shares are held in street name by brokers and other nominees. This number of holders of record also does not include stockholders who shares may be held in trust by other entities.

Dividends

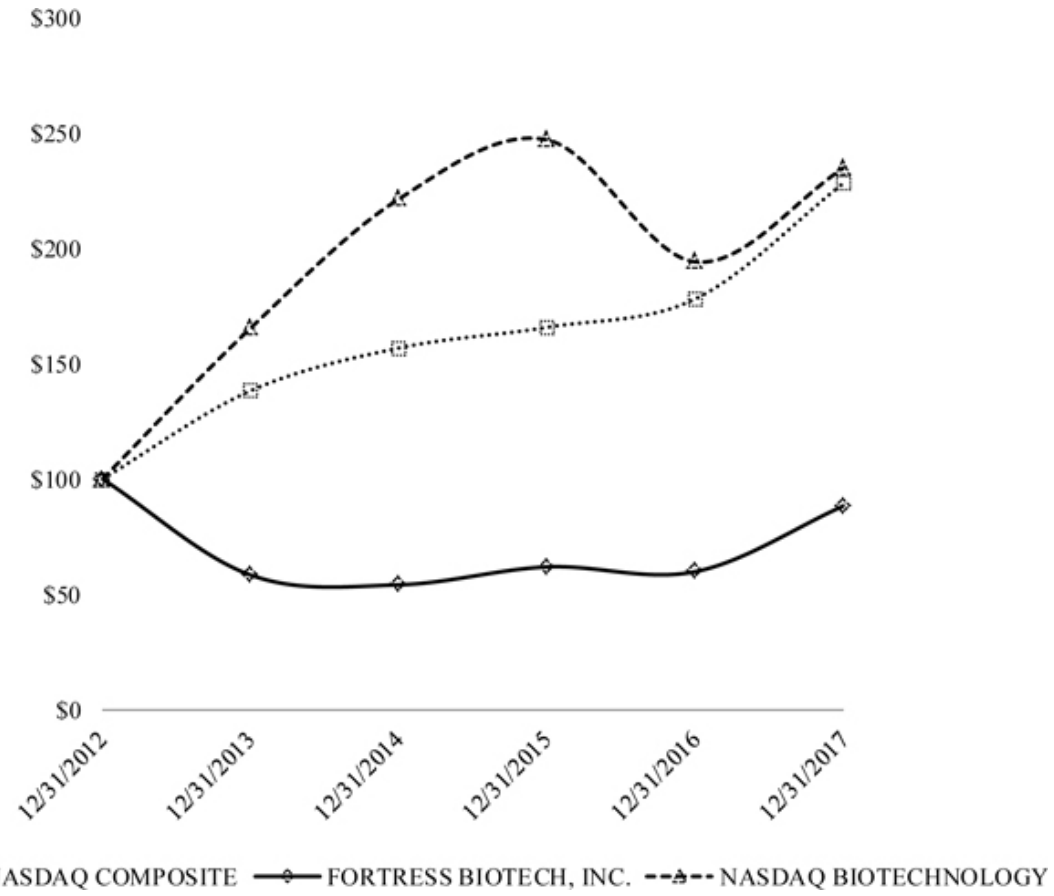
We have never paid cash dividends and currently intend to retain our future earnings, if any, to fund the development and growth of our business.

Stock Performance Graph

The following shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act") or incorporated by reference into any of our other filings under the Exchange Act or the Securities Act of 1933, as amended, except to the extent we specifically incorporate it by reference into such filing.

This graph compares the cumulative total return on our Common Stock with that of the NASDAQ Composite and the NASDAQ Biotechnology index. This chart adjusts prices for stock splits and assumes the reinvestment of any dividends. The stock price performance on the following graph is not necessarily indicative of future stock price performance.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN*
Among Fortress Biotech, Inc., the NASDAQ Composite Index , and the NASDAQ Biotechnology Index



	12/31/2012	12/31/2013	12/31/2014	12/31/2015	12/31/2016	12/31/2017
Fortress Biotech, Inc.	$ 100.00	$ 58.31	$ 54.10	$ 61.86	$ 59.87	$ 88.47
NASDAQ Composite	$ 100.00	$ 138.32	$ 156.85	$ 165.84	$ 178.28	$ 228.63
NASDAQ Biotechnology	$ 100.00	$ 165.54	$ 221.53	$ 247.10	$ 194.19	$ 235.12

* $100 invested in December 31, 2012 in stock or index, including reinvestment of dividends.

Equity Compensation Plans

The information required by Item 5 of Form 10-K regarding equity compensation plans is incorporated herein by reference to "Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters."

Item 6. Selected Consolidated Financial Data

As part of our growth strategy, we continue to leverage our substantial biopharmaceutical business, financial and drug development expertise to invest in the acquisition, development and commercialization of novel pharmaceutical and other biomedical products. We are employing a variety of approaches and corporate structures to acquire rights to and finance a diverse portfolio of innovative pharmaceutical and biotechnology products, technologies and companies. These may include licensing, partnerships, joint ventures, and private or public spin-outs. We believe these activities will diversify our product development and, over time, may enhance shareholder value through potential royalty, milestone and equity payments, fees as well as potential product revenues. As a result, the data in the following table might not be indicative of future financial conditions and/or results of operations.

($ in thousands, except per share amounts)	For the Years Ended December 31, 2017	2016	2015	2014	2013
Revenue					
Fortress					
Product revenue, net	$ 15,520	$ 3,587	$ 273	$ -	$ -
Revenue - from a related party	1,725	2,570	590	-	-
Net Fortress revenue	17,245	6,157	863	-	-
National					
Commissions	96,807	5,388	-	-	-
Net dealer inventory gains	15,108	253	-	-	-
Investment banking	25,064	2,829	-	-	-
Investment advisory	14,528	904	-	-	-
Interest and dividends	2,764	155	-	-	-
Transfer fees and clearing services	7,393	386	-	-	-
Tax preparation and accounting	7,439	338	-	-	-
Other	1,236	70	-	-	-
Total National revenue	170,339	10,323	-	-	-
Net revenue	187,584	16,480	863	-	-
Operating expenses					
Fortress					
Cost of goods sold – product revenue	3,658	790	-	-	-
Research and development	48,322	29,602	18,402	10,239	25,682
Research and development – licenses acquired	4,164	5,532	11,408	-	-
General and administrative	50,897	34,003	21,584	10,413	10,098
Total Fortress operating expenses	107,041	69,927	51,394	20,652	35,780
National					
Commissions, compensation and fees	155,187	10,414	-	-	-
Clearing fees	2,343	144	-	-	-
Communications	2,767	177	-	-	-
Occupancy	4,286	193	-	-	-
Licenses and registration	1,726	147	-	-	-
Professional fees	4,531	327	-	-	-
Interest	14	1	-	-	-
Depreciation and amortization	2,089	545	-	-	-
Other administrative expenses	8,808	315	-	-	-
Total National operating expenses	181,751	12,263	-	-	-
Total operating expenses	288,792	82,190	51,394	20,652	35,780
Loss from operations	(101,208)	(65,710)	(50,531)	(20,652)	(35,780)
Other income (expenses)					
Interest income	819	298	245	662	545
Interest expense and financing fee	(5,860)	(3,690)	(1,484)	(1,338)	(1,923)
Change in fair value of derivative liabilities	8,391	(1,039)	(438)	-	-
Change in fair value of subsidiary convertible note	(457)	(78)	-	-	-
Change in fair value of investments	226	(1,071)	(1,675)	942	-
Other loss	(234)	-	-	-	-
Total other income (expenses)	2,885	(5,580)	(3,352)	266	(1,378)
Loss before income taxes	**(98,323)**	**(71,290)**	**(53,883)**	**(20,386)**	**(37,158)**
Income tax expense	1,513	-	-	-	-
Net loss	(99,836)	(71,290)	(53,883)	(20,386)	(37,158)
Less: net loss attributable to non-controlling interest	(32,960)	(16,195)	(5,455)	-	-
Net loss attributable to common stockholders	**$ (66,876)**	**$ (55,095)**	**$ (48,428)**	**$ (20,386)**	**$ (37,158)**
Basic and diluted net loss per common share	$ (1.61)	$ (1.38)	$ (1.24)	$ (0.56)	$ (1.22)
Weighted average common shares outstanding—basic and diluted	41,658,733	39,962,657	39,146,589	36,323,596	30,429,743
Financial Condition:					
Cash and cash equivalents	$ 113,915	$ 88,294	$ 98,182	$ 49,759	$ 99,521
Total assets	$ 245,950	$ 170,731	$ 118,610	$ 89,325	$ 100,539
Current liabilities	$ 67,428	$ 56,565	$ 10,579	$ 4,077	$ 11,210
Long-term liabilities	$ 58,020	$ 31,198	$ 23,758	$ 14,725	$ 8,137
Stockholders' equity	$ 120,502	$ 82,968	$ 84,273	$ 70,523	$ 81,278

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

The following discussion of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and the related notes thereto and other financial information appearing elsewhere in this Form 10-K.

We are a biopharmaceutical company dedicated to acquiring, developing and commercializing novel pharmaceutical and biotechnology products. Fortress develops and commercializes products both within Fortress and through certain of our subsidiary companies, also referred to herein as the "Fortress Companies." Additionally, in 2016, we acquired a controlling interest in National Holdings Corporation, a diversified independent brokerage company. In addition to our internal development programs, we leverage our biopharmaceutical business expertise and drug development capabilities and provides funding and management services to help the Fortress Companies achieve their goals. We may seek licensings, acquisitions, partnerships, joint ventures and/or public and private financings to accelerate and provide additional funding to support their research and development programs.

2017 Activity

Fortress Biotech, Inc.

2017 Subordinated Notes

In March, 2017, we entered into Note Purchase Agreements with NAM Biotech Fund II, LLC - Series I and NAM Special Situations Fund I QP, LLC – FBIO Series I, both of which are accredited investors, in connection with our subordinated promissory note financing (the "2017 Subordinated Note Financing").

National Securities Corporation ("NSC"), a subsidiary of National and a related party, acts as the placement agent in the 2017 Subordinated Note Financing. NSC receives a cash placement agent fee equal to 10% of the aggregate proceeds raised and warrants equal to 10% of the aggregate principal amount of the notes sold divided by the closing share price of our common stock on the date of closing.

As of December 31, 2017, we had issued notes totaling approximately $28.4 million in the 2017 Subordinated Note Financing and, in connection therewith, paid placement agent fees of approximately $2.8 million to NSC. In addition, as of December 31, 2017, we had issued warrants to NSC for 716,180 shares of our common stock in connection with the 2017 Subordinated Note Financing.

Series A Preferred Offering

In November 2017, we raised gross proceeds of $25.0 million in an underwritten public offering of one million shares of 9.375% Series A Cumulative Redeemable Perpetual Preferred Stock ("Series A Preferred Stock") at a price of $25.00 per share. The Series A Preferred Stock received an "A-" investment-grade rating from Egan-Jones Rating Co., an independent, unaffiliated rating agency.

Net proceeds totaled approximately $22.2 million in the Series A Preferred Stock offering after the payment of fees of $2.8 million to NSC.

Aevitas Therapeutics, Inc.

Aevitas Therapeutics, Inc. ("Aevitas") began operations in July 2017 to develop novel gene therapy approaches for complement-mediated diseases. The proprietary technology was licensed from a leading university and uses adeno-associated virus (AAV)-based gene therapy to restore lasting production of functional complement regulatory proteins, providing a potentially curative treatment.

Avenue Therapeutics, Inc.

In May, 2017, Avenue announced that Notice of Allowance had been received from the U.S. Patent and Trademark Office ("USPTO") for a new patent application (U.S. Application No. 15/163,111), entitled "Intravenous Administration of Tramadol." The patent application describes and claims a dosing regimen of intravenous (IV) 50 mg tramadol that provides certain pharmacokinetic parameters that are similar to those of 100 mg tramadol HCl administered orally every 6 hours at steady state. This patent application falls under Avenue's licensing agreement with Revogenex Ireland Ltd. The patent (U.S. Patent No. 9,693,949) was issued in July 2017.

In June, 2017, Avenue completed an initial public offering of its common stock, resulting in net proceeds of approximately $34.2 million after deducting underwriting discounts and other offering costs of which $2.3 million was paid to NSC a subsidiary of National and a related party.

Avenue initiated its first Phase 3 trial in patients with moderate-to-severe pain following bunionectomy with the dosing of its first patient in September 2017. Avenue anticipates receipt of topline data from this study in the second quarter of 2018. In December 2017, Avenue dosed the first patient in the Phase 3 safety trial of IV tramadol for the management of moderate to moderately severe pain. This safety study is a key component of Avenue's pivotal Phase 3 development program for IV tramadol.

Caelum Biosciences, Inc.

In January, 2017, Caelum acquired its lead asset, CAEL-101 (mAb 11-1F4), through a license with Columbia University. CAEL-101 is a novel antibody in Phase 1b clinical trials for the treatment of AL amyloidosis, a rare systemic disorder that leads to the buildup of amyloid proteins in and around tissues, nerves and organs, ("AL Amyloidosis"), resulting in organ damage and high mortality rates. Interim Phase 1a/1b data on CAEL-101 was presented at the American Society of Hematology meeting in December 2016.

In April 2017, the U.S. Department of Health & Human Services confirmed the transfer of two U.S. Food and Drug Administration (FDA) Orphan Drug Designations for CAEL-101 (also known as 11-1F4) from Columbia to Caelum. The two Orphan Drug Designations include the use of CAEL-101 as a therapeutic agent for patients with AL amyloidosis, and the use of CAEL-101 as a radio-imaging agent in amyloidosis.

In May 2017 study sponsor Columbia dosed the final patient in the Phase 1b clinical trial of CAEL-101.

In June, 2017 Caelum entered a biopharmaceutical manufacturing agreement with Patheon Biologics, LLC for process development and current good manufacturing practices ("cGMP") production of CAEL-101. The agreement will support Phase 2/3 studies of CAEL-101 for the treatment of AL amyloidosis

During the third quarter of 2017 Caelum completed a third party financing of Convertible Notes. In connection with this financing Caelum raised $9.9 million and paid a 10% financing fee of approximately $1.0 million to NSC, a subsidiary of National.

In December 2017 Caelum announced full Phase 1a/1b clinical data demonstrating the ability of CAEL-101, to bind to light-chain amyloid fibrils and achieve early and clinically efficacious organ responses in patients with relapsed and refractory amyloid light chain ("AL") amyloidosis. The data were presented by Columbia University on December 10th in an oral session at the 59th American Society of Hematology Annual Meeting.

Cellvation, Inc.

In November 2017, the FDA granted Cellvation's CEVA101 Regenerative Medicine Advanced Therapy ("RMAT") designation for the treatment of traumatic brain injury ("TBI"). Under terms of the RMAT designation, the FDA will help facilitate the program's expedited development and review and will provide guidance on generating the evidence needed to support approval of CEVA101 for TBI. The RMAT designation makes a regenerative medicine advanced therapy product eligible for the same actions to expedite the development and review of a marketing application that are available to drugs that receive Breakthrough Therapy Designation, including timely advice and interactive communications with FDA, as well as proactive and collaborative involvement by senior FDA managers and experienced review and regulatory health project management staff. A product designated as an RMAT also may be eligible for other FDA-expedited programs, such as Priority Review. The FDA also may conduct a rolling review of products in its expedited programs, reviewing portions of a marketing application before the complete application is submitted.

Checkpoint Therapeutics, Inc.

On June 26, 2017, Checkpoint's common stock commenced trading on the NASDAQ Capital Market under the symbol "CKPT".

In October 2017, Checkpoint dosed its first patient in a Phase 1 clinical study evaluating the safety and tolerability of its anti-PD-L1 antibody, CK-301, in checkpoint therapy-naïve patients with selected recurrent or metastatic cancers. The Phase 1 CK-301 Study is a first-in-human, Phase 1, open-label, multicenter study. The study will initially enroll patients in study sites across Australia and New Zealand.

Coronado SO Co.

In October 2017, Coronado SO Co. transferred its proprietary interests and rights in its lead product candidate to a third party.

Cyprium Therapeutics, Inc.

In March 2017, Cyprium and the Eunice Kennedy Shriver National Institute of Child Health and Human Development ("NICHD"), part of the National Institutes of Health, entered into a Cooperative Research and Development Agreement to advance the clinical development of Phase 3 candidate CUTX-101 (copper histidinate injection) for the treatment of Menkes disease. Cyprium and NICHD also entered into a worldwide, exclusive license agreement to develop and commercialize AAV-based ATP7A gene therapy for use in combination with CUTX-101 for the treatment of Menkes disease and related copper transport disorders.

Escala Therapeutics, Inc.

In July 2017, Escala discontinued its development of ManNAc and as such returned the license to NIH and discontinued its funding of cooperative research and development of ManNAc. No expense was incurred in connection with the discontinuation of this development program.

Mustang Bio, Inc.

City of Hope Licenses

In February, 2017, Mustang entered into an exclusive license agreement (the "*IV/ICV Agreement*") with City of Hope ("COH") to acquire intellectual property rights in patent applications related to the intraventricular and intracerebroventricular methods of delivering T cells that express CARs. Pursuant to the IV/ICV Agreement, in March 2017, Mustang paid COH an upfront fee of $0.1 million. An additional annual maintenance fee is also payable going forward.

In March 2015, Mustang entered into an exclusive license agreement with COH to acquire intellectual property rights pertaining to CAR-T (the "Original License"). In February, 2017, Mustang and COH amended and restated the Original License by entering into three separate exclusive license agreements, one relating to CD123 (the "CD123 License"), one relating to IL-13 (the "IL-13 License") and one relating to the spacer technology (the "Spacer License"). The total potential consideration payable to COH by Mustang under the new license agreements, in equity or cash, did not, in the aggregate, change materially from the Original License.

In May, 2017 Mustang entered into exclusive, worldwide licensing agreements COH for the use of three novel CAR T therapies in the development of cancer treatments. The CAR T therapies covered under the agreements include: human epidermal growth factor receptor 2 ("HER2") CAR T technology ("HER2 Technology"), which will initially be applied in the treatment of glioblastoma multiforme; CS1-specific CAR T technology ("CS1 Technology") to be directed against multiple myeloma; and prostate stem cell antigen ("PSCA") CAR T technology ("PSCA Technology") to be used in the treatment of prostate cancer. All three technologies were developed in the laboratory of Stephen J. Forman, M.D., director of COH's T cell Immunotherapy Research Laboratory.

License with University of California

In March, 2017, Mustang entered into an exclusive license agreement with the Regents of the University of California to acquire intellectual property rights in patent applications related to the engineered anti-prostate stem cell antigen antibodies for cancer targeting and detection.

Appointment of Dr. Manuel Litchman as CEO

In April 2017, Mustang appointed Manuel Litchman, M.D., as President and Chief Executive Officer. Dr. Litchman also joined Mustang's Board of Directors. Michael S. Weiss, who oversaw Mustang's corporate operations on an interim basis, remains as Chairman of the Board of Directors.

Fred Hutchinson Cancer Research Center License

Effective July, 2017, Mustang entered into an exclusive, worldwide licensing agreement with Fred Hutchinson Cancer Research Center ("Fred Hutch"), for the use of a CAR T therapy related to autologous T cells engineered to express a CD20-specific chimeric antigen receptor ("CD20 Technology" or "CD20"). As part of the transaction, Mustang also entered into an investigator-initiated clinical trial agreement to provide partial funding for a Phase 1/2 clinical trial at Fred Hutch evaluating the safety and efficacy of the CD20 Technology in patients with relapsed or refractory B-cell non-Hodgkin lymphomas. The trial commenced during the fourth quarter of 2017.

Nasdaq Global Market Listing

On August 22, 2017, Mustang commenced trading on the Nasdaq Global Market under the symbol "MBIO".

Cell Processing Facility

In October, 2017, Mustang entered into a lease agreement for a 27,043 sf facility in Massachusetts for the production of personalized CAR T therapies. Mustang expects the facility to be operational in 2018.

License with Harvard University

In December 2017, Mustang entered into a license agreement with Harvard University and a research collaboration agreement with Beth Israel Deaconess Medical Center for the development of CRISPR/Cas9-enhanced CAR T therapies for the treatment of cancer.

Capital Raise

In 2017, Mustang closed on gross proceeds of approximately $56.0 million, before expenses, in private placements of shares and warrants. In connection with its private placement they paid NSC, a subsidiary of National and a related party, $5.6 million in placement agent fees.

Tamid Bio, Inc.

Tamid Bio, Inc. ("Tamid") began operations in December 2017 and focuses on the development of adeno-associated virus ("AAV") gene therapies in orphan diseases with unmet medical needs.

Licenses with University of North Carolina at Chapel Hill

As part of its formation, Tamid entered into three exclusive licensing agreements with the University of North Carolina at Chapel Hill ("UNC-Chapel Hill") for three preclinical AAV gene therapies. Tamid's lead program, Tamid-001, targets the ocular manifestations of Mucopolysaccharidosis type I ("MPS I"), a rare and progressively debilitating disorder, caused by mutations in the IDUA gene, leading to the accumulation of glycosaminoglycans ("GAGs") in multiple organs. Tamid also in-licensed two earlier-stage assets, which will target dysferlinopathies and corneal transplant rejection.

Critical Accounting Policies and Use of Estimates

See Note 2 to the Consolidated Financial Statements.

Results of Operations

General

For the year ended December 31, 2017, we generated $187.6 million of net revenue of which $170.3 million net of $19.5 million of fees earned on Fortress and Fortress Companies eliminated in consolidation, of revenue relates to National, $1.7 million of revenue is in connection with Checkpoint's collaborative agreements with TGTX and $15.6 million of revenue relates primarily to the sale of Journey branded products. At December 31, 2017, we had an accumulated deficit of $312.1 million primarily as a result of research and development expenses, purchases of in-process research and development and general and administrative expenses. While we may in the future generate revenue from a variety of sources, including license fees, milestone payments, research and development payments in connection with strategic partnerships and/or product sales, our current product candidates are at an early stage of development and may never be successfully developed or commercialized. Accordingly, we expect to continue to incur substantial losses from operations for the foreseeable future and there can be no assurance that we will ever generate significant revenues.

Research and Development Expenses

Research and development costs primarily consist of personnel related expenses, including salaries, benefits, travel, and other related expenses, stock-based compensation, payments made to third parties for licenses and milestones costs related to in-licensed products and technology, payments made to third party contract research organizations for preclinical and clinical studies, investigative sites for clinical trials, consultants, the cost of acquiring and manufacturing clinical trial materials, costs associated with regulatory filings and patents, laboratory costs and other supplies.

Also included in research and development is the total purchase price for the licenses acquired during the period.

For the years ended December 31, 2017, 2016 and 2015, total research and development expenses were $48.3 million, $29.6 million and $18.4 million, respectively. Direct external research and development costs with respect to Fortress and each of our subsidiaries for the years ended December 31, 2017, 2016 and 2015 were: for Fortress: $7.7 million, $2.0 million and $3.6 million; Avenue: $6.4 million, $0.9 million and $0.7 million; Cellvation: $0.3 million, $0.2 million and nil; Checkpoint: $16.1 million, $10.1 million and $4.9 million; Escala: $0.5 million, $0.9 million and $0.8 million; Helocyte: $4.8 million, $4.7 million and nil; Mustang: $7.7 million, $2.2 million and $1.5 million; Caelum $3.0 million, nil and nil; Cyprium $0.7 million, nil and nil; Aevitas $0.6 million, nil and nil; Coronado SO $0.4 million, nil and nil. Stock based compensation expense included in research and development expenses in 2017, 2016 and 2015 was $4.0 million, $4.7 million and $5.8 million, respectively.

For the years ended December 31, 2017, 2016 and 2015, costs related to the acquisition of licenses were $4.2 million, $5.5 million and $11.4 million, respectively.

General and Administrative Expenses

General and administrative expenses consist principally of personnel related costs, professional fees for legal, consulting, audit and tax services, rent and other general operating expenses not otherwise included in research and development expenses and not included in expenses related to National. For the years ended December 31, 2017, 2016 and 2015, general and administrative expenses were $50.9 million, $34.0 million and $21.6 million, respectively. Stock based compensation expense included in general and administrative expenses in 2017, 2016 and 2015 was $9.4 million, $7.4 million and $8.5 million, respectively. We anticipate general and administrative expenses will increase in future periods, reflecting continued and increasing costs associated with support of our expanded research and development activities, support of business development activities and an expanding infrastructure and increased professional fees and other costs associated therewith.

National Operating Expenses

Commissions include those expenses based on commission revenue, net dealer inventory gains revenue, as well as compensation to non-broker employees of National. For the years ended December 31, 2017 and 2016, National operating expenses were $181.8 million and $12.3 million, respectively.

Comparison of Years Ended December 31, 2017 and 2016

($ in thousands)	For the Years Ended December 31, 2017	2016	Change $	Change %
Revenue				
Fortress				
Product revenue, net	$ 15,520	$ 3,587	$ 11,933	333%
Revenue - from a related party	1,725	2,570	(845)	(33)%
Net Fortress revenue	17,245	6,157	11,088	180%
National				
Commissions	96,807	5,388	91,419	1,697%
Net dealer inventory gains	15,108	253	14,855	5,872%
Investment banking	25,064	2,829	22,235	786%
Investment advisory	14,528	904	13,624	1,507%
Interest and dividends	2,764	155	2,609	1,683%
Transfer fees and clearing services	7,393	386	7,007	1,815%
Tax preparation and accounting	7,439	338	7,101	2,101%
Other	1,236	70	1,166	1,666%
Total National revenue	170,339	10,323	160,016	1,550%
Net revenue	187,584	16,480	171,104	1,038%
Operating expenses				
Fortress				
Cost of goods sold – product revenue	3,658	790	2,868	363%
Research and development	48,322	29,602	18,720	63%
Research and development – licenses acquired	4,164	5,532	(1,368)	(25)%
General and administrative	50,897	34,003	16,894	50%
Total Fortress operating expenses	107,041	69,927	37,114	53%
National				
Commissions, compensation and fees	155,187	10,414	144,773	1,390%
Clearing fees	2,343	144	2,199	1,527%
Communications	2,767	177	2,590	1,463%
Occupancy	4,286	193	4,093	2,121%
Licenses and registration	1,726	147	1,579	1,074%
Professional fees	4,531	327	4,204	1,286%
Interest	14	1	13	1,300%
Depreciation and amortization	2,089	545	1,544	283%
Other administrative expenses	8,808	315	8,493	2,696%
Total National operating expenses	181,751	12,263	169,488	1,382%
Total operating expenses	288,792	82,190	206,602	251%
Loss from operations	(101,208)	(65,710)	(35,498)	54%
Other income (expenses)				
Interest income	819	298	521	175%
Interest expenses	(5,860)	(3,690)	(2,170)	59%
Change in fair value of derivative liabilities	8,391	(1,039)	9,430	(908)%
Change in fair value of subsidiary convertible note	(457)	(78)	(379)	486%
Change in fair value of investments	226	(1,071)	1,297	(121)%
Other loss	(234)	-	(234)	100%
Total other income (expenses)	2,885	(5,580)	8,465	(152)%
Loss before income taxes	(98,323)	(71,290)	(27,033)	38%
Income tax expense	1,513	-	1,513	100%
Net loss	**(99,836)**	**(71,290)**	**(28,546)**	**40%**
Less: net loss attributable to non-controlling interest	(32,960)	(16,195)	(16,765)	104%
Net loss attributable to common stockholders	**$ (66,876)**	**$ (55,095)**	**$ (11,781)**	**21%**

For the year ended December 31, 2017, $170.3 million of revenue was from NHLD, $1.7 million of revenue was in connection with Checkpoint's collaborative agreements with TGTX, and $15.6 million of revenue related primarily to the sale of Journey branded products.

Cost of goods sold increased by $2.9 million or 363% due to the growth in branded sales by JMC of $11.9 million or 333% due to increases in Targadox of $12.1 million, Luxamend $0.5 million and Ceracade $0.2 million, offset by a decrease in Dermasorb of $0.9 million from the year ended December 31, 2016 to the year ended December 31, 2017.

Research and development expenses increased $18.7 million, or 63%, from the year ended December 31, 2016 to the year ended December 31, 2017. This increase was primarily due to a $12.3 million increase in our Fortress Companies research and development expenses, as a result of continued clinical development under their licenses, a $3.1 million increase in sponsored research, a net increase in employee costs of $2.5 million, a $0.4 million increase in consulting costs, and a $0.4 million increase in other R&D-related expenses.

During the year ended December 31, 2017, we invested $4.2 million in new and existing research and development programs with various partners. Consisting of the licensing by Mustang of intellectual property related to CAR T from COH, the Fred Hutchinson Cancer Research Center and Harvard University for $1.9 million, Mustang's milestone payments to COH in conjunction with the development of IL-13 of $0.5 million, Mustang's $0.5 million payment to the Regents of the University of California to acquire intellectual property rights in patent applications related to the engineered anti-prostate stem cell antigen antibodies for cancer targeting and detection, Checkpoint's payments totaling $0.4 million for a milestone payment due upon the successful completion of toxicology studies under the terms of the license agreement with Jubilant, Caelum's payments totaling $0.2 million for worldwide license rights to CAEL-101, Cyprium's purchase of $0.1 million for a worldwide, exclusive license from the NIH to develop and commercialize an AAV based gene therapy, called AAV-ATP7A, for the treatment of Menkes disease; Tamid's purchase of $0.3 million for exclusive licenses from the University of North Carolina at Chapel Hill for three preclinical AAV gene therapies, and Fortress' milestone payment totaling $0.3 million under a license agreement with Effcon Laboratories for the completion of a Pilot PK study related to the development of the extended release formulation of methazolamide.

General and administrative expenses of Fortress increased $16.9 million, or 50%, from the year ended December 31, 2016 to the year ended December 31, 2017. This increase is largely due to a $4.0 million increase in outsourced headcount costs for our sales force, as headcount growth is fueled by increased branded sales by JMC, and a $3.1 million increase in legal fees. Of these legal fees, $2.2 million relates to the settlement of Mustang's Winson Tang lawsuit, $2.9 million increase in patent, license acquisition and general corporate legal costs incurred by Mustang, offset by a decrease of $1.7 million in legal fees incurred by Fortress due to the costs incurred in 2016 related to the acquisition of National and a decrease of $0.2 million in legal fees incurred by Helocyte, due to less patent reimbursement costs. In addition, salaries and benefits increased $3.4 million, with $0.6 million attributable to Caelum headcount costs, $0.5 million due to an increase in Mustang headcount, $0.3 million in increased Avenue headcount costs, and $2.0 million due to an increase in general staffing levels for Fortress and certain of our subsidiaries for business development and growth. The Company also faced accounting increases of $0.2 million, due to and subsequent to the preparation of subsidiaries becoming public companies. In addition, consulting expenses increased by $0.6 million, and general and other expenses increased $5.6 million, which consisted of product samples and packaging $0.9 million, $0.3 million in increased travel costs, outside services $0.7 million, board of directors' fees $0.5 million, public company costs $0.4 million, depreciation $0.4 million, insurance $0.2 million, and dues and subscriptions $0.2 million. Stock-compensation expense increased by $2.0 million primarily due to new stock grants made to new employees.

National's operating expenses increased $169.5 million, or 1,382% from the year ended December 31, 2016 to the year ended December 31, 2017 due to a full year of expenses included in consolidated results for the year ended December 31, 2017. Results for the year ended December 31, 2016 include National's expenses incurred from the acquisition date of September 9, 2016, to September 30, 2016, National's fiscal year end date.

Total other income (expenses) increased $8.5 million, or 152%, from a loss of $5.6 million for the year ended December 31, 2016 to income of $2.9 million for the year ended December 31, 2017, primarily due to an increase of $9.4 million in the change in fair value of derivative liabilities, $1.3 million increase in the fair value of investments and $0.5 million increase in interest income, offset by $2.2 million increase in interest expense, $0.4 decrease in the fair value of Helocyte's convertible notes and $0.2 decrease in the value of our investment in Argus.

Non-controlling interests increased $16.8 million, or 104%, from the year ended December 31, 2016 to the year ended December 31, 2017. This increase reflects the increase in costs related to our subsidiaries.

Comparison of Years Ended December 31, 2016 and 2015

($ in thousands)	For the Years Ended December 31, 2016	2015	Change $	Change %
Revenue				
Fortress				
Product revenue, net	$ 3,587	$ 273	$ 3,314	1,214%
Revenue - from a related party	2,570	590	1,980	336%
Net Fortress revenue	6,157	863	5,294	613%
National				
Commissions	5,388	-	5,388	100%
Net dealer inventory gains	253	-	253	100%
Investment banking	2,829	-	2,829	100%
Investment advisory	904	-	904	100%
Interest and dividends	155	-	155	100%
Transfer fees and clearing services	386	-	386	100%
Tax preparation and accounting	338	-	338	100%
Other	70	-	70	100%
Total National revenue	10,323	-	10,323	100%
Net revenue	16,480	863	15,617	1,810%
Operating expenses				
Fortress				
Cost of goods sold – product revenue	790	-	790	100%
Research and development	29,602	18,402	11,200	61%
Research and development – licenses acquired	5,532	11,408	(5,876)	(52)%
General and administrative	34,003	21,584	12,419	58%
Total Fortress operating expenses	69,927	51,394	18,533	36%
National				
Commissions, compensation and fees	10,414	-	10,414	100%
Clearing fees	144	-	144	100%
Communications	177	-	177	100%
Occupancy	193	-	193	100%
Licenses and registration	147	-	147	100%
Professional fees	327	-	327	100%
Interest	1	-	1	100%
Depreciation and amortization	545	-	545	100%
Other administrative expenses	315	-	315	100%
Total National operating expenses	12,263	-	12,263	100%
Total operating expenses	82,190	51,394	30,796	60%
Loss from operations	(65,710)	(50,531)	(15,179)	30%
Other income (expenses)				
Interest income	298	245	53	22%
Interest expenses	(3,690)	(1,484)	(2,206)	149%
Change in fair value of derivative liabilities	(1,039)	(438)	(601)	137%
Change in fair value of subsidiary convertible note	(78)	-	(78)	100%
Change in fair value of investments	(1,071)	(1,675)	604	(36)%
Total other income (expenses)	(5,580)	(3,352)	(2,228)	66%
Net loss	**(71,290)**	**(53,883)**	**(17,407)**	**32%**
Less: net loss attributable to non-controlling interest	(16,195)	(5,455)	(10,740)	197%
Net loss attributable to common stockholders	**$ (55,095)**	**$ (48,428)**	**$ (6,667)**	**14%**

For the year ended December 31, 2016, $10.3 million of revenue was from NHLD, $2.6 million of revenue was in connection with Checkpoint's collaborative agreements with TGTX, and $3.6 million of revenue related primarily to the sale of Journey branded products.

Cost of goods sold increased by $0.8 million or 100% due to the commencement of branded sales by JMC.

Research and development expenses increased $11.2 million, or 61%, from the year ended December 31, 2015 to the year ended December 31, 2016. This increase was primarily due to an $8.1 million increase in our Fortress Companies research and development expenses, as a result of continued clinical development under their licenses, a $5.2 million increase in sponsored research, a net increase in employee costs of $0.7 million, a $0.2 million increase in consulting costs, a $0.1 million increase in expenses related to CNDO 109, and a decrease of $2.9 million in expenses related to TSO product development. The 2015 costs related to the $2.7 million potential payment due Dr. Falk Pharma in connection with its delivery of the Clinical Study Report ("CSR") (though the Company disputes the adequacy of the CSR and does not believe the payment is due). We expect to incur expenses related to our research and development efforts going forward with existing product candidates as well as potentially acquired new products. Additionally, stock-based compensation expenses decreased by $1.1 million from the year ended December 31, 2015 to the year ended December 31, 2016. The decrease primarily relates to a decrease of $0.8 million at Fortress and $0.4 million of expenses related to the stock grants by Checkpoint, offset by an increase of $0.2 million related to new stock grants made by Helocyte.

During the year ended December 31, 2016, we invested $5.5 million in new and existing research and development programs with various partners. These investments consisted of the purchase by Mustang of CAR T from COH for $1.7 million, Checkpoint's payments totaling $3.2 million for the licenses to develop a portfolio of fully human immuno-oncology antibodies and small molecule target anti-cancer agents, Cellvation's payments totaling $0.3 million for upfront license fees and reimbursement of patent expenses to University of Texas, Helocyte's purchase of $0.1 million to develop novel immunotherapies for the prevention and treatment of CMV from COH, and Fortress' purchase totaling $0.3 million for oncolytic adenovirus technology and the extended release formulation of methazolamide.

General and administrative expenses increased $12.4 million, or 58%, from the year ended December 31, 2015 to the year ended December 31, 2016. This increase is largely due to a $4.3 million increase in legal fees. Of these legal fees, $2.1 million relates to the acquisition of National, $0.7 million relates to intellectual property, $0.6 million relates to Mustang's Winston Tang lawsuit, $0.5 million relates to Checkpoint's filing to become a public company, and $0.4 million relates to general legal expenses. In addition, salaries and benefits increased $4.9 million, with $2.2 million attributable to an increase in Journey staff due to product rollouts, $0.8 million due to an increase in Checkpoint headcount, and $1.9 million due to an increase in general staffing levels for Fortress and certain of our subsidiaries for business development and growth. The Company also faced accounting increases of $1.1 million, due to and subsequent to the preparation of subsidiaries becoming public companies, as well as rent increases of $1.0 million. In addition, consulting expenses increased by $0.6 million, and general and other expenses increased $1.8 million, which consisted of product samples and packaging $0.2 million, product storage $0.2 million, investor relations $0.2 million, board of directors fees $0.2 million, depreciation $0.1 million, taxes $0.1 million, insurance $0.1 million, dues and subscriptions $0.1 million, and $0.6 million general expenses. Stock-compensation expense decreased by $1.3 million primarily due to the one-time expense associated with subsidiary warrants granted to our Chief Executive Officer and Executive Vice Chairman, Strategic Development in July 2015 offset by expense related to new stock grants made to Checkpoint, Helocyte and Cellvation employees and consultants in 2016.

Total other expenses increased $2.2 million, or 66%, from the year ended December 31, 2015 to the year ended December 31, 2016, primarily due to an increase of $1.2 million in the amortization of debt discount, $1.0 million of fees related to the Helocyte debt offering and $0.6 million of change in fair value of contingently issuable warrants related to the contingently issuable common stock warrant in connection with Avenue's $3.0 million NSC Note, and offset by $0.6 million in the value of our investment in Origo Acquisition Corporation.

Non-controlling interests increased $10.7 million, or 197%, from the year ended December 31, 2015 to the year ended December 31, 2016. This increase reflects the increase in costs related to our subsidiaries.

Cash Flows for the Three Years Ended December 31, 2017, 2016 and 2015

($ in thousands)	For the Years Ended December 31, 2017	2016	2015
Statement of cash flows data:			
Total cash (used in)/provided by:			
Operating activities	$ (85,430)	$ (45,812)	$ (20,378)
Investing activities	(41,629)	(6,060)	7,885
Financing activities	154,207	42,905	60,916
Net increase (decrease) in cash and cash equivalents	$ 27,148	$ (8,967)	$ 48,423

Operating Activities

Net cash used in operating activities increased by $39.6 million from the year ended December 31, 2016 to the year ended December 31, 2017, primarily due to a $28.5 million increase in net loss, a $9.4 million decrease of change in fair value of derivative liabilities, a $4.2 million decrease in change in operating assets and liabilities, a $1.7 million decrease of common shares issuable for license expenses, and a $1.3 million decrease in change in fair value of our long-term investments. This increase was partially offset by a $1.9 million increase in stock-based compensation expense, an increase of $2.4 million of depreciation and amortization expense, a $1.0 million increase of common shares issuable and issued for PIK interest expense, an increase of $0.4 million in change in fair value of subsidiaries' convertible notes, a $0.3 million increase of issuance common shares for research and development expenses, a $0.3 million of loss on write off investment, and an increase of research and development-licenses acquired, expense of $0.3 million.

Net cash used in operating activities increased by $25.4 million from the year ended December 31, 2015 to the year ended December 31, 2016, primarily due to a $17.4 million increase in net loss, a $6.7 million decrease of research and development-licenses acquired, a $2.2 million decrease in stock-based compensation expense, a $3.2 million decrease in change in operating assets and liabilities and a $0.6 million decrease in change in fair value of our long-term investments. This increase was partially offset by $1.7 million of common shares issuable for license expenses, $1.2 million increase of amortization of debt discount, an increase in financing fees on subsidiaries' convertible notes of $1.0 million, an increase of $0.9 million of depreciation and amortization expense and an increase of $0.6 million in change in fair value of derivative liabilities.

Investing Activities

Net cash used in investing activities of $41.6 million during the year ended December 31, 2017 primarily relates to $56.1 million in purchase of short-term investments with the purchase of certificates of deposit by Mustang and Avenue, $3.4 million in licenses acquired, $2.1 million in purchase of property and equipment, and $0.3 million of security deposits funded, offset by $20.1 million of redemption of short-term investment.

Net cash used in investing activities of $6.1 million during the year ended December 31, 2016 primarily relates to $3.8 million in licenses being acquired in 2016, $6.4 million in purchase of property and equipment, and $0.4 million in purchase of license, offset by $4.6 million of net cash acquired in our acquisition of National.

Net cash provided by investing activities of $7.9 million during the year ended December 31, 2015 primarily relates to a net $20.0 million proceeds on maturity of marketable securities, offset by $1.3 million related to JMC's acquisition of the rights to distribute a dermatological product, acquisition of research and development licenses of Fortress Companies of $10.5 million, a working capital loan of $0.2 million to CB Pharma (now Origo Acquisition Corp. ("Origo")) and construction in process of $0.3 million, primarily related to the buildout of our new office in New York, NY.

Financing Activities

Net cash provided by financing activities of $154.2 million for the year ended December 31, 2017 primarily relates to net proceeds in connection with issuance of Series A preferred stock of $22.2 million, net proceeds from subsidiaries' offerings, issuance of common stock under ESPP and exercise of stock options of $95.3 million, net proceeds from the 2017 Subordinated Note Financing of $28.3 million, net proceeds from the Opus credit facility of $2.5 million, and net proceeds from subsidiaries' Convertible Note of $9.8 million, offset by repayment of the NSC note of $3.6 million and cash payment of dividends of $0.3 million.

Net cash provided by financing activities of $42.9 million for the year ended December 31, 2016 primarily relates to net proceeds in connection with third-party financings of certain Fortress Companies of $36.8 million, net proceeds of $7.0 million from the Opus Credit Facility, $4.0 million from subsidiaries' convertible debt, $0.2 million issuance of common stock under ESPP, $0.9 million in proceeds from IDB Note and $0.4 million in May 2016 from our then existing at-the-market facility. During the year ended December 31, 2016, we paid-off $6.4 million of the NSC Note, from which the proceeds of $10.0 million were received in February of 2015.

Net cash provided by financing activities of $60.9 million for the year ended December 31, 2015 primarily relates to net proceeds in connection with a third-party financing of a Fortress Company of $51.5 million, gross proceeds of $10.0 million from the NSC Note and $0.2 million in proceeds related to the exercise of stock options, partially offset by $0.9 million in debt issuance costs associated with the NSC Note.

Liquidity and Capital Resources - Fortress

We fund our operations through cash on hand, the sale of debt and third-party financings. At December 31, 2017, we had cash, cash equivalents and restricted cash of $131.3 million of which $25.0 million relates to Fortress, $19.2 million relates to Checkpoint, $35.0 million relates to Mustang, $15.1 million relates to National, $11.8 million relates to Avenue, $7.0 million relates to Caelum, $0.8 million relates to Journey plus restricted cash of $17.4 million, of which $14.9 million is collateralizing the IDB Note, $0.6 million of which is securing a letter of credit used as a security deposit for the New York, NY lease that became effective on October 3, 2014, $0.5 million secures the Worcester, Massachusetts lease signed by Mustang that became effective on October 27, 2017, and $1.4 million is National's restricted cash.

During 2016, we entered into a working capital line of credit with Opus Point Healthcare Innovations Fund L.P. for $25.0 million. As of December 31, 2017, we had $9.5 million borrowed under this facility. In addition, Caelum closed on convertible notes for net proceeds of $9.8 million in 2017, Avenue raised net proceeds of $34.2 million in its IPO in June 2017, and Mustang raised net proceeds of $50.3 million in three separate private placement closings in 2017.

Further, in November 2017, we received net proceeds of $22.2 million related to the issuance of shares of 9.375% Series A Cumulative Redeemable Perpetual Preferred stock in a private placement, and during 2017, we raised an additional $0.2 million from the issuance of our common shares in connection with our ESPP.

We may require additional financing to fully develop and prepare regulatory filings and obtain regulatory approvals for our existing and new product candidates, fund operating losses, and, if deemed appropriate, establish or secure through third parties manufacturing for our potential products, and sales and marketing capabilities. We have funded our operations to date primarily through the sale of equity and debt securities. We believe that our current cash and cash equivalents is sufficient to fund operations for at least the next twelve months. Our failure to raise capital as and when needed would have a material adverse impact on our financial condition and our ability to pursue our business strategies. We may seek funds through equity or debt financings, collaborative or other arrangements with corporate sources, or through other sources of financing.

Liquidity and Capital Resources - National

	Ending Balance September 30,	
($ in thousands)	**2017**	**2016**
Cash	$ 18,963	$ 21,694
Receivables from broker-dealers and clearing organizations	7,395	3,357
Securities owned – at fair value	1,985	2,357
Accounts payable, accrued expenses and other liabilities	18,780	19,106

At September 30, 2017 and 2016, 52% and 45%, respectively, of National's total assets consisted of cash, securities owned and receivables from clearing brokers and other broker-dealers. The level of cash used in each asset class is subject to fluctuation based on market volatility, revenue production and trading activity in the marketplace.

In addition, as registered broker-dealers and members of FINRA, the Broker-Dealer Subsidiaries are subject to the SEC's Uniform Net Capital Rule 15c3-1 ("Rule 15c3-1"), which is designed to measure the general financial integrity and liquidity of a broker-dealer and requires the maintenance of minimum net capital. Net capital is defined as the net worth of a broker-dealer subject to certain adjustments. In computing net capital, various adjustments are made to net worth that exclude assets not readily convertible into cash. Additionally, the regulations require that certain assets, such as a broker-dealer's position in securities, be valued in a conservative manner so as to avoid overstating of the broker-dealer's net capital.

National Securities is subject to Rule 15c3-1, which, among other things, requires the maintenance of minimum net capital. In February 2015, pursuant to a directive form FINRA, National Securities reverted back to using the alternative method of computing net capital from the aggregate indebtedness method. At September 30, 2017, National Securities had net capital of $9.2 million which was $9.0 million in excess of its required net capital of $250,000. National Securities is exempt from the provisions of the SEC's Rule 15c3-3 since it is an introducing broker-dealer that clears all transactions on a fully disclosed basis and promptly transmits all customer funds and securities to clearing brokers. Calculations of net capital and claimed exemptions are reviewed by an independent audit firm on an annual basis.

vFinance Investments is also subject to Rule 15c3-1, which, among other things, requires the maintenance of minimum net capital and requires that the ratio of aggregate indebtedness to net capital, both as defined, shall not exceed 15 to 1. At September 30, 2017, vFinance Investments had net capital of $1.4 million which was $0.4 million in excess of its required net capital of $1.0 million. vFinance Investments ratio of aggregate indebtedness to net capital was 0.8 to 1. vFinance Investments is exempt from the provisions of Rule 15c3-3 since it is an introducing broker-dealer that clears all transactions on a fully disclosed basis and promptly transmits all customer funds and securities to clearing brokers. Calculations of net capital and claimed exemptions are reviewed by an independent audit firm on an annual basis.

Advances, dividend payments and other equity withdrawals from the Broker-Dealer Subsidiaries are restricted by the regulations of the SEC and other regulatory agencies. These regulatory restrictions may limit the amounts that a subsidiary may dividend or advance to the Company. During 2017 and 2016, the Broker-Dealer Subsidiaries were in compliance with the rules governing dividend payments and other equity withdrawals.

National extends unsecured credit in the normal course of business to its brokers. The determination of the appropriate amount of the reserve for uncollectible accounts is based upon a review of the amount of credit extended, the length of time each receivable has been outstanding, and the specific individual brokers from whom the receivables are due.

The objective of liquidity management is to ensure that National has ready access to sufficient funds to meet commitments, fund deposit withdrawals and efficiently provide for the credit needs of customers.

National's primary sources of liquidity include our cash flow from operations and the sale of its securities and other financing activities. National believes that it has sufficient funds from operations to fund its ongoing operating requirements through at least 2018. However, National may need to raise funds to enhance its working capital and for strategic purposes.

At September 30, 2017, National Holdings Corporation had no interest-bearing debt.

National does not have any material commitments for capital expenditures. National routinely purchases computer equipment and technology to maintain or enhance the productivity of its employees, and such capital expenditures have amounted to $1.7 million and $0.9 million during fiscal years ended September 30, 2017 and 2016, respectively.

Contingent Contractual Payments

The following table summarizes our contractual obligations as of December 31, 2017, excluding amounts related to contingent milestone payments, as described below.

	Payments due by period				
($ in thousands)	**Total**	**Less than 1 year**	**1 to 3 years**	**4 to 5 years**	**After 5 years**
Note Payable and interest (1)	$ 75,608	$ 18,242	$ 57,366	$ -	$ -
Operating leases (2)	21,208	1,414	3,428	3,325	13,041
Annual sublicense fees (3)	33,937	19,947	10,718	1,632	1,640
Purchase obligations (4)					
Total	$ 130,753	$ 39,603	$ 71,512	$ 4,957	$ 14,681

(1) Relates to the IDB Note, Opus credit facility, 2017 Subordinated Note Financing, Helocyte Convertible Notes and Caelum Convertible Notes.
(2) Relates to our New York, NY lease, Scottsdale, AZ, as well as Waltham, MA, and Worcester MA leases. For the New York, NY lease that commenced in 2016, we have in place Desk Share Agreements that reimburse us for $21.2 million of the $40.7 million obligation through the term of the lease.

(3) Annual sublicense fees and payments owed under sponsored research agreements and clinical research support agreements are projected through 2027 and include payments of which $15.3 million is for Mustang, $6.0 million is for Caelum, $4.3 million is for Fortress , $3.1 million is for Helocyte, $2.6 million is for Cellvation, $2.4 million is for Tamid, $0.2 million is for JMC, $0.1 million is for Cyprium, and $0.1 million os for Aevitas. At December 31, 2017 $3.1 million related to Falk is recorded in accrued expenses.
(4) We have $56.2 million of open purchase orders of which $20.1 million are for JMC, $16.6 million for Checkpoint, $8.3 million for Mustang, $4.4 million for Caelum, $3.7 million for Avenue, $1.8 million for Fortress, $1.0 million for Helocyte and $0.3 million for Cellvation. A majority of our purchase orders may be cancelled without significant penalty to us or our subsidiaries.

In February 2014, we entered into the IDB Note, under which we can borrow up to $15.0 million. At December 31, 2017, the amount of debt outstanding under the IDB Note was $14.9 million.

In September 2016, Fortress entered into a Credit Facility Agreement with Opus Point Healthcare Innovations Fund, LP ("Opus"). Under the terms of this agreement Fortress may borrow up to $25.0 million with interest art 12% per annum. At December 31, 2017, $9.5 million of debt was outstanding.

During 2016 Helocyte entered into an agreement with Aegis Capital Corp. ("Aegis") to raise up to $5.0 million in convertible notes. The notes have an initial term of 18 months, which can be extended at the option of the holder, on one or more occasions, for up to 180 days and accrue simple interest at the rate of 5% per annum for the first 12 months and 8% per annum simple interest thereafter. These notes are recorded at fair value, which approximated $4.7 million at December 31, 2017. On January 1, 2018 the first $1.0 million tranche matured and was paid.

In March, 2017, the Company entered into Note Purchase Agreements with NAM Biotech Fund II, LLC aad NAM Special Situations Fund I QP, LLC, both of which are accredited investors, for subordinated promissory notes ("2017 Subordinated Note Financing"), which bear interest at 8% per annum. At December 31, 2017, $28.4 million of debt was outstanding under the 2017 Subordinated Note Financing.

In July, 2017, Caelum offered convertible promissory notes to accredited investors through NSC, raising a total of $9.9 million as of December 31, 2017. The notes accrue interest at a rate of 8% per annum.

In October 2015, we entered into a 5-year lease for approximately 6,100 square feet of office space in Waltham, MA at an average annual rent of approximately $0.2 million. We took occupancy of this space in January 2016.

In July 2017, Journey extended its lease for one year for 2,295 square feet of office space in Scottsdale, AZ, at an annual rate of approximately $55,000. Journey took occupancy of this space in November 2014.

In October, 2014, we entered into a 15-year lease for office space at 2 Gansevoort Street New York, NY 10014, at an average annual rent of $2.7 million. We took possession of this space in December 2015, which constitutes our principal executive office. Also, on October 3, 2014, we entered into Desk Space Agreements with each of OPPM and TGTX, to occupy 10% and 45%, respectively, of the New York, NY office space that requires them to pay their share of the average annual rent of $0.3 million and $1.1 million, respectively. These initial rent allocations will be adjusted periodically for each party based upon actual percentage of the office space occupied. Additionally, we have reserved the right to execute additional desk space agreements with other third parties and those arrangements will also affect the cost of the lease actually borne by us. The lease was executed to further our business strategy, which includes forming additional subsidiaries and/or affiliate companies. Mr. Weiss is Executive Chairman, Chief Executive Officer, President and a stockholder of TGTX. The lease is subject to early termination by us, or in circumstances including events of default, the landlord, and includes a five-year extension option in our favor.

In October, 2017, Mustang entered into a lease through November 2026, subject to additional extensions at Mustang's option, for 27,043 sf at 377 Plantation Street in Worcester, MA (the "Facility") through November 2026, subject to additional extensions at Mustang's option. Base rent, net of abatements of $0.6 million over the lease term, totals approximately $3.6 million, on a triple-net basis. Mustang plans to make improvements to the facility of approximately $3.5 million. The Facility is expected to be operational for the production of personalized CAR T therapies in 2018.

Off-Balance Sheet Arrangements

We do not have any financings or other relationships with unconsolidated entities or other persons.

Recently Issued Accounting Pronouncements

See Note 2 of Notes to the Consolidated Financial Statements for a discussion of recent accounting standards and pronouncements.

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

Fortress

We are exposed to market risk related to changes in interest rates. As of December 31, 2017, and 2016, we had no marketable securities, exclusive of National. As of December 31, 2015, we had no marketable securities. Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates, particularly because we typically invest in short-term securities. Due to the short-term duration of our investment portfolio and the low risk profile of our investments, an immediate 100 basis point change in interest rates would not have a material effect on the fair market value of our portfolio.

The IDB Note bears interest at a rate per annum of 2.25%. This rate is set at a margin of 1.50% over the rate earned on the cash pledging this loan. To the extent the interest payable on the pledge account increases, we would pay higher interest on the outstanding debt.

National

National's primary market risk arises from the fact that it engages in proprietary trading and makes dealer markets in equity securities. Accordingly, the Company may be required to maintain certain amounts of inventories in order to facilitate customer order flow. National may incur losses as a result of price movements in these inventories due to changes in interest rates, foreign exchange rates, equity prices and other political factors. National is not subject to direct market risk due to changes in foreign exchange rates. However, National is subject to market risk as a result of changes in interest rates and equity prices, which are affected by global economic conditions. National manages its exposure to market risk by limiting its net long or short positions. Trading and inventory accounts are monitored daily by management and National has instituted position limits.

Credit risk represents the amount of accounting loss National could incur if counterparties to its proprietary transactions fail to perform and the value of any collateral proves inadequate. Although credit risk relating to various financing activities is reduced by the industry practice of obtaining and maintaining collateral, National maintains more stringent requirements to further reduce its exposure. National monitors its exposure to counterparty risk on a daily basis by using credit exposure information and monitoring collateral values. National maintains a credit committee, which reviews margin requirements for large or concentrated accounts and sets higher requirements or requires a reduction of either the level of margin debt or investment in high-risk securities or, in some cases, requiring the transfer of the account to another broker-dealer.

National monitors its market and credit risks daily through internal control procedures designed to identify and evaluate the various risks to which National is exposed. There can be no assurance, however, that National's risk management procedures and internal controls will prevent losses from occurring as a result of such risks.

The following tables shows the fair values of National's securities owned and securities sold, but not yet purchased as of September 30, 2017 and 2016 ($ in thousands):

September 30, 2017	Securities owned	Securities sold, but not yet purchased
Corporate stocks	$ 116	$ -
Municipal bonds	1,239	151
Restricted stock	82	-
Warrants	548	-
Total	$ 1,985	$ 151

September 30, 2016	Securities owned	Securities sold, but not yet purchased
Corporate stocks	$ 101	$ 298
Municipal bonds	2,111	-
Restricted stock	145	-
Total	$ 2,357	$ 298

Item 8. Financial Statements and Supplementary Data.

The information required by this Item is set forth in the consolidated financial statements and notes thereto beginning at page F-1 of this Annual Report on Form 10-K.

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

None.

Item 9A. Controls and Procedures.

Disclosure Controls and Procedures

Controls and Procedures

Disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) are designed only to provide reasonable assurance that they will meet their objectives. Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness, as of December 31, 2017, of the design and operation of our disclosure controls and procedures, as such term is defined in Exchange Act Rules 13a-15(e) and 15d-15(e). Based on this evaluation, our principal executive officer and principal financial officer have concluded that, as of such date, our disclosure controls and procedures are effective to ensure that information required to be disclosed by us in our Exchange Act reports is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Internal Control over Financial Reporting

Management's Report on Internal Control over Financial Reporting.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15 (f) and 15d-15(f). Internal control over financial reporting refers to the process designed by, or under the supervision of, our principal executive officer and principal financial officer, and effected by our Board of Directors, management and other personnel, 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, and includes those policies and procedures that:

(1) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of our assets;

(2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that our receipts and expenditures are being made only in accordance with authorization of our management and directors; and

(3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisitions, use or disposition of our assets that could have a material effect on the financial statements.

Internal control over financial reporting has inherent limitations. Internal control over financial reporting is a process that involves human diligence and compliance and is subject to lapses in judgment and breakdowns resulting from human failures. Internal control over financial reporting also can be circumvented by collusion or improper management override. Because of such limitations, there is a risk that material misstatements may not be prevented or detected on a timely basis by internal control over financial reporting. However, these inherent limitations are known features of the financial reporting process. Therefore, it is possible to design into the process safeguards to reduce, though not eliminate, this risk.

Our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2017. In making the assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control - Integrated Framework (2013)*.

Based on the results of this assessment, management (including our Chief Executive Officer and our Chief Financial Officer) has concluded that, as of December 31, 2017, our internal control over financial reporting was effective.

Attestation Report of Registered Public Accounting Firm

The effectiveness of our internal controls over financial reporting as of December 31, 2017 has been audited by our independent registered accounting firm, BDO USA, LLP, as stated in their attestation report, which is included on page F-3 herein.

Changes in Internal Controls over Financial Reporting.

There were no changes in our internal control over financial reporting during our most recent fiscal quarter 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

The information required by this Item is incorporated herein by reference from our Proxy Statement for our 2018 Annual Meeting of Stockholders.

Item 11. Executive Compensation

The information required by this Item is incorporated herein by reference from our Proxy Statement for our 2018 Annual Meeting of Stockholders.

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

The information required by this Item is incorporated herein by reference from our Proxy Statement for our 2018 Annual Meeting of Stockholders.

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

The information required by this Item is incorporated herein by reference from our Proxy Statement for our 2018 Annual Meeting of Stockholders.

Item 14. Principal Accounting Fees and Services

The information required by this Item is incorporated herein by reference from our Proxy Statement for our 2018 Annual Meeting of Stockholders.

PART IV

Item 15. Exhibits, Financial Statement Schedules.

(a) Financial Statements.

The following financial statements are filed as part of this report:

(b) Exhibits.

		Incorporated by Reference (Unless Otherwise Indicated)			
Exhibit Number	**Exhibit Title**	**Form**	**File**	**Exhibit**	**Filing Date**
2.1	Agreement and Plan of Merger, by and among Fortress Biotech, Inc., FBIO Acquisition, Inc. and National Holdings Corporation, dated April 27, 2016.	8-K	—	2.1	April 28, 2016
2.2	Amendment No. 1 to Agreement and Plan of Merger by and among Fortress Biotech, Inc., FBIO Acquisition, Inc. and National Holdings Corporation, dated August 12, 2016.	8-K	—	2.1	August 12, 2016
3.1	Amended and Restated Certificate of Incorporation of the Registrant.	10-12G	000-54463	3.1	July 15, 2011
3.2	First Certificate of Amendment of Amended and Restated Certificate of Incorporation of the Registrant.	10-12G	000-54463	3.2	July 15, 2011
3.3	Certificate of Designation, Preferences and Rights of the Series B Preferred Stock.	10-12G	000-54463	3.3	July 15, 2011
3.4	Certificate of Designation, Preferences and Rights of the Series C Preferred Stock.	10-12G	000-54463	3.4	July 15, 2011
3.5	Second Amended and Restated Bylaws of the Registrant.	8-K	—	3.7	October 31, 2013

Exhibit Number	Exhibit Title	Incorporated by Reference (Unless Otherwise Indicated)			
		Form	File	Exhibit	Filing Date
3.6	Second Certificate of Amendment of Amended and Restated Certificate of Incorporation, as amended.	10-K	—	3.8	March 14, 2014
3.7	Third Certificate of Amendment of Amended and Restated Certificate of Incorporation, as amended	8-K	—	3.9	April 27, 2015
4.1	Form of Common Stock Certificate.	10-12G	000-54463	4.1	July 15, 2011
4.2	Form of Series A Preferred Stock Certificate.	10-12G	000-54463	4.2	July 15, 2011
4.3	Form of Series B Preferred Stock Certificate.	10-12G	000-54463	4.3	July 15, 2011
4.4	Form of Series C Preferred Stock Certificate.	10-12G	000-54463	4.4	July 15, 2011
4.5	Form of Warrant for the purchase of shares of Common Stock issued by the Registrant in connection with the 2009 bridge financing.	10-12G	000-54463	4.6	July 15, 2011
4.6	Form of Warrant for the purchase of shares of Common Stock issued by the Registrant in connection with the Series A financing.	10-12G	000-54463	4.7	July 15, 2011
4.7	Form of Series C Convertible Preferred Stock Purchase Warrant issued by the Registrant in connection with the 2011 Series C financing.	10-12G	000-54463	4.8	July 15, 2011
4.8	Form of Consultant/Agent Warrant to Purchase Common Stock.	10-12G	000-54463	4.10	July 15, 2011
4.9	Warrant to purchase Common Stock issued by the Registrant in connection with the 2012 secured loan facility with Hercules Technology Growth Capital, Inc.	8-K	—	4.10	August 29, 2012
4.10	Certificate of Designations of Rights and Preferences 9.375% Series A Perpetual Preferred Stock	8-K	001-35366	3.1	November 7, 2017
4.11	Certificate of Elimination of Series B Preferred Stock	8-K	001-35366	3.2	November 7, 2017
4.12	Certificate of Elimination of Series C Preferred Stock	8-K	001-35366	3.3	November 7, 2017
10.1	Coronado Biosciences, Inc. 2007 Stock Incentive Plan.#	10-12G	000-54463	10.8	July 15, 2011
10.2	Form of Stock Option Award Agreement.#	10-12G	000-54463	10.9	July 15, 2011
10.3	Consulting Agreement, entered into as of September 21, 2010, by and between the Registrant and Eric Rowinsky, M.D.#	10-12G	000-54463	10.24	July 15, 2011
10.4	Form of Indemnification Agreement by and between the Registrant and its officers and directors.	10-12G/A	000-54463	10.25	August 23, 2011

Exhibit Number	Exhibit Title	Incorporated by Reference (Unless Otherwise Indicated)			
		Form	File	Exhibit	Filing Date
10.5	Employment Agreement, made and entered into on February 21, 2012, by and between the Registrant and Lucy Lu, M.D.#	8-K	—	10.35	February 23, 2012
10.6	Coronado Biosciences, Inc. 2012 Employee Stock Purchase Plan.#	DEF 14A	—	—	July 13, 2012
10.7	Promissory Note issued by Registrant to Israel Discount Bank of New York, dated February 13, 2014.	8-K	—	10.53	February 18, 2014
10.8	Assignment and Pledge of Money Market Account dated February 13, 2014 in favor of Israel Discount Bank of New York.	8-K	—	10.54	February 18, 2014
10.9	Restricted Stock Issuance Agreement, dated as of February 20, 2014, by and between the Registrant and Michael S. Weiss#	8-K/A	—	10.55	February 26, 2014
10.10	Shareholders' Agreement, dated as of February 20, 2014, by and among certain shareholders of the Registrant named therein.	8-K/A	—	10.56	February 26, 2014
10.11	Restricted Stock Issuance Agreement, dated as of December 19, 2013, by and between the Registrant and Michael S. Weiss#	10-K	—	10.57	March 14, 2014
10.12	Restricted Stock Issuance Agreement, dated as of December 19, 2013, by and between the Registrant and Lindsay A. Rosenwald, M.D.#	10-K	—	10.58	March 14, 2014
10.13	Form of Coronado Biosciences, Inc. 2013 Stock Incentive Plan Award Agreement (2013 Stock Incentive Plan).#	S-8	333-194588	10.60	March 14, 2014
10.14	Form of Subscription Agreement.	8-K	—	10.61	November 10, 2014
10.15	Note Purchase Agreement, dated February 27, 2015, by and between the Registrant and NSC Biotech Venture Fund I LLC.	8-K	—	10.62	March 5, 2015
10.16	Form of SubCo Securities Purchase Agreement.	8-K	—	10.64	March 5, 2015
10.17	Form of SubCo Warrant.	8-K	—	10.65	March 5, 2015
10.18	Form of SubCo Promissory Note.	8-K	—	10.66	March 5, 2015
10.19	Coronado Biosciences, Inc. Deferred Compensation Plan for Directors, dated March 12, 2015.#	8-K	—	10.67	March 18, 2015

Exhibit Number	Exhibit Title	Incorporated by Reference (Unless Otherwise Indicated)			
		Form	File	Exhibit	Filing Date
10.20	Fortress Biotech, Inc. 2013 Stock Incentive Plan, as amended.#	DEF 14A	—	—	June 4, 2015
10.21	Fortress Biotech, Inc. Long-Term Incentive Plan.#	DEF 14A	—	—	June 4, 2015
10.22	Restricted Stock Unit Award Agreement between Fortress Biotech, Inc. and George Avgerinos effective July 15, 2015.#	8-K	—	10.70	July 17, 2015
10.23	Amended and Restated Promissory Note issued by the Registrant to NSC Biotech Venture Fund I LLC, dated July 29, 2015.	8-K	—	10.71	August 4, 2015
10.24	Form of Support and Voting Agreement by and among Fortress Biotech, Inc., FBIO Acquisition, Inc., and certain officers and directors (and certain of their affiliates) of National Holdings Corporation.	8-K	—	10.28	April 28, 2016
10.25	Stockholder Rights Agreement by and between National Holdings Corporation and FBIO Acquisition, Inc., dated April 27, 2016.	8-K	—	10.29	April 28, 2016
10.26	Form of Voting Agreement by and among Fortress Biotech, Inc., FBIO Acquisition, Inc., and certain officers and directors (and certain of their affiliates) of National Holdings Corporation.	8-K	—	10.30	April 28, 2016
10.27	Amendment No. 2 to At Market Issuance Sales Agreement, dated April 28, 2016, between Fortress Biotech, Inc. and MLV & Co. LLC.	8-K	—	10.31	May 4, 2016
10.28	Amended and Restated At Market Issuance Sales Agreement, dated August 17, 2016, between the registrant, MLV & Co. LLC and FBR Capital Markets & Co.	8-K	—	10.32	August 17, 2016
10.29	Form of Fortress Biotech, Inc. Convertible Secured Promissory Note.	10-Q	—	10.34	November 9, 2016
10.30	Form of Common Stock Purchase Warrant.	10-Q	—	10.35	November 9, 2016

Exhibit Number	Exhibit Title	Incorporated by Reference (Unless Otherwise Indicated)			
		Form	File	Exhibit	Filing Date
10.31	Pledge and Security Agreement dated as of September 14, 2016 made by the Fortress Biotech, Inc. and FBIO Acquisition, Inc. in favor of Opus Point Healthcare Innovations Fund, LP.	10-Q	—	10.36	November 9, 2016
10.32	Placement Agency Agreement dated March 25, 2017, between Fortress Biotech, Inc., NAM Biotech Fund II, LLC - Series I and National Securities Corporation.	10-Q	—	10.33	May 10, 2017
10.33	Placement Agency Agreement dated March 25, 2017, between Fortress Biotech, Inc., NAM Special Situations Fund I QP, LLC - FBIO Series I and National Securities Corporation.	10-Q	—	10.34	May 10, 2017
10.34	Form of Common Stock Purchase Warrant in favor of National Securities Corporation.	10-Q	—	10.35	May 10, 2017
10.35	Form of Note Purchase Agreement between Fortress Biotech, Inc., NAM Biotech Fund II, LLC - Series I and NAM Special Situations Fund I QP, LLC - FBIO Series I.	10-Q	—	10.36	May 10, 2017
10.36	Form of Promissory Note issued by Fortress Biotech, Inc. to NAM Biotech Fund II, LLC - Series I and NAM Special Situations Fund I QP, LLC - FBIO Series I.	10-Q	—	10.37	May 10, 2017
10.37	Fortress Biotech, Inc. 2012 Employee Stock Purchase Plan, as amended.	8-K	—	10.38	June 12, 2017
10.38	Fortress Biotech, Inc. Amended and Restated Long Term Incentive Plan.	8-K	—	10.39	June 12, 2017
10.39	Amended and Restated Credit Facility Agreement dated as of March 12, 2018, by and among Fortress Biotech, Inc. and Opus Point Healthcare Innovations Fund, L.P.	—	—	—	Filed herewith
14.1	Code of Ethics of Registrant applicable to Directors, Officers and Employees.	S-1	333-177041	14.1	September 28, 2011
16.1	Letter from EisnerAmper LLP to the Securities and Exchange Commission dated October 3, 2016.	8-K	—	16.1	October 3, 2016
21.1	Subsidiaries of the Registrant.	—	—	—	Filed herewith
23.1	Consent Independent Registered Public Accounting Firm.	—	—	—	Filed herewith
23.2	Consent Independent Registered Public Accounting Firm.	—	—	—	Filed herewith

Exhibit Number	Exhibit Title	Incorporated by Reference (Unless Otherwise Indicated)			
		Form	File	Exhibit	Filing Date
24.1	Power of Attorney (included on the signature page of this Form 10-K)	—	—	—	Filed herewith
31.1	Certification of Chairman, President and Chief Executive Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	—	—	—	Filed herewith
31.2	Certification of Chief Financial Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	—	—	—	Filed herewith
32.1	Certification of the Chairman, President and Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.	—	—	—	Filed herewith
32.2	Certification of the Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.	—	—	—	Filed herewith
101.INS	XBRL Instance Document.	—	—	—	Filed herewith
101.SCH	XBRL Taxonomy Extension Schema Document.	—	—	—	Filed herewith
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.	—	—	—	Filed herewith
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.	—	—	—	Filed herewith
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.	—	—	—	Filed herewith
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.	—	—	—	Filed herewith

Management contract or compensatory plan.

Item 16. Form 10-K Summary.

None.

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FORTRESS BIOTECH, INC. AND SUBSIDIARIES

CONSOLIDATED FINANCIAL STATEMENTS

Index to Consolidated Financial Statements

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Report of Independent Registered Public Accounting Firm

Shareholders and Board of Directors
Fortress Biotech, Inc. and subsidiaries
New York, New York

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Fortress Biotech, Inc. and subsidiaries (the "Company") as of December 31, 2017 and 2016, the related consolidated statements of operations, stockholders' equity, and cash flows for each of the two years in the period ended December 31, 2017, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company and subsidiaries at December 31, 2017 and 2016, and the results of their operations and their cash flows for each of the two years in the period ended December 31, 2017, in conformity with accounting principles generally accepted in the United States of America.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the Company's internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") and our report dated March 16, 2018 expressed an unqualified opinion thereon.

Basis for Opinion

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

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud.

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

/s/ BDO USA, LLP

We have served as the Company's auditor since 2016

Boston, Massachusetts
March 16, 2018

BDO USA, LLP, a Delaware limited liability partnership, is the U.S. member of BDO International Limited, a UK company limited by guarantee, and forms part of the international BDO network of independent member firms.

BDO is the brand name for the BDO network and for each of the BDO Member Firms.

Report of Independent Registered Public Accounting Firm

Shareholders and Board of Directors
Fortress Biotech, Inc. and subsidiaries
New York, New York

Opinion on Internal Control over Financial Reporting

We have audited Fortress Biotech, Inc. and subsidiaries (the "Company's") internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (the "COSO criteria"). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the related consolidated balance sheets of the Company and subsidiaries as of December 31, 2017 and 2016, the related consolidated statements of operations, stockholders' equity, and cash flows for each of the two years in the period ended December 31, 2017, and the related notes and our report dated March 16, 2018 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Item 9A, Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit of internal control over financial reporting in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed 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. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ BDO USA, LLP

Boston, Massachusetts
March 16, 2018

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders
Fortress Biotech, Inc.

We have audited the consolidated statements of operations, stockholders' equity and cash flows of Fortress Biotech, Inc. (formerly Coronado Biosciences, Inc.) and its subsidiaries (the "Company") for the year ended December 31, 2015. The financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated results of their operations and their cash flows for Fortress Biotech, Inc. for the year ended December 31, 2015 in conformity with accounting principles generally accepted in the United States of America.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Fortress Biotech, Inc. and its subsidiaries' internal control over financial reporting as of December 31, 2015, based on criteria established in the 2013 *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"), and our report dated March 15, 2016 expressed an unqualified opinion thereon.

/s/ EisnerAmper LLP

New York, New York
March 15, 2016

FORTRESS BIOTECH, INC. AND SUBSIDIARIES
Consolidated Balance Sheets
($ in thousands except for share and per share amounts)

	December 31, 2017	December 31, 2016
ASSETS		
Current assets		
Cash and cash equivalents	$ 113,915	$ 88,294
Accounts receivable	7,758	1,830
Short-term investments (certificates of deposit)	36,002	-
Cash deposits with clearing organizations	1,041	1,030
Receivables from broker-dealers and clearing organizations	7,395	3,357
Forgivable loans receivable	1,616	1,712
Securities owned, at fair value	1,985	2,357
Inventory	171	203
Other receivables - related party	618	1,790
Prepaid expenses and other current assets	12,680	9,061
Total current assets	183,181	109,634
Property and equipment, net	9,513	7,376
Restricted cash	17,387	15,860
Long-term investments, at fair value	1,390	1,414
Intangible assets	15,223	17,408
Goodwill	18,645	18,645
Other assets	611	394
Total assets	**$ 245,950**	**$ 170,731**
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities		
Accounts payable and accrued expenses	$ 36,127	$ 24,295
Accounts payable and accrued expenses – related party	222	-
Accrued commissions and payroll payable	10,065	11,940
Deferred clearing and marketing credits	786	995
Securities sold, not yet purchased, at fair value	151	298
Warrants issued in 2017 and issuable in 2016 - National	5,597	14,359
Interest payable	315	88
Interest payable - related party	669	77
Notes payable, short-term (net of debt discount of $973 and $0 at December 31, 2017 and December 31, 2016, respectively)	8,528	1,000
Subsidiary convertible note, short-term, at fair value	4,700	1,031
Contingently issuable liabilities	-	1,682
Derivative warrant liability	87	481
Other current liabilities	181	319
Total current liabilities	67,428	56,565
Notes payable, long-term (net of debt discount of $62 and $2,009 at December 31, 2017 and December 31, 2016, respectively)	43,222	22,528
Subsidiary convertible note, long-term, at fair value	10,059	3,656
Other long-term liabilities	4,739	5,014
Total liabilities	**125,448**	**87,763**
Commitments and contingencies		
Stockholders' equity		
Preferred stock, $.001 par value, 15,000,000 authorized, 5,000,000 designated Series A shares 1,000,000 and 0 shares issued and outstanding as of December 31, 2017 and December 31, 2016, respectively	1	-
Common Stock, $.001 par value, 100,000,000 shares authorized, 50,991,285 and 48,932,023 shares issued and outstanding as of December 31, 2017 and December 31, 2016, respectively	51	49
Common stock issuable, 158,015 and 0 shares as of December 31, 2017 and December 31, 2016, respectively	500	-
Additional paid-in-capital	364,148	283,697
Accumulated deficit	(312,127)	(245,251)
Total stockholders' equity attributed to the Company	52,573	38,495
Non-controlling interests	67,929	44,473
Total stockholders' equity	120,502	82,968
Total liabilities and stockholders' equity	**$ 245,950**	**$ 170,731**

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

FORTRESS BIOTECH, INC. AND SUBSIDIARIES
Consolidated Statements of Operations
($ in thousands except for share and per share amounts)

	For the Years Ended December 31,		
	2017	**2016**	**2015**
Revenue			
Fortress			
Product revenue, net	$ 15,520	$ 3,587	$ 273
Revenue - from a related party	1,725	2,570	590
Net Fortress revenue	17,245	6,157	863
National			
Commissions	96,807	5,388	-
Net dealer inventory gains	15,108	253	-
Investment banking	25,064	2,829	-
Investment advisory	14,528	904	-
Interest and dividends	2,764	155	-
Transfer fees and clearing services	7,393	386	-
Tax preparation and accounting	7,439	338	-
Other	1,236	70	-
Total National revenue	170,339	10,323	-
Net revenue	187,584	16,480	863
Operating expenses			
Fortress			
Cost of goods sold – product revenue	3,658	790	-
Research and development	48,322	29,602	18,402
Research and development – licenses acquired	4,164	5,532	11,408
General and administrative	50,897	34,003	21,584
Total Fortress operating expenses	107,041	69,927	51,394
National			
Commissions, compensation and fees	155,187	10,414	-
Clearing fees	2,343	144	-
Communications	2,767	177	-
Occupancy	4,286	193	-
Licenses and registration	1,726	147	-
Professional fees	4,531	327	-
Interest	14	1	-
Depreciation and amortization	2,089	545	-
Other administrative expenses	8,808	315	-
Total National operating expenses	181,751	12,263	-
Total operating expenses	288,792	82,190	51,394
Loss from operations	(101,208)	(65,710)	(50,531)
Other income (expenses)			
Interest income	819	298	245
Interest expense and financing fee	(5,860)	(3,690)	(1,484)
Change in fair value of derivative liabilities	8,391	(1,039)	(438)
Change in fair value of subsidiary convertible note	(457)	(78)	-
Change in fair value of investments	226	(1,071)	(1,675)
Other loss	(234)	-	-
Total other income (expenses)	2,885	(5,580)	(3,352)
Loss before Income Taxes	**(98,323)**	**(71,290)**	**(53,883)**
Income tax expense	1,513	-	-
Net loss	**(99,836)**	**(71,290)**	**(53,883)**
Less: net loss attributable to non-controlling interests	32,960	16,195	5,455
Net loss attributable to common stockholders	**$ (66,876)**	**$ (55,095)**	**$ (48,428)**
Basic and diluted net loss per common share	$ (1.61)	$ (1.38)	$ (1.24)
Weighted average common shares outstanding—basic and diluted	41,658,733	39,962,657	39,146,589

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

FORTRESS BIOTECH, INC. AND SUBSIDIARIES
Consolidated Statements of Changes in Stockholders' Equity
($ in thousands except for share amounts)

	Series A Preferred Stock		Common Stock		Common Shares	Additional Paid-In	Accumulated	Non-Controlling	Total Stockholders'
	Shares	Amount	Shares	Amount	Issuable	Capital	Deficit	Interests	Equity
Balance at December 31, 2014	**-**	**$ -**	**46,494,034**	**$ 46**	**$ -**	**$ 212,205**	**$ (141,728)**	**$ -**	**$ 70,523**
Exercise of options	-	-	100,000	-	-	216	-	-	216
Stock-based compensation expense	-	-	-	-	-	14,291	-	-	14,291
Issuance of restricted stock	-	-	525,000	1	-	(1)	-	-	-
Subsidiary's offering, net	-	-	-	-	-	51,496	-	-	51,496
Issuance of common stock under ESPP	-	-	27,998	-	-	59	-	-	59
Issuance of subsidiaries' common shares for license expenses	-	-	-	-	-	958	-	-	958
Issuance of warrants in conjunction with NSC debt	-	-	-	-	-	613	-	-	613
Non-controlling interest in subsidiaries	-	-	-	-	-	(32,882)	-	32,882	-
Net loss attributable to non-controlling interest	-	-	-	-	-	-	-	(5,455)	(5,455)
Net loss attributable to common stockholders	-	-	-	-	-	-	(48,428)	-	(48,428)
Balance at December 31, 2015	**-**	**$ -**	**47,147,032**	**$ 47**	**-**	**$ 246,955**	**$ (190,156)**	**$ 27,427**	**$ 84,273**
Stock-based compensation expense	-	-	-	-	-	12,128	-	-	12,128
Issuance of restricted stock	-	-	1,568,408	2	-	(2)	-	-	-
Cashless exercise of warrants	-	-	12,633	-	-	-	-	-	-
Subsidiary's offering, net	-	-	-	-	-	36,818	-	-	36,818
Issuance of subsidiaries' common shares for license expenses	-	-	-	-	-	53	-	-	53
Issuance of common stock for at-the-market offering	-	-	150,556	-	-	434	-	-	434
At-the-market offering cost	-	-	-	-	-	(79)	-	-	(79)
Issuance of common stock under ESPP	-	-	86,727	-	-	189	-	-	189
Cancellation of restricted stock	-	-	(33,333)	-	-	-	-	-	-
Beneficial conversion feature of Opus Credit Facility	-	-	-	-	-	2,006	-	-	2,006
Issuance of warrants in conjunction with NSC debt	-	-	-	-	-	793	-	-	793
Non-controlling interest in subsidiaries	-	-	-	-	-	(15,598)	-	15,598	-
Non-controlling interest in National Holdings Corp.	-	-	-	-	-	-	-	17,643	17,643
Net loss attributable to non-controlling interest	-	-	-	-	-	-	-	(16,195)	(16,195)
Net loss attributable to common stockholders	-	-	-	-	-	-	(55,095)	-	(55,095)
Balance at December 31, 2016	**-**	**$ -**	**48,932,023**	**$ 49**	**$ -**	**$ 283,697**	**$ (245,251)**	**$ 44,473**	**$ 82,968**
Exercise of options for cash	-	-	20,000	-	-	27	-	-	27
Stock-based compensation expense	-	-	-	-	-	14,005	-	-	14,005
Issuance of restricted stock	-	-	1,796,270	2	-	(2)	-	-	-
Issuance of Series A preferred stock for cash, net of offering cost of $2,804	1,000,000	1	-	-	-	22,195	-	-	22,196
Issuance of subsidiaries' common shares for license expenses	-	-	-	-	-	1,727	-	-	1,727
Issuance of subsidiaries' common shares for research and development expenses	-	-	-	-	-	50	-	-	50
Issuance of subsidiaries' common shares for settlement	-	-	-	-	-	2,062	-	-	2,062
Issuance of common stock under ESPP	-	-	67,733	-	-	191	-	-	191
Issuance of common stock for research and development expenses	-	-	43,292	-	-	200	-	-	200
Acquisition of business - NHLD		-	-	-	-	(211)	-	-	(211)
Subsidiaries' offering, net	-	-	-	-	-	95,116	-	-	95,116
Debt discount related to Opus Credit Facility	-	-	-	-	-	201	-	-	201
Issuance of warrants by subsidiary in connection with NSC note	-	-	-	-	-	750	-	-	750
Conversion of subsidiary's notes payable	-	-	-	-	-	314	-	-	314
Common shares issuable for PIK interest expense	-	-	-	-	500	-	-	-	500
Common shares issued for PIK interest expense	-	-	131,967	-	-	541	-	-	541
Preferred A dividends declared and paid	-	-	-	-	-	(299)	-	-	(299)
Non-controlling interest in subsidiaries	-	-	-	-	-	(56,416)	-	56,416	-
Net loss attributable to non-controlling interest	-	-	-	-	-	-	-	(32,960)	(32,960)
Net loss attributable to common stockholders	-	-	-	-	-	-	(66,876)	-	(66,876)
Balance at December 31, 2017	**1,000,000**	**$ 1**	**50,991,285**	**$ 51**	**$ 500**	**$ 364,148**	**$ (312,127)**	**$ 67,929**	**$ 120,502**

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

FORTRESS BIOTECH, INC. AND SUBSIDIARIES
Consolidated Statements of Cash Flows
($ in thousands)

	For the Years Ended December 31,		
	2017	**2016**	**2015**
Cash Flows from Operating Activities:			
Net Loss	$ (99,836)	$ (71,290)	$ (53,883)
Reconciliation of net loss to net cash used in operating activities:			
Depreciation expense	1,165	944	26
Noncash interest expense	-	-	167
Amortization of intangible asset	1,651	-	-
Amortization of debt discount	1,314	1,466	314
Amortization of product revenue license fee	534	183	-
Amortization of forgivable loans to registered representatives	693	176	-
Amortization of deferred clearing credit	(209)	(13)	-
Stock-based compensation expense	14,005	12,128	14,291
Issuance of common stock for research and development expenses	200	-	-
Issuance of subsidiaries' common shares for research and development expenses	50	-	-
Recovery for doubtful accounts	(191)	(47)	-
Deferred tax benefit	-	(73)	-
Common shares issuable for license expenses	-	1,682	-
Common shares issuable for PIK interest expense	500	-	-
Common shares issued for PIK interest expense	541	-	-
Change in fair value of investments	(226)	1,071	1,675
Change in fair value of derivative liabilities	(8,391)	1,039	438
Change in fair value of subsidiary convertible note	457	78	-
Loss on write off of investment	250	-	-
Research and development-licenses acquired, expense	4,164	3,838	11,406
Change in fair value of subsidiaries' assets and liabilities	132	1,034	-
Increase (decrease) in cash and cash equivalents resulting from changes in operating assets and liabilities:			
Cash deposits with clearing organizations	(11)	-	-
Accounts receivable	(5,928)	(1,830)	-
Receivables from broker-dealers and clearing organizations	(4,038)	(4,048)	-
Forgivable loans receivable	(597)	(84)	-
Securities owned, at fair value	372	(179)	-
Inventory	32	(203)	-
Other receivables - related party	1,172	(1,634)	(156)
Prepaid expenses and other current assets	(3,481)	(204)	(739)
Other assets	-	(12)	-
Accounts payable and accrued expenses	9,727	5,395	5,889
Accounts payable and accrued expenses – related party	172	-	-
Securities sold, but not yet purchased, at fair value	(147)	298	-
Interest payable	176	61	(1)
Interest payable - related party	602	66	-
Other long-term liabilities	(284)	4,346	195
Net cash used in operating activities	(85,430)	(45,812)	(20,378)
Cash Flows from Investing Activities:			
Purchase of marketable securities, at fair value	-	-	(79,947)
Sale of marketable securities	-	-	99,949
Purchase of research and development licenses	(3,365)	(3,785)	(10,448)
Purchase of property and equipment	(2,080)	(6,370)	(283)
Purchase of license	-	(350)	(1,250)
Purchase of short-term investment (certificates of deposit)	(56,091)	-	-
Redemption of short-term investment (certificates of deposit)	20,089	-	-
Security deposits paid	(251)	(6)	-
Security deposits refund	42	-	22
Acquisition of business - National	(19)	4,626	-
Collection on notes receivable – disposal of Gilman branches	46	-	-
Investment in Origo Acquisition Corp.	-	(175)	(158)
Net cash (used in) provided by investing activities	(41,629)	(6,060)	7,885

	For the Years Ended December 31,		
	2017	2016	2015
Cash Flows from Financing Activities:			
Proceeds from issuance of Series A preferred stock	25,000	-	-
Payment of costs related to the issuance of Series A preferred stock	(2,804)	-	-
Proceeds from exercise of stock options	27	-	216
Proceeds from issuance of common stock under ESPP	191	189	59
Proceeds from subsidiaries' offering	95,116	39,662	57,817
Payment of costs related to subsidiaries' offering	-	(2,844)	(6,321)
Proceeds from at-the-market offering	-	434	-
Payment of cost related to at-the-market offering	-	(79)	-
Payment of NSC note	(3,608)	(6,392)	-
Proceeds from NSC note	-	-	10,000
Payment of debt issuance costs associated with NSC Note	-	-	(855)
Proceeds from 2017 Subordinated Note Financing	28,355	-	-
Payment of debt issuance costs associated with 2017 Subordinated Note Financing	(81)	-	-
Proceeds from subsidiaries' Convertible Note	9,914	4,609	-
Payment of debt issuance costs associated with subsidiaries' Convertible Note	(104)	(594)	-
Proceeds from IDB Note	-	920	-
Proceeds from Opus Credit Facility	2,500	7,000	-
Payment of Preferred A dividends	(299)	-	-
Net cash provided by financing activities	154,207	42,905	60,916
Net increase (decrease) in cash, cash equivalents, and restricted cash	27,148	(8,967)	48,423
Cash, cash equivalents, and restricted cash at beginning of period	104,154	113,121	64,345
Cash, cash equivalents and restricted cash at end of period	$ 131,302	$ 104,154	$ 112,768
Supplemental disclosure of cash flow information:			
Fortress			
Cash paid for interest - non-related party	$ 675	$ 349	$ 80
Cash paid for interest - related party	$ 1,839	$ -	$ -
National			
Cash paid for interest	$ 14	$ 51	$ -
Cash paid for income taxes	$ 2,399	$ 104	$ -
Supplemental disclosure of non-cash financing and investing activities:			
Fortress			
Issuance of restricted stock	$ 2	$ 2	$ 2
Issuance of warrants by subsidiary in conjunction with NSC debt	$ 750	$ 634	$ 114
Issuance of warrants in conjunction with NSC debt	$ -	$ 793	$ 175
Issuance of subsidiaries' common shares for settlement	$ 2,062	$ -	$ -
Debt discount related to Opus Credit Facility	$ 201	$ -	$ -
Beneficial conversion feature related to Opus Credit Facility	$ -	$ 2,006	$ -
Unpaid debt offering cost	$ 58	$ -	$ -
Common shares issuable for license acquired	$ 1,682	$ -	$ -
Conversion of subsidiaries notes payable	$ 314	$ -	$ -
Property, plant and equipment included in accounts payable and accrued liabilities	$ 982	$ -	$ -
Acquisition of National Holdings Corp.			
Goodwill	$ -	$ (18,645)	$ -
Intangible assets - trademark	-	(3,000)	-
Intangible assets - customer list	-	(13,500)	-
Accounts receivable	-	(4,889)	-
Cash deposits with clearing organizations	-	(1,030)	-
Receivables from broker-dealers and clearing organizations	-	(1,607)	-
Securities owned, at fair value	-	(2,178)	-
Prepaid expenses and other current assets	-	(1,985)	-
Property and equipment, net	-	(1,132)	-
Restricted cash	-	(353)	-
Accounts payable and accrued expenses	-	6,079	-
Accrued commissions and payroll payable	-	14,029	-
Deferred clearing and marketing credits	-	1,007	-
Warrants issuable	-	13,406	-
Other current liabilities	-	707	-
Non-controlling interests	-	17,717	-
Net cash acquired in acquisition of National Holdings Corp.	$ -	$ 4,626	$ -
National			
Fixed assets (acquired but not paid)	$ -	$ 512	$ -
Dividend payable in warrants	$ -	$ 14,055	$ -
Business acquired	$ (192)	$ -	$ -

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

FORTRESS BIOTECH, INC. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements

1. Organization and Description of Business

Fortress Biotech, Inc. ("Fortress" or the "Company") is a biopharmaceutical company dedicated to acquiring, developing and commercializing novel pharmaceutical and biotechnology products. Fortress develops and commercializes products both within Fortress and through certain of its subsidiary companies, also referred to as the "Fortress Companies." Additionally, the Company maintains a controlling interest in National Holdings Corporation, a diversified independent brokerage company (together with its subsidiaries, referred to as "NHLD" or "National"). In addition to its internal development programs, the Company leverages its biopharmaceutical business expertise and drug development capabilities and provides funding and management services to help the Fortress Companies achieve their goals. The Company and the Fortress Companies may seek licenses, acquisitions, partnerships, joint ventures and/or public and private financings to accelerate and provide additional funding to support their research and development programs.

As of December 31, 2017, in addition to National, the Company has several consolidated Fortress Companies, some of which contain product licenses, including. ("Aevitas"), Avenue Therapeutics, Inc. ("Avenue"), Caelum Biosciences, Inc. ("Caelum"), Cellvation, Inc. ("Cellvation"), Checkpoint Therapeutics, Inc. ("Checkpoint"), Cyprium Therapeutics, Inc. ("Cyprium"), Helocyte, Inc. (formerly known as DiaVax Biosciences, Inc., "Helocyte"), Journey Medical Corporation ("Journey" or "JMC"), and Mustang Bio, Inc. (formerly known as Mustang Therapeutics, Inc., "Mustang"). Caelum Biosciences, Inc. ("Caelum"), Cyprium Biosciences, Inc. ("Cyprium") and Tamid Biosciences, Inc. ("Tamid). The Company also maintains exclusive ownership positions in operational subsidiaries CB Securities Corporation ("CB Securities"), Innmune Limited and FBIO Acquisition, Inc. (the acquisition vehicle we used to obtain National) and majority ownership positions in acquisition companies for which the Company is actively seeking product candidate licenses, including Coronado SO Co. ("Coronado SO"), Escala Therapeutics, Inc. ("Escala"), GeneXion Oncology, Inc. ("GeneXion"), FBIO Acquisition Corp. IV and FBIO Acquisition Corps. VI – XIV.

Liquidity and Capital Resources

Since inception, the Company's operations have been financed primarily through the sale of equity and debt securities and the proceeds from the exercise of warrants and stock options. The Company has incurred losses from operations and negative cash flows from operating activities since inception and expects to continue to incur substantial losses for the next several years as it continues to fully develop and prepare regulatory filings and obtain regulatory approvals for its existing and new product candidates. The Company's current cash and cash equivalents are sufficient to fund operations through March 2019. However, the Company will need to raise additional funding through strategic relationships, public or private equity or debt financings, grants or other arrangements to fully develop and prepare regulatory filings and obtain regulatory approvals for our existing and new product candidates, fund operating losses, and, if deemed appropriate, establish or secure through third parties manufacturing for our potential products, sales and marketing capabilities. If such funding is not available or not available on terms acceptable to the Company, the Company's current development plan and plans for expansion of its general and administrative infrastructure will be curtailed. The Company also has the ability, subject to limitations imposed by Rule 144 of the Securities Act of 1933 and other applicable laws and regulations, to raise money from the sale of common stock of the public companies in which it has ownership.

National

On September 9, 2016, the Company, purchased approximately 56.6% of NHLD's common stock, par value $0.02 per share, at the purchase price of $3.25 per share in cash for a total purchase price of approximately $22.9 million. At December 31, 2017, the Company's ownership of National was maintained at approximately 56.6%.

2. Summary of Significant Accounting Policies

Basis of Presentation and Principles of Consolidation

The Company's consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP"). The Company's consolidated financial statements include the accounts of the Company and the accounts of the Company's subsidiaries, listed above. All intercompany balances and transactions have been eliminated.

The accompanying consolidated financial statements include the accounts of the Company's subsidiaries. For consolidated entities where the Company owns less than 100% of the subsidiary, the Company records net loss attributable to non-controlling interests in its consolidated statements of operations equal to the percentage of the economic or ownership interest retained in such entities by the respective non-controlling parties. The Company also consolidates subsidiaries in which it owns less than 50% of the subsidiary but maintains voting control.

The National assets acquired, and liabilities assumed and revenues and expenses are reported on a one quarter lag. Therefore, the National assets acquired and liabilities assumed included in these consolidated financial statements as of December 31, 2017 are actually the assets acquired and liabilities assumed as of September 30, 2017 and the revenues and expenses included in these consolidated financial statements for the year ended December 31, 2017 are actually the revenues and expenses for the period from October 1, 2016 through September 30, 2017. National provides the company and certain Fortress Companies with investment banking services in connection with debt or equity raises. The company records the fees as expense, debt discount or equity. All such fees are eliminated in consolidation.

Use of Estimates

The Company's consolidated financial statements include certain amounts that are based on management's best estimates and judgments. The Company's significant estimates include, but are not limited to, useful lives assigned to long-lived assets, fair value of stock options and warrants, stock-based compensation, common stock issued to acquire licenses, investments, accrued expenses, provisions for income taxes and contingencies. Due to the uncertainty inherent in such estimates, actual results may differ from these estimates.

Fair Value Measurement

The Company follows accounting guidance on fair value measurements for financial assets and liabilities measured at fair value on a recurring basis. Under the accounting guidance, fair value is defined as an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or a liability.

The accounting guidance requires fair value measurements be classified and disclosed in one of the following three categories:

Level 1: Quoted prices in active markets for identical assets or liabilities.
Level 2: Observable inputs other than Level 1 prices for similar assets or liabilities that are directly or indirectly observable in the marketplace.
Level 3: Unobservable inputs which are supported by little or no market activity and that are financial instruments whose values are determined using pricing models, discounted cash flow methodologies, or similar techniques, as well as instruments for which the determination of fair value requires significant judgment or estimation.

The fair value hierarchy also requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. Assets and liabilities measured at fair value are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. The Company's assessment of the significance of a particular input to the fair value measurement in its entirety requires management to make judgments and consider factors specific to the asset or liability.

Certain of the Company's financial instruments are not measured at fair value on a recurring basis, but are recorded at amounts that approximate their fair value due to their liquid or short-term nature, such as accounts payable, accrued expenses and other current liabilities. The carrying value of the amount owed to Ovamed GmbH ("Ovamed") upon the acquisition of certain manufacturing rights has been recorded at its net present value, which approximates its fair value, due to the short-term nature of the liability. The amount due to Ovamed is included in current liabilities at December 31, 2016 in the Consolidated Balance Sheets (see Note 12) and was paid in 2017. Debt carried at cost approximates fair value.

Segment Reporting

Consistent with the increase in Journey's operations as of April 1, 2016 and the investment in National as of September 9, 2016, the Company now operates in three operating and reportable segments, Dermatology Product Sales, Pharmaceutical and Biotechnology Product Development and National. The Company evaluates the performance of each segment based on operating profit or loss. There is no inter-segment allocation of interest expense and income taxes.

Cash and Cash Equivalents

The Company considers highly liquid investments with a maturity of three months or less when purchased to be cash equivalents. Cash and cash equivalents at December 31, 2017 and at December 31, 2016 consisted of cashand certificates of deposit in institutions in the United States. Balances at certain institutions have exceeded Federal Deposit Insurance Corporation insured limits and U.S. government agency securities.

Short-term Investments

The company classifies its certificates of deposit as cash and cash equivalents or held to maturity in accordance with the Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 320, *Investments - Debt and Equity Securities*. The Company considers all short-term investments with an original maturity in excess of three months when purchased to be short-term investments. Short-term investments consist of short-term FDIC insured certificates of deposit with a maturity of more than three months and less than twelve months, carried at amortized cost using the effective interest method. The cost of the Company's certificates of deposit approximated fair value. The Company reassesses the appropriateness of the classification of its investments at the end of each reporting period.

At December 31, 2017, the Company had approximately $50.0 million in certificates of deposit. The Company classified $14.0 million as cash and cash equivalents and classified $36.0 million as short-term investments (certificates of deposits) held-to-maturity as of December 31, 2017. There were no short-term investments as of December 31, 2016. This classification was based upon management's determination that it has the positive intent and ability to hold the securities until their maturity dates, as its investments mature within one year and the underlying cash invested in these securities is not required for current operations.

Property and Equipment

Office equipment is recorded at cost and depreciated using the straight-line method over the estimated useful life of each asset. Leasehold improvements are amortized over the shorter of the estimated useful lives or the term of the respective leases.

Impairment of Long-Lived Assets

The Company reviews long-lived assets, including property and equipment, for impairment whenever events or changes in business circumstances indicate that the carrying amount of the assets may not be fully recoverable. Factors that the Company considers in deciding when to perform an impairment review include significant underperformance of the business in relation to expectations, significant negative industry or economic trends, and significant changes or planned changes in the use of the assets. If an impairment review is performed to evaluate a long-lived asset for recoverability, the Company compares forecasts of undiscounted cash flows expected to result from the use and eventual disposition of the long-lived asset to its carrying value. An impairment loss would be recognized when estimated undiscounted future cash flows expected to result from the use of an asset are less than its carrying amount. The impairment loss would be based on the excess of the carrying value of the impaired asset over its fair value, determined based on discounted cash flows.

Restricted Cash

The Company records cash held in trust or pledged to secure certain debt obligations as restricted cash. As of December 31, 2017, and 2016, the Company has $17.4 million and $15.9 million, respectively, of restricted cash collateralizing a note payable of $14.9 million in 2017 and 2016, and certain pledges to secure a letter of credit in connection with certain office leases of $2.5 million and $1.0 million in 2017 and 2016, respectively.

Inventories

Inventories comprise finished goods, which are valued at the lower of cost or market, on a first-in, first-out basis. The Company evaluates the carrying value of inventories on a regular basis, taking into account anticipated future sales compared with quantities on hand, and the remaining shelf life of goods on hand.

Accounts Receivable

Accounts receivable consists of amounts due to the Company for product sales from JMC. The Company's accounts receivable reflects discounts for estimated early payment and for product estimated returns. Accounts receivable are stated at amounts due from customers, net of an allowance for doubtful accounts. Accounts that are outstanding longer than the contractual payment terms are considered past due. The Company determines its allowance for doubtful accounts by considering a number of factors, including the length of time trade accounts receivable are past due and the customer's current ability to pay its obligation to the Company. The Company writes off accounts receivable when they become uncollectible. Accounts receivable are net of allowance for product estimated returns of $1.3 million and $0.1 million, at December 31, 2017 and December 31, 2016, respectively. The company recorded expense related to returns reserve of $1.2 million and $0.1 million for the years ended December 31, 2017 and 2016, respectively.

Investments at Fair Value

The Company elects the fair value option for its long-term investments at fair value (see Note 7). The decision to elect the fair value option, which is irrevocable once elected, is determined on an instrument by instrument basis and applied to an entire instrument. The net gains or losses, if any, on an investment for which the fair value option has been elected are recognized as a change in fair value of investments on the Consolidated Statements of Operations.

The Company has various processes and controls in place to ensure that fair value is reasonably estimated. While the Company believes its valuation, methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different estimate of fair value at the reporting date.

Fair Value Option

As permitted under the FASB, ASC 825, *Financial Instruments,* ("ASC 825"), the Company has elected the fair value option to account for the Helocyte, Caelum and Avenue convertible notes that were issued during 2016. In accordance with ASC 825, the Company records these convertible notes at fair value with changes in fair value recorded in the Consolidated Statement of Operations. As a result of applying the fair value option, direct costs and fees related to the Helocyte, Caelum and Avenue convertible notes were recognized in earnings as incurred and were not deferred.

Accounting for Warrants at Fair Value

The Company classifies as liabilities any contracts that (i) require net-cash settlement (including a requirement to net-cash settle the contract if an event occurs and if that event is outside the control of the Company) or (ii) give the counterparty a choice of net-cash settlement or settlement in shares (physical settlement or net-share settlement).

The fair value of warrants that include price protection reset provision features are deemed to be "down-round protection" and, therefore, do not meet the scope exception for treatment as a derivative under ASC 815, *Derivatives and Hedging*, since "down-round protection" is not an input into the calculation of the fair value of warrants and cannot be considered "indexed to the Company's own stock" which is a requirement for the scope exception as outlined under ASC 815. The accounting treatment of derivative financial instruments requires that the Company record the warrants at their fair values as of the inception date of the agreement and at fair value as of each subsequent balance sheet date. Any change in fair value is recorded as non-operating, non-cash income or expense for each reporting period at each balance sheet date. The Company reassesses the classification of its derivative instruments at each balance sheet date. If the classification changes as a result of events during the period, the contract is reclassified as of the date of the event that caused the reclassification.

The Company assessed the classification of warrants issued, in connection with the 2016 convertible note financings for Helocyte and Avenue, and Caelum's convertible note financing in 2017 (the "Helocyte, Avenue and Caelum Warrants"), and determined that the Helocyte, Avenue and Caelum Warrants met the criteria for liability classification. Accordingly, the Company classified the Helocyte, Avenue and Caelum Warrants as a liability at their fair value and adjusts the instruments to fair value at each balance sheet date until the warrants are exercised or expired. Any change in the fair value of the Helocyte, Avenue and Caelum Warrants is recognized as "change in the fair value of warrant liabilities" in the Consolidated Statements of Operations.

Also in accordance with ASC 815, the Company classified the fair value of the warrants granted in connection with the note in favor of National Security Corporations's NSC Biotech Venture Fund I, LLC ("the NSC Note") that was transferred to Avenue effective February 2015 (the "Contingently Issuable Warrants") as a derivative liability. The Company valued these Contingently Issuable Warrants using an option pricing model and used estimates for an expected dividend yield, a risk-free interest rate, and expected volatility together with management's estimate of the probability of issuance of the Contingently Issuable Warrants. At each reporting period, as long as the Contingently Issuable Warrants are potentially issuable and there is a potential for an insufficient number of authorized shares available to settle the Contingently Issuable Warrants, these Contingently Issuable Warrants will be revalued, and any difference from the previous valuation date will be recognized as a change in fair value of derivative liabilities in the Consolidated Statements of Operations.

Opus Credit Facility, with Detachable Warrants

The Company accounts for the Opus Credit Facility with detachable warrants in accordance with ASC 470, *Debt*. The Company assessed the classification of its common stock purchase warrants as of the date of the transaction and determined that such instruments meet the criteria for equity classification. The warrants are reported on the Consolidated Balance Sheets as a component of additional paid in capital within stockholders' equity.

The Company recorded the related issue costs and value ascribed to the warrants as a debt discount of the Opus Credit Facility. The discount is amortized utilizing the effective interest method over the term of the Opus Credit Facility. The unamortized discount, if any, upon repayment of the Opus Credit Facility will be expensed to interest expense. In accordance with ASC Subtopic 470-20, the Company determined the weighted average effective interest rate of the debt was approximately 28% at December 31, 2017. The Company has also evaluated the Opus Credit Facility and warrants in accordance with the provisions of ASC 815, *Derivatives and Hedging*, including consideration of embedded derivatives requiring bifurcation.

Issuance of Debt and Equity

The Company issues complex financial instruments which include both equity and debt features. The Company analyzes each instrument under ASC 480, *Distinguishing Liabilities from Equity,* ASC 815, *Derivatives and Hedging* and, ASC 470, *Debt*, in order to establish whether such instruments include any embedded derivatives.

Recognizing Assets Acquired and Liabilities Assumed in a Business Combination

Acquired assets and assumed liabilities are recognized in a business combination on the basis of their fair values at the date of acquisition. The Company assesses fair value, which is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, using a variety of methods including income approaches such as present value techniques or cost approaches such as the estimation of current selling prices and replacement values. Fair value of the assets acquired, and liabilities assumed, including intangible assets, are measured based on the assumptions and estimations with regards to the variable factors such as the amount and timing of future cash flows for the asset or liability being measured, appropriate risk-adjusted discount rates, nonperformance risk, or other factors that market participants would consider. Upon acquisition, the Company determines the estimated economic lives of the acquired intangible assets for amortization purposes, which are based on the underlying expected cash flows of such assets.

Goodwill, Intangible Assets and Long-Lived Assets

Goodwill represents the excess acquisition cost over the fair value of net tangible and intangible assets acquired. Goodwill is not amortized and is subject to annual impairment testing on October 1st or between annual tests if an event or change in circumstance occurs that would more likely than not reduce the fair value of a reporting unit below its carrying value. In testing for goodwill impairment, the Company has the option to first assess qualitative factors to determine whether the existence of events or circumstances lead to a determination that it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If, after assessing the totality of events and circumstances, the Company concludes that it is not more likely than not that the fair value of a reporting unit is less than its carrying amount, then performing the two-step impairment test is not required. If the Company concludes otherwise, it is required to perform the two-step impairment test. The goodwill impairment test is performed at the reporting unit level by comparing the estimated fair value of a reporting unit with its respective carrying value. If the estimated fair value exceeds the carrying value, goodwill at the reporting unit level is not impaired. If the estimated fair value is less than carrying value, further analysis is necessary to determine the amount of impairment, if any, by comparing the implied fair value of the reporting unit's goodwill to the carrying value of the reporting unit's goodwill.

The fair value of reporting units is based on widely accepted valuation techniques that the Company believes market participants would use, although the valuation process requires significant judgment and often involves the use of significant estimates and assumptions. The Company utilizes a market cap approach in estimating the fair value of reporting units. The estimates and assumptions used in determining fair value could have a significant effect on whether or not an impairment charge is recorded and the magnitude of such a charge. Adverse market or economic events could result in impairment charges in future periods.

Intangible assets deemed to have finite lives are amortized on a straight line basis over their estimated useful lives, where the useful life is the period over which the asset is expected to contribute directly, or indirectly, to its future cash flows. Intangible assets are reviewed for impairment on an interim basis when certain events or circumstances exist. For amortizable intangible assets, impairment exists when the carrying amount of the intangible asset exceeds its fair value. At least annually, the remaining useful life is evaluated.

An intangible asset with an indefinite useful life is not amortized but assessed for impairment annually, or more frequently, when events or changes in circumstances occur indicating that it is more likely than not that the indefinite-lived asset is impaired. Impairment exists when the carrying amount exceeds its fair value. In testing for impairment, the Company has the option to first perform a qualitative assessment to determine whether it is more likely than not that an impairment exists. If it is determined that it is not more likely than not that an impairment exists, a quantitative impairment test is not necessary. If the Company concludes otherwise, it is required to perform a quantitative impairment test. To the extent an impairment loss is recognized, the loss establishes the new cost basis of the asset that is amortized over the remaining useful life of that asset, if any. Subsequent reversal of impairment losses is not permitted.

Long-lived assets, primarily fixed assets, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets might not be recoverable. The Company will perform a periodic assessment of assets for impairment in the absence of such information or indicators. Conditions that would necessitate an impairment assessment include a significant decline in the observable market value of an asset, a significant change in the extent or manner in which an asset is used, or a significant adverse change that would indicate that the carrying amount of an asset or group of assets is not recoverable. For long-lived assets to be held and used, the Company would recognize an impairment loss only if its carrying amount is not recoverable through its undiscounted cash flows and measures the impairment loss based on the difference between the carrying amount and estimated fair value.

Revenue Recognition

The Company recognizes revenue for the performance of services or the shipment of products when each of the following four criteria is met: (i) persuasive evidence of an arrangement exists; (ii) products are delivered or as services are rendered; (iii) the sales price is fixed or determinable; and (iv) collectability is reasonably assured.

Collaborative Arrangements

Checkpoint is paid by TGTX, a related party, a share of the cost of the license and future milestone payments that are payable to Dana-Farber Cancer Institute pursuant to the license agreement (see Note 8). Checkpoint is also paid by TGTX for the Sponsored Research Agreement between Checkpoint and NeuPharma (see Note 8). The gross amounts of these payments are reported as revenue in the accompanying Statements of Operations. Checkpoint acts as a principal, bears credit risk and may perform part of the services required in the transactions. Consistent with ASC 605-45-15 *Revenue Recognition - Principal Agent Considerations*, these payments are treated as revenue to Checkpoint. The actual expenses creating the payments by TGTX are reflected as research and development expenses.

The Company follows ASC 605-25, *Revenue Recognition - Multiple-Element Arrangements* ("ASC 605-25") and ASC 808, *Collaborative Arrangements*, if applicable, to determine the recognition of revenue under its collaborative research agreements, options to enter into collaborative research agreements and development and commercialization agreements. The terms of these agreements generally contain multiple elements, or deliverables, which may include (i) grants of licenses, or options to obtain licenses, to the Company's intellectual property, (ii) research and development services, (iii) drug product manufacturing, and/or (iv) participation on joint research and/or joint development committees. The payments the Company may receive under these arrangements typically include one or more of the following: non-refundable, up-front license fees; funding of research and/or development efforts; amounts due upon the achievement of specified objectives; and/or royalties on future product sales.

ASC 605-25 provides guidance relating to the separability of deliverables included in an arrangement into different units of accounting and the allocation of arrangement consideration to the units of accounting. The evaluation of multiple-element arrangements requires management to make judgments about (i) the identification of deliverables, (ii) whether such deliverables are separable from the other aspects of the contractual relationship, (iii) the estimated selling price of each deliverable, and (iv) the expected period of performance for each deliverable.

To determine the units of accounting under a multiple-element arrangement, management evaluates certain separation criteria, including whether the deliverables have stand-alone value, based on the relevant facts and circumstances for each arrangement. Management then estimates the selling price for each unit of accounting and allocates the arrangement consideration to each unit utilizing the relative selling price method. The allocated consideration for each unit of accounting is recognized over the related obligation period in accordance with the applicable revenue recognition criteria.

If there are deliverables in an arrangement that are not separable from other aspects of the contractual relationship, they are treated as a combined unit of accounting, with the allocated revenue for the combined unit recognized in a manner consistent with the revenue recognition applicable to the final deliverable in the combined unit. Payments received prior to satisfying the relevant revenue recognition criteria are recorded as deferred revenue in the Consolidated Balance Sheets and recognized as revenue in the Consolidated Statements of Operations when the related revenue recognition criteria are met.

Revenue Recognition – Milestone Method

The Company follows ASC 605-28, *Revenue Recognition-Milestone Method* to evaluate whether each milestone under a license agreement is substantive. This evaluation includes an assessment of whether (i) the consideration is commensurate with either (a) the entity's performance to achieve the milestone, or (b) the enhancement of the value of the delivered item as a result of a specific outcome resulting from the entity's performance to achieve the milestone, (ii) the consideration relates solely to past performance and (iii) the consideration is reasonable relative to all of the deliverables and payment terms within the arrangement. In making this assessment the Company evaluates factors such as the preclinical, clinical, regulatory, commercial and other risks that must be overcome to achieve the respective milestone, the level of effort and investment required and whether the milestone consideration is reasonable relative to all deliverables and payment terms in the arrangement in making this assessment. If a substantive milestone is achieved, the Company would recognize revenue related to the milestone in its entirety in the period in which the milestone was achieved, assuming all other revenue recognition criteria were met. Commercial milestones would be accounted for as royalties and recorded as revenue upon achievement of the milestone, assuming all other revenue recognition criteria were met.

JMC Product Revenue

JMC sells its products directly to wholesalers and specialty pharmacies. JMC recognizes product sales revenue when delivery has occurred, collectability is reasonably assured, and the price to the buyer is fixed or determinable, (in accordance with the specific contractual terms). Delivery occurs when title has transferred to the customer, and the customer has assumed the risks and rewards of ownership. Revenue from product sales is recognized net of provisions for estimated cash discounts, allowances, returns, rebates, chargebacks and distribution fees paid to certain of JMC's wholesale customers. JMC establishes these provisions concurrently with the recognition of product sales revenue. JMC offers cash discounts for prompt payment and allowances are recorded at the time of sale.

JMC allows customers to return product within a specified period of time before and after its expiration date. Provisions for returns are estimated based on historical levels for like products from external data sources, taking into account additional available information such as historical return and exchange levels, and inventory levels in the wholesale distribution channel through its partners. Although the company has limited history with these product sales, the Company believes based on its current level of sales that it can make reasonable estimates of returns based upon external data sources. JMC reviews its methodology and adequacy of the provision for returns on a quarterly basis, adjusting for changes in assumptions, historical internal and external results and business practices, as necessary.

JMC's co-promotion revenue for Dermasorb HC is based upon prescription volume over an established baseline.

Research and Development

Research and development costs are expensed as incurred. Advance payments for goods and services that will be used in future research and development activities are expensed when the activity has been performed or when the goods have been received rather than when the payment is made. Upfront and milestone payments due to third parties that perform research and development services on the Company's behalf will be expensed as services are rendered or when the milestone is achieved.

Research and development costs primarily consist of personnel related expenses, including salaries, benefits, travel, and other related expenses, stock-based compensation, payments made to third parties for license and milestone costs related to in-licensed products and technology, payments made to third party contract research organizations for preclinical and clinical studies, investigative sites for clinical trials, consultants, the cost of acquiring and manufacturing clinical trial materials, and costs associated with regulatory filings, laboratory costs and other supplies.

In accordance with ASC 730-10-25-1, *Research and Development*, costs incurred in obtaining technology licenses are charged to research and development expense if the technology licensed has not reached commercial feasibility and has no alternative future use. Such licenses purchased by the Company require substantial completion of research and development, regulatory and marketing approval efforts in order to reach commercial feasibility and has no alternative future use. Accordingly, the total purchase price for the licenses acquired during the period was reflected as research and development - licenses acquired on the Consolidated Statements of Operations for the year ended December 31, 2017, 2016 and 2015.

Contingencies

The Company records accruals for contingencies and legal proceedings expected to be incurred in connection with a loss contingency when it is probable that a liability has been incurred and the amount can be reasonably estimated.

If a loss contingency is not probable but is reasonably possible, or is probable but cannot be estimated, the nature of the contingent liability, together with an estimate of the range of possible loss if determinable and material, would be disclosed.

Stock-Based Compensation

The Company expenses stock-based compensation to employees over the requisite service period based on the estimated grant-date fair value of the awards and forfeiture rates. For stock-based compensation awards to non-employees, the Company remeasures the fair value of the non-employee awards at each reporting period prior to vesting and finally at the vesting date of the award. Changes in the estimated fair value of these non-employee awards are recognized as compensation expense in the period of change.

The Company estimates the fair value of stock option grants using the Black-Scholes option pricing model or 409A valuations, as applicable. The assumptions used in calculating the fair value of stock-based awards represent management's best estimates and involve inherent uncertainties and the application of management's judgment.

Income Taxes

The Company records income taxes using the asset and liability method. Deferred income tax assets and liabilities are recognized for the future tax effects attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective income tax bases, and operating loss and tax credit carryforwards. The Company establishes a valuation allowance if management believes it is more likely than not that the deferred tax assets will not be recovered based on an evaluation of objective verifiable evidence. For tax positions that are more likely than not of being sustained upon audit, the Company recognizes the largest amount of the benefit that is greater than 50% likely of being realized. For tax positions that are not more likely than not of being sustained upon audit, the Company does not recognize any portion of the benefit.

On December 22, 2017, "H.R.1", formerly known as the "Tax Cuts and Jobs Act", was signed into law. Among other items, H.R.1 reduces the federal corporate tax rate to 21% from the existing maximum rate of 35%, effective January 1, 2018. As a result, the Company has concluded that this will cause the Company's net deferred tax asset to be revalued at the new lower tax rate. Accordingly, the Company has reduced the value of the deferred tax asset before valuation allowance.

Non-Controlling Interests

Non-controlling interests in consolidated entities represent the component of equity in consolidated entities held by third parties. Any change in ownership of a subsidiary while the controlling financial interest is retained is accounted for as an equity transaction between the controlling and non-controlling interests.

Comprehensive Loss

The Company's comprehensive loss is equal to its net loss for all periods presented.

Reclassifications

Certain prior period amounts may have been reclassified to conform to the current year presentation.

National's Summary of Significant Accounting Policies

Principals of Consolidation

The consolidated financial statements include the accounts of National and its wholly owned and majority owned subsidiaries. All significant inter-company accounts and transactions have been eliminated in consolidation. Further National's results for 2015 are not included in the Company's Consolidated Financial Statements.

In addition, National may consolidate entities which meet the definition of a variable interest entity for which National is the primary beneficiary. The primary beneficiary is the party who has the power to direct the activities of a variable interest entity that most significantly impact the entity's economic performance and who has an obligation to absorb losses of the entity or a right to receive benefits from the entity that could potentially be significant to the entity. As of December 31, 2017, and 2016, National did not consolidate any variable interest entities. Fees attributable to such arrangements were $16.5 million in 2017 and $17.0 million in 2016.

Use of Estimates

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

Revenue Recognition

Commission revenue represents commissions generated by National's financial advisors for their clients' purchases and sales of mutual funds, variable annuities, general securities and other financial products, most of which is paid to the advisors as commissions for initiating the transactions.

Commission revenue is generated from front-end sales commissions that occur at the point of sale, as well as trailing commissions. National recognizes front-end sales commission revenue and related clearing and other expenses on transactions introduced to its clearing brokers on a trade date basis. National also recognizes front-end sales commissions and related expenses on transactions initiated directly between the financial advisors and product sponsors upon receipt of notification from sponsors of the commission earned. Commission revenue also includes 12b-1 fees, and variable product trailing fees, collectively considered as trailing fees, which are recurring in nature. These trailing fees are earned by National based on a percentage of the current market value of clients' investment holdings in trail eligible assets. Because trail commission revenues are generally paid in arrears, management estimates commission revenues earned during each period. These estimates are based on a number of factors including investment holdings and the applicable commission rate and the amount of trail commission revenue received in prior periods. Estimates are subsequently adjusted to actual based on notification from the sponsors of trail commissions earned.

Net dealer inventory gains, which are recorded on a trade-date basis, include realized and unrealized net gains and losses resulting from the National's principal trading activities.

Investment banking revenues consist of underwriting revenues, advisory revenues and private placement fees. Underwriting revenues arise from securities offerings in which National acts as an underwriter and include management fees, selling concessions and underwriting fees, net of related syndicate expenses. Underwriting revenues are recorded at the time the underwriting is completed and the income is reasonably determined. Management estimates National's share of the transaction-related expenses incurred by the syndicate, and recognizes revenues net of such expense. On final settlement, typically within 90 days from the trade date of the transaction, these amounts are adjusted to reflect the actual transaction-related expenses and the resulting underwriting fee.

Investment advisory fees are derived from account management and investment advisory services. These fees are determined based on a percentage of the customers assets under management, may be billed monthly or quarterly and are recognized when earned.

Interest is recorded on an accrual basis and dividends are recorded on the ex-dividend date.

Transfer fees and fees for clearing services, which are recorded on a trade date basis, are principally charged to the broker on customer security transactions.

Tax preparation and accounting fees are recognized upon completion of the services.

Securities

Securities owned and securities sold, but not yet purchased, are recorded at fair value. Authoritative accounting guidance defines fair value, establishes a framework for measuring fair value, and establishes a fair value hierarchy which prioritizes the inputs to valuation techniques. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. A fair value measurement assumes that the transaction to sell the asset or transfer the liability occurs in the principal market for the asset or liability or, in the absence of a principal market, the most advantageous market.

Valuation techniques that are consistent with the market, income or cost approach are used to measure fair value. The fair value hierarchy ranks the quality and reliability of the information used to determine fair values. Financial assets and liabilities carried at fair value are classified and disclosed in one of the following three categories:

Level 1	Unadjusted quoted prices in active markets for identical assets or liabilities.
Level 2	Inputs other than quoted market prices that are observable, either directly or indirectly, and reasonably available. Observable inputs reflect the assumptions market participants would use in pricing the asset or liability and are developed based on market data obtained from sources independent of National.
Level 3	Unobservable inputs which reflect the assumptions that National develops based on available information about what market participants would use in valuing the asset or liability.

Deferred Clearing and Marketing Credits

Deferred clearing credit represents a clearing fee rebate from National Financial Services ("NFS"), one of National's clearing brokers, which is being recognized pro rata as a reduction of clearing charges over the term of the clearing agreement which expires in 2022. At September 30, 2017 and 2016, the deferred clearing credit amounted to approximately $0.5 million and $0.7 million, respectively.

Deferred marketing credit represents a marketing rebate from NFS, which is being recognized pro rata as a reduction of marketing expenses over the term of the clearing agreement which expires in 2022. At September 30, 2017 and 2016, the deferred marketing credit amounted to approximately $0.3 million.

Reimbursement of Expenses

National incurs certain costs on behalf of its financial advisors including those for insurance, professional registration, technology and information services and legal services, amongst others, which are charged back to the advisors. It is National's policy to record the reimbursement as a reduction of the respective operating expense. Total reimbursements in fiscal years 2017 and 2016 amounted to approximately $9.9 million and $11.9 million, respectively. National's results for 2015 are not included in the Company's Consolidated Financial Statements.

In many instances, it is not possible to determine whether any loss is probable or even possible or to estimate the amount of any loss or the size of any range of loss. National believes that, in the aggregate, the pending legal actions or regulatory proceedings and any other exams, investigations or similar reviews (both formal and informal) should not have a material adverse effect on the consolidated results of operations, cash flows or financial condition. In addition, National believes that any amount that could be reasonably estimated of potential loss or range of potential loss in excess of what has been provided in the consolidated financial statements is not material.

Recently Adopted Accounting Pronouncements

In March 2016, the FASB issued ASU 2016-09, *Compensation-Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting*. Under ASU 2016-09, companies will no longer record excess tax benefits and certain tax deficiencies in additional paid-in capital ("APIC"). Instead, they will record all excess tax benefits and tax deficiencies as income tax expense or benefit in the income statement and the APIC pools will be eliminated. In addition, ASU 2016-09 eliminates the requirement that excess tax benefits be realized before companies can recognize them. ASU 2016-09 also requires companies to present excess tax benefits as an operating activity on the statement of cash flows rather than as a financing activity. Furthermore, ASU 2016-09 will increase the amount an employer can withhold to cover income taxes on awards and still qualify for the exception to liability classification for shares used to satisfy the employer's statutory income tax withholding obligation. An employer with a statutory income tax withholding obligation will now be allowed to withhold shares with a fair value up to the amount of taxes owed using the maximum statutory tax rate in the employee's applicable jurisdiction(s). ASU 2016-09 requires companies to classify the cash paid to a tax authority when shares are withheld to satisfy their statutory income tax withholding obligation as a financing activity on the statement of cash flows. Under current GAAP, it was not specified how these cash flows should be classified. In addition, companies will now have to elect whether to account for forfeitures on share-based payments by (1) recognizing forfeitures of awards as they occur or (2) estimating the number of awards expected to be forfeited and adjusting the estimate when it is likely to change, as is currently required. The Company adopted ASU 2016-09 on January 1, 2017. The adoption did not have a material impact on its consolidated financial statements and related disclosures.

In January 2017, the FASB issued ASU 2017-04, *Intangibles - Goodwill and Other (Topic 350): Simplifying the Accounting for Goodwill Impairment*. ASU 2017-04 removes Step 2 of the goodwill impairment test, which requires a hypothetical purchase price allocation. A goodwill impairment will now be the amount by which a reporting unit's carrying value exceeds its fair value, not to exceed the carrying amount of goodwill. This standard will be effective for the Company beginning in the first quarter of fiscal year 2021 and is required to be applied prospectively. Early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. The Company adopted ASU 2017-04 on January 1, 2017. The adoption did not have a material impact on the Company's consolidated financial statements and related disclosures.

In January 2017, the FASB issued ASU 2017-01, *Business Combinations (Topic 805): Clarifying the Definition of a Business*. The amendments in this update clarify the definition of a business with the objective of adding guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The definition of a business affects many areas of accounting including acquisitions, disposals, goodwill, and consolidation. The guidance is effective for fiscal periods beginning after December 15, 2017, including interim periods within those periods. The Company adopted ASU 2017-01 on January 1, 2017. The adoption did not have a material impact on the Company's consolidated financial statements and related disclosures

In November 2016, the FASB issued ASU 2016-18, *Statement of Cash Flows (Topic 230) Restricted Cash*. The new guidance requires that the reconciliation of the beginning-of-period and end-of-period amounts shown in the statement of cash flows include restricted cash and restricted cash equivalents. If restricted cash is presented separately from cash and cash equivalents on the balance sheet, companies will be required to reconcile the amounts presented on the statement of cash flows to the amounts on the balance sheet. Companies will also need to disclose information about the nature of the restrictions. The guidance is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. The Company early adopted ASU 2016-18 during the fourth quarter of 2017 and applied its provisions retrospectively. Other than the change in presentation within the statement of cash flows, the adoption of ASU 2016-18 did not have an impact on the Company's consolidated financial statements. The following table provides a reconciliation of cash, cash equivalents, and restricted cash from the consolidated balance sheets to the consolidated statements of cash flows for the years ended December 31, 2017, 2016 and 2015 ($ in thousands).

	For the Years Ended December 31,		
	2017	**2016**	**2015**
Cash and cash equivalents	$ 113,915	$ 88,294	$ 98,182
Restricted cash	17,387	15,860	14,586
Total cash, cash equivalents and restricted cash	$ 131,302	$ 104,154	$ 112,768

In May 2017, the FASB issued ASU 2017-09, *Compensation-Stock Compensation (Topic 718): Scope of Modification Accounting*. ASU 2017-09 provides clarity and reduces both (1) diversity in practice and (2) cost and complexity when applying the guidance in Topic 718, to a change to the terms or conditions of a share-based payment award. The amendments in ASU 2017-09 should be applied prospectively to an award modified on or after the adoption date. This ASU is effective for fiscal years, and interim periods within those years, beginning after December 15, 2017. The Company adopted ASU No. 2017-09 as of January 1, 2018. The adoption of this update did not impact the Company's consolidated financial statements and related disclosures.

In May 2014, the FASB issued ASU No. 2014-09, *Revenue from Contracts with* Customers (Topic 606) (ASU 2014-09) as modified by ASU No. 2015-14, *Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date*, ASU 2016-08, *Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations (Reporting Revenue Gross versus Net)*, ASU No. 2016-10, *Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing*, and ASU No. 2016-12, *Revenue from Contracts with Customers (Topic 606): Narrow-Scope Improvements and Practical Expedients*." The Company adopted the new revenue standard on January 1, 2018 and recognized an increase of $0.1 million to accumulated deficit as the cumulative effect of adoption of this accounting change. The impact of adoption is primarily related to 1) National's investment banking expenses that were deferred as of September 30, 2017 (National's financials are included in the Company's financials at a three-month lag) under the previously existing accounting guidance, which would have been expensed in prior periods under the new revenue standard. Accordingly, the new revenue standard will be applied prospectively in the Company's financial statements from January 1, 2018 forward and reported financial information for historical comparable periods will not be revised and will continue to be reported under the accounting standards in effect during those historical periods. Further, the adoption of ASU 2014-09 did not have a material impact on net Fortress revenue.

The new revenue guidance does not apply to revenue associated with financial instruments, including National's warrants and securities that are accounted for under other U.S. GAAP, and as a result, did not have an impact on the elements of our Consolidated Statements of Operations most closely associated with financial instruments. The new revenue standard primarily impacts the following of our revenue recognition and presentation accounting policies:

- *Investment Banking Revenues.* Advisory fees from mergers and acquisitions engagements are recognized at the point in time when the related transaction is completed, as the performance obligation is to successfully broker a specific transaction.

- *Investment Banking Advisory Expenses.* Historically, expenses associated with investment banking advisory assignments were deferred until reimbursed by the client, the related fee revenue is recognized or the engagement is otherwise concluded. Under the new revenue standard, expenses are deferred only to the extent they are explicitly reimbursable by the client and the related revenue is recognized when all performance obligations are met. All other investment banking advisory related expenses are expensed as incurred.

- *Investment Banking Underwriting and Advisory Expenses*. Expenses have historically been recorded net of client reimbursements and/or netted against revenues. Under the new revenue standard, all investment banking expenses will be recognized within their respective expense category on the consolidated income statement and any expense reimbursements will be recognized as investment banking revenues (i.e., expenses are no longer recorded net of client reimbursements and are not netted against revenues).

The new revenue standard requires enhanced disclosures, which we will include in the footnotes to our consolidated financial statements beginning with the three months ended March 31, 2018.

In August 2016, the FASB issued ASU 2016-15, *Statement of Cash Flows - Classification of Certain Cash Receipts and Cash Payments,* which addresses eight specific cash flow issues with the objective of reducing the existing diversity in practice in how certain cash receipts and cash payments are presented and classified in the statement of cash flows. The standard is effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. Early adoption is permitted, including adoption in an interim period. The Company adopted ASU No. 2017-09 as of January 1, 2018. The adoption of this update did not impact the Company's consolidated financial statements and related disclosures.

In January 2016, FASB issued ASU 2016-01, *Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Liabilities*. ASU No. 2016-01 requires several targeted changes including that equity investments (except those accounted for under the equity method of accounting, or those that result in consolidation of the investee) be measured at fair value with changes in fair value recognized in net income. The new guidance also changes certain disclosure requirements and other aspects of current U.S. GAAP. Amendments are to be applied as a cumulative-effect adjustment to the balance sheet as of the beginning of the fiscal year of adoption. ASU 2016-01 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2017. Early adoption is not permitted with the exception of certain targeted provisions. The Company adopted ASU No. 2017-09 as of January 1, 2018. The adoption of this update did not impact the Company's consolidated financial statements and related disclosures.

Recent Accounting Pronouncements

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842)* which supersedes FASB ASC Topic 840, *Leases (Topic 840)* and provides principles for the recognition, measurement, presentation and disclosure of leases for both lessees and lessors. The new standard requires lessees to apply a dual approach, classifying leases as either finance or operating leases based on the principle of whether or not the lease is effectively a financed purchase by the lessee. This classification will determine whether lease expense is recognized based on an effective interest method or on a straight-line basis over the term of the lease, respectively. A lessee is also required to record a right-of-use asset and a lease liability for all leases with a term of greater than twelve months regardless of classification. Leases with a term of twelve months or less will be accounted for similar to existing guidance for operating leases. The standard is effective for annual and interim periods beginning after December 15, 2018, with early adoption permitted upon issuance. The Company is currently in the process of evaluating the impact of adoption of ASU 2016-02 on the consolidated financial statements and related disclosures.

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments - Credit Losses: Measurement of Credit Losses on Financial Instruments*. ASU 2016-13 requires that expected credit losses relating to financial assets are measured on an amortized cost basis and available-for-sale debt securities be recorded through an allowance for credit losses. ASU 2016-13 limits the amount of credit losses to be recognized for available-for-sale debt securities to the amount by which carrying value exceeds fair value and also requires the reversal of previously recognized credit losses if fair value increases. The new standard will be effective on January 1, 2020. Early adoption of ASU 2016-13 will be available on January 1, 2019. The Company is currently evaluating the impact that ASU 2016-13 will have on its consolidated financial statements and related disclosures.

In July 2017, the FASB issued ASU 2017-11, *Earnings Per Share (Topic 260), Distinguishing Liabilities from Equity (Topic 480) and Derivatives and Hedging (Topic 815): I. Accounting for Certain Financial Instruments with Down Round Features; II. Replacement of the Indefinite Deferral for Mandatorily Redeemable Financial Instruments of Certain Nonpublic Entities and Certain Mandatorily Redeemable Noncontrolling Interests with a Scope Exception.* Part I of this update addresses the complexity of accounting for certain financial instruments with down round features. Down round features are features of certain equity-linked instruments (or embedded features) that result in the strike price being reduced on the basis of the pricing of future equity offerings. Current accounting guidance creates cost and complexity for entities that issue financial instruments (such as warrants and convertible instruments) with down round features that require fair value measurement of the entire instrument or conversion option. Part II of this update addresses the difficulty of navigating Topic 480, Distinguishing Liabilities from Equity, because of the existence of extensive pending content in the FASB Accounting Standards Codification. This pending content is the result of the indefinite deferral of accounting requirements about mandatorily redeemable financial instruments of certain nonpublic entities and certain mandatorily redeemable noncontrolling interests. The amendments in Part II of this update do not have an accounting effect. This ASU is effective for fiscal years, and interim periods within those years, beginning after December 15, 2018. The Company is currently assessing the potential impact of adopting ASU 2017-11 on its consolidated financial statements and related disclosures.

3. National Holdings Corporation

On September 9, 2016, the Company, purchased approximately 56.6% of National's common stock, par value $0.02 per share at the purchase price of $3.25 per share in cash.

On April 27, 2016, the Company entered into an Agreement and Plan of Merger with National and a wholly owned subsidiary of the Company, providing for the acquisition of National (the "Merger Agreement"). Pursuant to the Merger Agreement, and upon the terms and subject to the conditions described therein, the Company agreed to cause its wholly owned subsidiary to commence a tender offer for all the issued and outstanding shares of National's common stock, par value $0.02 per share, at a purchase price of $3.25 per share (the "Offer"). Upon expiration of the Offer on September 9, 2016 (and the subsequent settlement period), a total of approximately 7 million shares were validly tendered, representing approximately 56% of the outstanding shares of National on a fully-diluted basis. The aggregate consideration paid by Fortress in the Offer was approximately $22.9 million, without giving effect to related transaction fees and expenses. Fortress funded the payment with cash on hand.

The following table summarizes the fair value of assets acquired and liabilities assumed at the date of the acquisition ($ in thousands):

Assets		
Cash and cash equivalents	$	27,498
Accounts receivable		4,889
Cash deposits with clearing organizations		1,030
Receivable from brokers, dealers and clearing agencies		1,607
Securities owned, at fair value		2,178
Prepaid expenses and other current assets		1,985
Property and equipment		1,132
Restricted cash		353
Intangible assets - trademark		3,000
Intangible assets - customer list		13,500
Goodwill		18,645
Total assets		75,817
Liabilities		
Accrued compensation payable	$	14,029
Accounts payable and accrued expenses		6,079
Deferred clearing and marketing credits		1,007
Warrants issuable		13,406
Other current liabilities		707
Total liabilities assumed		35,228
Non-controlling interests		(17,717)
Net assets acquired	$	22,872
Cash and cash equivalents from National	$	27,498
Cash to NHLD Shareholders (Tender Offer)		(22,872)
Net cash acquired in acquisition of National	$	4,626

The Company recognized $18.6 million of goodwill and does not expect goodwill to be deductible for tax purposes.

Intangible assets consist of trademark and customer lists acquired in the merger under the purchase method of accounting are recorded at fair value net of accumulated amortization since the purchase date. Amortization is calculated using the straight-line and accelerated methods over the following estimated useful lives:

	Useful life
Trademark	10 years
Customer lists	6 years

The gross carrying amounts related to acquired intangible assets as of December 31, 2017 and 2016 are as follows ($ in thousands):

Intangible assets at September 9, 2016	$ 16,500
Amortization expense	(509)
Intangible assets at December 31, 2016	$ 15,991
Amortization expense	(1,651)
Intangible assets at December 31, 2017	$ 14,340

The future amortization of these intangible assets is as follows ($ in thousands):

	Trademark	Customer List	Total
Year Ended December 31, 2018	$ 300	$ 2,250	$ 2,550
Year Ended December 31, 2019	300	2,250	2,550
Year Ended December 31, 2020	301	2,250	2,551
Year Ended December 31, 2021	300	2,250	2,550
Year Ended December 31, 2022	300	2,250	2,550
Thereafter	1,107	482	1,589
Total	$ 2,608	$ 11,732	$ 14,340

The Company reviews its finite-lived intangible assets for impairment when events or changes in circumstances indicate that the carrying amount of finite-lived intangible asset may not be recoverable. Recoverability of a finite-lived intangible asset is measured by a comparison of its carrying amount to the undiscounted future cash flows expected to be generated by the asset. If the asset is considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the asset exceeds the fair value of the asset. There were no indicators of impairment during the periods ended September 30, 2017 and 2016, respectively.

4. Broker-Dealers and Clearing Organizations and Other Receivables

At September 30, 2017 and 2016, National's receivables of $7.4 million and $3.4 million, respectively, from broker-dealers and clearing organizations represent net amounts due for commissions and fees associated with National's retail brokerage business as well as asset based fee revenue associated with National's asset management advisory business. Other receivables at September 30, 2017 of $5.2 million principally represent trailing commissions, tax and accounting fees and investment banking fees, which are net of an allowance for uncollectable accounts of $0.5 million. Other receivables at September 30, 2016 of $5.4 million principally represent trailing commissions, tax and accounting fees and investment banking fees, which are net of an allowance for uncollectable accounts of $0.7 million.

5. Forgivable Loans Receivable

From time to time, National's operating subsidiaries may make loans, evidenced by promissory notes, primarily to newly recruited independent financial advisors as an incentive for their affiliation. The notes receivable balance is comprised of unsecured non-interest-bearing and interest-bearing loans (interest ranging up to 9%). These notes have various schedules for repayment or forgiveness based on production or retention requirements being met and mature at various dates through 2018. Amortization of loan forgiveness was included in commissions, compensation and fees in the statement of operations. In the event the advisor's affiliation with the subsidiary terminates, the advisor is required to repay the unamortized balance of the note.

At September 30, 2017 and 2016 National Forgivable loans totaled $1.6 million and $1.7 million, respectively.

National provides an allowance for doubtful accounts on the notes based on historical collection experience and continually evaluates the receivables for collectability and possible write-offs where a loss is deemed probable. As of September 30, 2017, and 2016, no allowance for doubtful accounts was required.

There were no unamortized forgivable loans outstanding at September 30, 2017 and 2016 attributable to registered representatives who ended their affiliation with National's subsidiaries prior to the fulfillment of their obligation.

6. Property and Equipment

Fortress' property and equipment, exclusive of National's property and equipment consisted of the following:

($ in thousands)	Useful Life (Years)	As of December 31, 2017	2016
Computer equipment	3	$ 543	$ 440
Furniture and fixtures	5	1,009	821
Machinery and Equipment	5	143	–
Leasehold improvements	5 - 15	5,351	5,396
Construction in progress (1)	NA	1,241	–
Total property and equipment		8,287	6,657
Less: Accumulated depreciation		(1,171)	(445)
Property and equipment, net		$ 7,116	$ 6,212

(1) For build-out of Mustang's cell processing facility in Worcester, MA. The total cost of the construction for the Worcester facility is expected to be $3.5 million. The cost of the equipment for the facility is expected to be $2.5 million

Depreciation expenses of Fortress' property and equipment for the years ended December 31, 2017, 2016, and 2015 was $0.7 million, $0.4 million, and $26,000, respectively, and was recorded in both research and development expense and general and administrative expense in the Consolidated Statements of Operations.

National's property and equipment as of September 30, 2017 consisted of the following:

($ in thousands)	Estimated Useful Lives (in years)	September 30, 2017	2016
Equipment	5	$ 1,306	$ 600
Furniture and fixtures	5	284	65
Leasehold improvements	Lesser of useful life or term of lease	1,006	259
Capital Leases (Primarily composed of computer equipment)	5	276	276
Total property and equipment		2,872	1,200
Less: Accumulated depreciation		(475)	(36)
Property and equipment, net		$ 2,397	$ 1,164

Depreciation expense of National's property and equipment for the fiscal year ended September 30, 2017 and the period from September 10, 2016 through September 30, 2016 was $0.4 million and $36,000, respectively.

7. Fair Value Measurements

Certain of the Company's financial instruments are not measured at fair value on a recurring basis but are recorded at amounts that approximate their fair value due to their liquid or short-term nature, such as accounts payable, accrued expenses and other current liabilities.

Laser Device for Treatment of Migraine Headaches

On March 17, 2014, the Company invested $250,000 for a 35% ownership position in a third-party company developing a laser device to treat migraine headaches. The Company elected the fair value option for recording this investment. In conjunction with this investment, the Company entered into a Purchase Agreement with the third-party company, in which the Company received 13,409,962 Class A Preferred Units, representing 83% of a total 16,091,954 Class A Preferred Units. In August 2017, a clinical trial utilizing this device concluded that there was no strong statistical data demonstrating that the device provided relief from migraine headaches. Accordingly, the third-party company ceased operations and the Company wrote off its investment of $0.3 million. The fair value of this investment was nil and $0.3 million as of December 31, 2017 and 2016.

Origo Acquisition Corporation (formerly CB Pharma Acquisition Corporation)

On June 10, 2016, CB Pharma Acquisition Corp ("CB Pharma") held an extraordinary general meeting of shareholders (the "Meeting"). At the Meeting, the shareholders approved each of the following items: (i) an amendment to the CB Pharma's Amended and Restated Memorandum and Articles of Association (the "Charter") to extend the date by which CB Pharma has to consummate a business combination from June 12, 2016 to December 12, 2016 (the " Extension "), (ii) an amendment to the Charter to allow the holders of the CB Pharma's ordinary shares issued in the their initial public offering to elect to convert their shares into their pro rata portion of the funds held in trust, if the Extension is approved, and (iii) the change of CB Pharma's name from "CB Pharma Acquisition Corp." to "Origo Acquisition Corporation" ("Origo"). In connection with the Meeting, the Company transferred 1,050,000 of its CB Pharma ordinary shares to Origo. The Company retained ownership of 265,000 Origo shares.

On July 24, 2017, Origo entered into a Merger Agreement with High Times Holding Corp. ("HTH"), which was later amended on September 27, 2017 ("Amended Merger Agreement"). Pursuant to the terms of the Amended Merger Agreement, the Merger Sub will merge with and into HTH, with HTH continuing as the surviving entity (the "Merger") and all holders of HTH equity securities and warrants, options and rights to acquire or securities that convert into HTH equity securities (collectively, "HTH Securities") will convert into Origo common shares and, with respect to options, options to acquire Origo common shares.

On September 11, 2017, Origo's shareholders approved a second amendment to the Articles of Association and extended the date by which to consummate a business combination to March 12, 2018. A shareholder meeting was held on March 12, 2018, at which the Origo shareholders approved the extension of the date by which to consummate a business combination to June 12, 2018.

As of December 31, 2017, and 2016, the Company valued its investment in Origo, a publicly traded company, utilizing the following assumptions: probability of a successful business combination of 46.53% and 51.53%, and no dividend rate, which yielded an underlying value of $10.65 and $8.16 per ordinary share for the private placement shares. The rights and warrants were valued utilizing a binomial-lattice model utilizing a risk-free rate of return of 1.28% and 0.85% and a strike price of $11.50 per share arriving at a value of $1.06 and $0.82 for each right and $1.07 and $0.58 for each warrant. Time to expected business combination/ liquidation was 0.05 and 0.20 during December 31, 2017 and 2016, respectively. Based upon the valuation, the Company recorded an increase in fair-value of investment of $0.2 million and a decrease in fair-value of investment of $1.1 million during December 31, 2017 and 2016, respectively. At December 31, 2017 and 2016, the fair value of the Company's investment in Origo was, $1.4 million and $1.2 million, respectively. The Company's working capital note with Origo of $0.3 million can be converted to stock upon a successful business combination.

Contingently Issuable Warrant

Pursuant to the Amended NSC Note (see Note 11), if a Fortress Company has the proceeds of the NSC Note transferred to it, such Fortress Company will issue a note to NSC and NSC will also receive a warrant to purchase a number of shares of the Fortress Company's stock equal to 25% of the outstanding Fortress Company note divided by the lowest price for which the Fortress Company sells its equity in its first third party financing. The warrants issued will have a term of 10 years and an exercise price equal to the par value of the Fortress Company's common stock and are accounted for in accordance with ASC 815, *Derivatives and Hedging.*

Avenue

Avenue classified the fair value of the Contingently Issuable Warrants that may have been granted in connection with Avenue's $3.0 million of its NSC Note transferred from Fortress to Avenue on October 31, 2015 (issuance date) and December 31, 2016 as a derivative liability as there was a potential that Avenue would not have a sufficient number of authorized common shares available to settle these instruments.

The fair value of Avenue's Contingently Issuable Warrants was determined by applying management's estimate of the probability of issuance of the Contingently Issuable Warrants together with an option pricing model, with the following key assumptions:

	December 31,	
	2017	**2016**
Risk-free interest rate	-%	2.45%
Expected dividend yield	-	-
Expected term in years	-	10.00
Expected volatility	-%	87%
Probability of issuance of the warrant	-	50%

On June 26, 2017, Avenue closed on an Initial Public Offering ("IPO") raising gross proceeds of $38.0 million and issuing 6.3 million common shares at $6.00 per share. As such, pursuant to the terms of Avenue's $3.0 million NSC Note, Avenue issued to National a warrant to purchase 125,000 of its common shares at par. The issuance of the warrant relates to the completion of Avenue's IPO in which Avenue's raised gross proceeds from a third-party party exceeding five times the value of the debt. Upon the issuance of the warrant by Avenue, the Company was removed as the guarantor on the note.

($ in thousands)	**Avenue's Contingently Issuable Warrants**
Beginning balance at January 1, 2016	$ 114
Additions	-
Change in fair value	188
Ending balance at December 31, 2016	302
Conversion into common shares	(750)
Change in fair value	448
Ending balance at December 31, 2017	$ -

Mustang

Mustang classified the fair value of the Contingently Issuable Warrants that may have been granted in connection with Mustang's $3.6 million NSC Note transferred from Fortress to Mustang on July 5, 2016 (issuance date). In October 2016, Mustang issued 138,462 warrants with an exercise price at par. Upon the issuance of warrants, Fortress derecognized a liability related to contingently issuance warrants of $0.8 million.

The fair value of Mustang's Contingently Issuable Warrants was determined by applying management's estimate of the probability of issuance of the Contingently Issuable Warrants together with an option-pricing model, with the following key assumptions:

	Issuance Dates
Risk-free interest rate	1.37%
Expected dividend yield	-
Expected term in years	10.00
Expected volatility	76.70%
Probability of issuance of the warrant	100%

($ in thousands)	Mustang's Contingently Issuable Warrants
Beginning balance at January 1, 2016	$ -
Additions	634
Change in fair value	159
Issuance of Warrants (October 25, 2016)	(793)
Ending balance at December 31, 2016	$ -

Checkpoint

On October 30, 2015, Checkpoint issued 139,592 warrants to NSC after an initial closing of Checkpoint's offering on September 30, 2015. The following table sets forth the changes in the estimated fair value for Checkpoint's Level 3 classified derivative Contingently Issuable Warrant liabilities:

($ in thousands)	Checkpoint's Contingently Issuable Warrants
Beginning balance at January 1, 2015	$ -
Additions	175
Change in fair value	438
Issuance of Warrants (October 30, 2015)	(613)
Ending balance at December 31, 2015	$ -

The fair value of Checkpoint's Contingently Issuable Warrants was determined at various issuance dates from March 19, 2015 to August 31, 2015 ("Issuance Dates") for $0.2 million and on October 30, 2015 for $0.6 million by applying management's estimate of the probability of issuance of the Contingently Issuable Warrants together with the option pricing model with the following key assumptions:

	Issuance Dates	October 30, 2015
Risk-free interest rate	2.26%	2.16%
Expected dividend yield	-	-
Expected term in years	10.00	10.00
Expected volatility	83%	100.86%
Probability of issuance of the warrant	25%	100%

Warrant Liabilities

Avenue

On December 30, 2016, Avenue held a closing of the sale of convertible promissory notes. In the closing, WestPark Capital, Inc., ("WestPark") the placement agent, received a warrant ("WestPark Warrant") to purchase the number of shares of Avenue's common stock equal to $10,000 divided by the price per share at which any note sold to investors first converts into Avenue's common stock. The Avenue Warrant has a ten-year term and has a per share exercise price equal to the price per share at which any note sold to investors first converts into Avenue's common stock. The fair value of Avenue's WestPark Warrant liability was measured at fair value using a Monte Carlo simulation valuation methodology. A summary of the weighted average (in aggregate) significant unobservable inputs (level 3 inputs) used in measuring the Company's warrant liabilities that are categorized within Level 3 of the fair value hierarchy for the year ended December 31, 2016 is as follows:

	December 31, 2016
Risk-free interest rate	2.45%
Expected dividend yield	-%
Expected term in years	10.00
Expected volatility	87%

Additionally, on June 26, 2017, in connection with its IPO, Avenue issued 2,488 warrants to purchase common shares of Avenue at $4.02, a 33% discount to the IPO price of $6.00 to Westpark Capital in connection with their role as placement agent for Avenue's 2016 Convertible Notes, which automatically converted to common shares of Avenue upon completion of the IPO.

($ in thousands)	Fair Value of Derivative Warrant Liability
Beginning balance at January 1, 2016	$ -
Additions	12
Change in fair value of derivative liabilities	-
Ending balance at December 31, 2016	$ 12
Conversion into common shares	(15)
Change in fair value	3
Ending balance at December 31, 2017	$ -

Helocyte

The fair value of Helocyte's warrant liability was measured at fair value using a Monte Carlo simulation valuation methodology. A summary of the weighted average (in aggregate) significant unobservable inputs (level 3 inputs) used in measuring the Company's warrant liabilities that are categorized within Level 3 of the fair value hierarchy for the year ended December 31, 2017 and 2016 are as follows:

	December 31	
	2017	2016
Risk-free interest rate	2.04% - 2.08%	1.82% - 1.91%
Expected dividend yield	-%	-%
Expected term in years	3.50 – 3.92	4.50 - 4.92
Expected volatility	70.0%	70.0%
Strike price	$ 0.46	$ 0.44

($ in thousands)	Fair Value of Derivative Warrant Liability
Beginning balance at January 1, 2016	$ -
Additions	428
Change in fair value of derivative liabilities	(261)
Ending balance at December 31, 2016	$ 167
Change in fair value of derivative liabilities	(80)
Ending balance at December 31, 2017	$ 87

Caelum

The fair value of Caelum's warrant liability, which was issued in connection with Caelum's convertible note, was measured using a Monte Carlo simulation valuation methodology. A summary of the weighted average (in aggregate) significant unobservable inputs (Level 3 inputs) used in measuring Caelum's warrant liabilities that are categorized within Level 3 of the fair value hierarchy as of December 31, 2017 is as follows:

	December 31, 2017
Risk-free interest rate	2.154% - 2.168%
Expected dividend yield	-%
Expected term in years	4.58 - 4.71
Expected volatility	70.0%
Strike price	$ 1.01

($ in thousands)	Fair Value of Derivative Warrant Liability
Beginning balance at January 1, 2017	$ -
Additions	226
Change in fair value of derivative liabilities	(3)
Ending balance at December 31, 2017	$ 223

Convertible Notes at Fair Value

Helocyte

Helocyte's convertible debt is measured at fair value using the Monte Carlo simulation valuation methodology. A summary of the weighted average (in aggregate) significant unobservable inputs (Level 3 inputs) used in measuring the convertible debt that is categorized within Level 3 of the fair value hierarchy for the year ended December 31, 2017 and 2016 is as follows:

	December 31	
	2017	2016
Risk-free interest rate	1.53% - 1.72%	0.74% - 1.17%
Expected dividend yield	-%	-%
Expected term in years	0.50 – 0.911	0.75 - 1.91
Expected volatility	52.4%	61.7%

($ in thousands)	Convertible Note At Fair Value
Beginning balance at January 1, 2016	$ -
Additions	4,409
Change in fair value of convertible notes	78
Ending balance at December 31, 2016	4,487
Change in fair value of convertible notes	213
Ending balance at December 31, 2017	$ 4,700

Avenue

Avenue's convertible debt is measured at fair value using the Monte Carlo simulation valuation methodology. A summary of the weighted average (in aggregate) significant unobservable inputs (Level 3 inputs) used in measuring the convertible debt that is categorized within Level 3 of the fair value hierarchy for the year ended December 31, 2016 is as follows:

	December 31, 2016
Risk-free interest rate	0.62% - 1.20%
Expected dividend yield	-%
Expected term in years	0.50 - 2.00
Expected volatility	63.1%

On June 26, 2017, upon completion of Avenue's IPO, Avenue's convertible debt automatically converted into approximately 49,749 common shares of Avenue, at $4.02, a 33% discount to the IPO price, pursuant to the terms of the Convertible Note. As of September 30, 2017, Avenue's obligation to its note holders was satisfied.

($ in thousands)	Convertible Note, at fair value
Beginning balance at January 1, 2016	$ -
Additions	200
Ending balance at December 31, 2016	200
Conversion into common shares	(299)
Change in fair value of convertible notes	99
Ending balance at December 31, 2017	$ -

Caelum

Caelum's convertible debt is measured at fair value using the Monte Carlo simulation valuation methodology. A summary of the weighted average (in aggregate) significant unobservable inputs (Level 3 inputs) used in measuring Caelum's convertible debt that is categorized within Level 3 of the fair value hierarchy as of December 31, 2017 is as follows:

	December 31, 2017
Risk-free interest rate	1.506%- 1.851%
Expected dividend yield	-%
Expected term in years	0.46 - 1.70
Expected volatility	70.0%

($ in thousands)	Convertible Note, at fair value
Beginning balance at January 1, 2017	$ -
Additions	9,914
Change in fair value of convertible notes	145
Ending balance at December 31, 2017	$ 10,059

The following tables classify into the fair value hierarchy of Fortress' financial instruments, exclusive of National's financial instruments, measured at fair value on a recurring basis on the Consolidated Balance Sheets as of December 31, 2017 and 2016:

	Fair Value Measurement as of December 31, 2017			
($ in thousands)	Level 1	Level 2	Level 3	Total
Assets				
Long-term investments, at fair value	$ -	$ -	$ 1,390	$ 1,390
Total	$ -	$ -	$ 1,390	$ 1,390
Liabilities				
Warrant liabilities	$ -	$ -	$ 87	$ 87
Caelum Convertible Note, at fair value	-	-	10,059	10,059
Helocyte Convertible Note, at fair value	-	-	4,700	4,700
Total	$ -	$ -	$ 14,846	$ 14,846

	Fair Value Measurement as of December 31, 2016			
($ in thousands)	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets				
Long-term investments, at fair value	$ -	$ -	$ 1,414	$ 1,414
Total	$ -	$ -	$ 1,414	$ 1,414
Liabilities				
Contingently Issuable Warrants	$ -	$ -	$ 302	$ 302
Warrant liabilities	-	-	179	179
Helocyte Convertible Note, at fair value	-	-	4,487	4,487
Avenue Convertible Note, at fair value	-	-	200	200
Total	$ -	$ -	$ 5,168	$ 5,168

The following tables show the fair values hierarchy of National's financial instruments measured at fair value on a recurring basis on the Consolidated Balance Sheets as of September 30, 2017 and 2016:

	Fair Value Measurement as of September 30, 2017			
($ in thousands)	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets				
Securities owned, at fair value				
Corporate stock	$ 116	$ -	$ -	$ 116
Municipal bonds	-	1,239	-	1,239
Restricted stock	-	82	-	82
Warrants	-	-	5,665	5,665
Total	$ 116	$ 1,321	$ 5,665	$ 7,102
Liabilities				
Securities sold, but not yet purchased at fair value				
Contingent consideration	$ -	$ -	$ 311	$ 311
Municipal bonds	-	151	-	151
Warrants issued	-	-	5,597	5,597
Total	$ -	$ 151	$ 5,908	$ 6,059

	Fair Value Measurement as of September 30, 2016			
($ in thousands)	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets				
Corporate stock	101		-	101
Municipal bonds	-	2,111	-	2,111
Restricted stock	-	145	-	145
Total	$ 101	$ 2,256	$ -	$ 2,357
Liabilities				
Corporate stock	298	-	-	298
Warrants issuable			14,359	14,359
Total	$ 298	$ -	$ 14,359	$ 14,657

Warrants Issued

In accordance with the Merger Agreement, since less than 80% of National's issued and outstanding shares of common stock were tendered, National remains a publicly-traded company and stockholders post-tender offer received from National a five-year warrant to purchase an additional share of the Company's common stock at $3.25 as a dividend to all holders of National's common stock.

At September 30, 2016 net cash settlement of the warrant was assumed since National did not have the ability to settle the warrants with unregistered shares and did not have an effective registration statement making settlement outside of National's control. Accordingly, National was obligated to issue the warrants. The fair value of the 5.4 million warrants issuable (represents 44% of the warrants issued to non-Fortress shareholders) are being classified as a liability in the consolidated statement of financial condition at September 30, 2017 and 2016. Such valuation (using level 3 inputs) was determined by use of the Black-Scholes option pricing model using the following assumptions:

	September 30	
	2017	2016
Dividend yield	-%	-%
Expected volatility	91.0%	118.85%
Risk-free interest rate	1.890%	1.14%
Life (in years)	4.20	5

The table below provides a roll forward of the changes in fair value of Level 3 financial instruments for the years ended December 31, 2017 and 2016:

			Convertible Notes, at fair value					
($ in thousands)	Investment in Origo	Investment in laser device	Helocyte	Avenue	Caelum	Issued Warrants	Warrant liabilities	Total
Balance at December 31, 2016	$ 1,164	$ 250	$ 4,487	$ 200	$ -	$ 14,661	$ 179	$ 20,941
Additions during the period	-	-	-	-	9,914	-	-	9,914
Conversion into common shares	-	-	-	(299)	-	(750)	(15)	(1,064)
Loss on write off investment	-	(250)	-	-	-	-	-	(250)
Change in fair value of investments	226	-	-	-	-	-	-	226
Change in fair value of convertible notes	-	-	213	99	145	-	-	457
Change in fair value of derivative liabilities	-	-	-	-	-	448	(8,839)	(8,391)
Balance at December 30, 2017	$ 1,390	$ -	$ 4,700	$ -	$ 10,059	$ 14,359	$ (8,675)	$ 21,833

				Convertible Notes, at Fair Value			
($ in thousands)	Investment in Origo	Investment in laser device	Contingently Issuable Warrants	Helocyte	Avenue	Warrant liabilities	Total
Balance at December 31, 2015	$ 2,235	$ 250	$ 114	$ -	$ -	$ -	$ 2,599
Additions during the period	-	-	14,040	4,409	200	440	19,089
Issuance of warrants	-	-	(793)	-	-	-	(793)
Change in fair value of investments	(1,071)	-	-	-	-	-	(1,071)
Change in fair value of convertible notes	-	-	-	78		-	78
Change in fair value of derivative liabilities	-	-	1,300	-		(261)	1,039
Balance at December 31, 2016	$ 1,164	$ 250	$ 14,661	$ 4,487	$ 200	$ 179	$ 20,941

8. Licenses Acquired

In accordance with ASC 730-10-25-1, *Research and Development*, costs incurred in obtaining technology licenses are charged to research and development expense if the technology licensed has not reached technological feasibility and has no alternative future use. The licenses purchased by Fortress, Avenue, Caelum, Cellvation, Checkpoint, Coronado SO, Cyprium, Escala, Helocyte, Mustang and Tamid require substantial completion of research and development, regulatory and marketing approval efforts in order to reach technological feasibility. As such, for the year ended December 31, 2017, 2016 and 2015, the purchase price of licenses, totaling approximately $4.2 million, $5.5 million and $11.4 million, respectively, was classified as research and development-licenses acquired in the Consolidated Statements of Operations.

For the years ended December 31, 2017, 2016 and 2015, the Company's research and development-licenses acquired are comprised of the following:

	For the Years Ended December 31,		
($ in thousands)	2017	2016	2015
Fortress	$ 300	$ 325	$ -
Fortress Companies:			
Avenue	-	-	3,000
Caelum	219	-	-
Cellvation	-	312	-
Checkpoint	400	3,160	3,159
Coronado SO	-	-	1,607
Cyprium	100	-	-
Escala	-	-	1,295
Helocyte	-	53	200
Mustang	2,875	1,682	2,147
Tamid	270	-	-
Total	$ 4,164	$ 5,532	$ 11,408

Fortress Biotech, Inc.

In July 2016, Fortress entered into a License Agreement with GeneMedicine, Inc. ("GeneMedicine") to develop products using Gene Medicine's oncolytic adenovirus technology. In connection with the license agreement, Fortress agreed to provide GeneMedicine $0.3 million in funding for an 18-month research study in connection with the technology, of which Fortress paid $0.1 million upon initiation. The license contains an additional 11 development milestones totaling approximately $19.3 million upon achievement and a single digit royalty on net sales is due for the term of the contract.

In September 2016, Fortress entered into a Development and License Agreement with Effcon Laboratories, Inc. ("Effcon") for the extended release formulation of methazolamide. Fortress made an upfront payment to Effcon of $0.2 million. Seven additional milestone payments totaling up to $5.3 million may become payable upon the achievement of certain developmental and sales milestones. Fortress agreed to fund a related development budget of up to $1.6 million. A mid-single digit to low double-digit royalty on net sales is due for the term of the contract. - licenses acquired.

Avenue

License Agreement with Revogenex Ireland Ltd

In February 2015, the Company purchased an exclusive license to IV Tramadol for the U.S. market from Revogenex, a privately held company in Dublin, Ireland. Fortress made an upfront payment of $2.0 million to Revogenex upon execution of the exclusive license, which has been included in research and development-licenses acquired on the Consolidated Statements of Operations. In addition, on June 17, 2015, the Company paid an additional $1.0 million to Revogenex after receiving all the assets specified in the agreement. Under the terms of the agreement, Revogenex is eligible to receive additional milestone payments upon the achievement of certain development milestones, in addition to royalty payments for sales of the product. Tramadol is a centrally acting synthetic opioid analgesic for moderate to moderately severe pain and is available as immediate release or extended-release tablets in the United States.

The Company transferred the Revogenex license and all other rights and obligations of Fortress under the License Agreement to Avenue pursuant to the Avenue Founders Agreement effective as of February 17, 2015. Per the terms of the agreement, Avenue assumed $3.0 million in debt (See Note 11). In the second half of 2017 Avenue commenced evaluating IV tramadol in a pivotal Phase 3 program for the management of postoperative pain with data expected in the second quarter of 2018.

Caelum

License Agreement with Columbia University

In January 2017, Caelum entered into an exclusive license agreement with Columbia University ("Columbia") to secure worldwide license rights to CAEL-101 (11-1F4), a chimeric fibril-reactive monoclonal antibody (mAb) being evaluated in a Phase 1a/1b study for the treatment of amyloid light chain ("AL") amyloidosis. This transaction was accounted for as an asset acquisition pursuant to ASU 2017-01, *Business Combinations (Topic 805): Clarifying the Definition of a Business,* as the majority of the fair value of the assets acquired was concentrated in a group of similar assets, and the acquired assets did not have outputs or employees. Caelum made an upfront payment of approximately $0.2 million to Columbia upon execution of the exclusive license and also granted Columbia 1,050,000 shares of Common Stock, representing 10% ownership of Caelum, as of such date valued at $29,000 or $0.028 per share utilizing an Option pricing Method – Equity Allocation model, applying a volatility of 70%, a risk free rate of return of 1.93%, a term of 5 years and a discount for lack of marketability of 49.5%.

Under the terms of the agreement, Columbia is eligible to receive additional milestone payments of up to $5.5 million upon the achievement of certain development milestones, in addition to royalty payments for sales of the product. CAEL-101 is a novel antibody being developed for patients with AL Amyloidosis, a rare systemic disorder caused by an abnormality of plasma cells in the bone marrow.

Cellvation

In October 2016, Cellvation entered into a license agreement with the University of Texas Health Science Center at Houston ("University of Texas") for the treatment of traumatic brain injury using Autologous Bone Marrow Mononuclear Cells (the "Initial TBI License") for an upfront fee of approximately $0.3 million and the issuance of 500,000 common shares representing 5% of the outstanding shares of Cellvation. An additional 9 development milestones approximating $6.2 million are due in connection with the development of adult indications, and an additional 8 development milestones approximating $6.0 million are due in connection with the development of pediatric indications, as well as single digit royalty net sales and royalty milestones are due for the term of the contract. An additional minimum annual royalty ranging from $50,000 to $0.2 million is due, depending on the age of the license.

In addition, Cellvation entered into a secondary license with the University of Texas for a method and apparatus for conditioning cell populations for cell therapies (the "Second TBI License"). Cellvation paid an upfront fee of $50,000 in connection with the Second TBI License, and a minimum annual royalty of $0.1 million is payable beginning in the year after first commercial sale occurs (which minimum annual royalty is creditable against actual royalties paid under the Second TBI License. Additional payments of $0.3 million are due for the completion of certain development milestones and single digit royalties upon the achievement of net sales. In connection with the two University of Texas licenses, Cellvation granted each of two University of Texas researchers acting as consultants to Cellvation 500,000 shares of Cellvation common stock.

The Company valued the stock grant to the University of Texas utilizing a discounted cash flow model to determine the weighted market value of invested capital, discounted by a lack of marketability of 40.2%, weighted average cost of capital of 30%, and net of debt utilized, resulting in a value of $0.024 per share or $12,000 in October 2016. During the year ended December 31, 2016, in connection with the grant, $12,000 of expenses was included in research and development - licenses acquired on the Consolidated Statements of Operations.

Checkpoint

Dana-Farber Cancer Institute

In March 2015, Checkpoint entered into an exclusive license agreement with Dana-Farber Cancer Institute ("Dana-Farber") to develop a portfolio of fully human immuno-oncology targeted antibodies. The portfolio of antibodies licensed from Dana-Farber include antibodies targeting PD-L1, GITR and CAIX. Under the terms of the agreement, Checkpoint paid Dana-Farber an up-front licensing fee of $1.0 million in 2015 and, on May 11, 2015, granted Dana-Farber 500,000 shares of Checkpoint common stock, valued at $32,500 or $0.065 per share. The agreement included an anti-dilution clause that maintained Dana-Farber's ownership at 5% until such time that Checkpoint raised $10.0 million in cash in exchange for common shares. Pursuant to this provision, on September 30, 2015, Checkpoint granted to Dana-Farber an additional 136,830 shares of common stock valued at approximately $0.6 million and the anti-dilution clause thereafter expired. Dana-Farber is eligible to receive payments of up to an aggregate of approximately $21.5 million for each licensed product upon Checkpoint's successful achievement of certain clinical development, regulatory and first commercial sale milestones. In addition, Dana-Farber is eligible to receive up to an aggregate of $60.0 million upon Checkpoint's successful achievement of certain sales milestones based on aggregate net sales, in addition to royalty payments based on a tiered low to mid-single digit percentage of net sales. Following the second anniversary of the effective date of the Dana-Farber license agreement, Dana-Farber will receive an annual license maintenance fee, which is creditable against milestone payments or royalties due to Dana-Farber.

In connection with the license agreement with Dana-Farber, Checkpoint entered into a collaboration agreement with TGTX, a related party, to develop and commercialize the anti-PD-L1 and anti-GITR antibody research programs in the field of hematological malignancies, while Checkpoint retains the right to develop and commercialize these antibodies in the field of solid tumors. Michael Weiss, Chairman of the Board of Directors of Checkpoint is also the Executive Chairman, President and Chief Executive Officer and a stockholder of TGTX. Under the terms of the agreement, TGTX paid Checkpoint $0.5 million, representing an upfront licensing fee, and Checkpoint is eligible to receive substantive potential milestone payments up to an aggregate of approximately $21.5 million for each product upon TGTX's successful achievement of certain clinical development, regulatory and first commercial sale milestones. Checkpoint's potential milestone payments are comprised of up to approximately $7.0 million upon TGTX's successful completion of clinical development milestones, and up to approximately $14.5 million upon first commercial sales in specified territories. In addition, Checkpoint is eligible to receive up to an aggregate of $60.0 million upon TGTX's successful achievement of certain sales milestones based on aggregate net sales, in addition to royalty payments based on a tiered high single digit percentage of net sales. Following the second anniversary of the effective date of the agreement, Checkpoint will receive an annual license maintenance fee, which is creditable against milestone payments or royalties due to Checkpoint. During the year ended December 31, 2017, 2016 and 2015, the Company recognized approximately $84,000, $42,000 and $0.6 million, respectively in revenue from its collaboration agreement with TGTX on the Consolidated Statements of Operations.

NeuPharma, Inc.

In March 2015, the Company entered into an exclusive license agreement with NeuPharma, Inc. ("NeuPharma") to develop and commercialize novel irreversible, 3rd generation epidermal growth factor receptor ("EGFR") inhibitors including CK-101, on a worldwide basis (other than certain Asian countries). On the same date, the Company assigned all of its right and interest in the EGFR inhibitors to Checkpoint. Under the terms of the agreement, Checkpoint paid NeuPharma an up-front licensing fee of $1.0 million in 2015, and NeuPharma is eligible to receive payments of up to an aggregate of approximately $40.0 million per licensed product upon Checkpoint's successful achievement of certain clinical development and regulatory milestones in up to three indications, of which $22.5 million are due upon various regulatory approvals to commercialize the products. In addition, NeuPharma is eligible to receive payments of up to an aggregate of $40.0 million upon Checkpoint's successful achievement of certain sales milestones based on aggregate net sales, in addition to royalty payments based on a tiered mid to high-single digit percentage of net sales. In September 2016, Checkpoint dosed the first patient in a Phase 1/2 clinical study of CK-101. Under the terms of the license agreement with NeuPharma, Checkpoint expensed a non-refundable milestone payment of $1.0 million, which is included in the Statements of Operations for the year ended December 31, 2016.

In connection with the license agreement with NeuPharma, in March 2015, the Company entered into an option agreement with TGTX, a related party, which agreement was assigned to Checkpoint on the same date, for a global collaboration of certain compounds licensed. Both parties agreed to extend the option agreement expiration from December 31, 2017 to December 31, 2018.

Also, in connection with the license agreement with NeuPharma, Checkpoint entered into a Sponsored Research Agreement with NeuPharma for certain research and development activities. Effective January 11, 2016, TGTX, a related party, agreed to assume all costs associated with this agreement and paid Checkpoint for all amounts previously paid by Checkpoint. The company recognized approximately $0.6 million and $1.0 million in revenue related to this agreement for the years ended December 31, 2017 and 2016, respectively. There was no related revenue recognized during 2015.

Teva Pharmaceutical Industries Ltd. (through its subsidiary, Cephalon, Inc.)

In December 2015, the Company entered into a license agreement with Teva Pharmaceutical Industries Ltd. through its subsidiary, Cephalon, Inc. ("Cephalon"), which agreement was assigned to Checkpoint by the Company on the same date. Under the terms of the license agreement, Checkpoint obtained an exclusive, worldwide license to Cephalon's patents relating to CEP-8983 and its small molecule prodrug, CEP-9722, a PARP inhibitor, which Checkpoint now refers to as CK-102. Checkpoint paid Cephalon an up-front licensing fee of $0.5 million in 2015. Cephalon is eligible to receive milestone payments of up to an aggregate of approximately $220.0 million upon Checkpoint's successful achievement of certain clinical development, regulatory approval and product sales milestones, of which approximately $206.5 million are due on or following regulatory approvals to commercialize the product. In addition, Cephalon is eligible to receive royalty payments based on a tiered low double-digit percentage of net sales.

Jubilant Biosys Limited

In May 2016, Checkpoint entered into a license agreement with Jubilant Biosys Limited ("Jubilant"), whereby Checkpoint obtained an exclusive, worldwide license (the "Jubilant License") to Jubilant's family of patents covering compounds that inhibit BRD4, a member of the BET domain for cancer treatment, including CK-103. Under the terms of the Jubilant License, Checkpoint paid Jubilant an up-front licensing fee of $2.0 million, and Jubilant is eligible to receive payments up to an aggregate of approximately $89.0 million upon Checkpoint's successful achievement of certain preclinical, clinical development, and regulatory milestones, of which $59.5 million are due upon various regulatory approvals to commercialize the products. In addition, Jubilant is eligible to receive payments up to an aggregate of $89.0 million upon Checkpoint's successful achievement of certain sales milestones based on aggregate net sales, in addition to royalty payments based on a tiered low to mid-single digit percentage of net sales. The purchase price of $2.0 million for the license was classified as *research and development-licenses acquired* in the Consolidated Statements of Operations during the year ended December 31, 2016.

In connection with the Jubilant License, Checkpoint entered into a sublicense agreement with TGTX (the "Sublicense Agreement"), a related party, to develop and commercialize the compounds licensed in the field of hematological malignancies, with Checkpoint retaining the right to develop and commercialize these compounds in the field of solid tumors. Michael Weiss, Chairman of the Board of Directors of Checkpoint and the Company's Executive Vice Chairman, Strategic Development, is also the Executive Chairman, President and Chief Executive Officer and a stockholder of TGTX. Under the terms of the Sublicense Agreement, TGTX paid Checkpoint $1.0 million, representing an upfront licensing fee, recorded as collaboration revenue - related party and Checkpoint is eligible to receive substantive potential milestone payments up to an aggregate of approximately $87.2 million upon TGTX's successful achievement of preclinical, clinical development, and regulatory milestones. Such potential milestone payments may approximate $25.5 million upon TGTX's successful completion of three clinical development milestones for two licensed products, and up to approximately $61.7 million upon the achievement of five regulatory approvals and first commercial sales in specified territories for two licensed products. In addition, Checkpoint is eligible to receive potential milestone payments up to an aggregate of $89.0 million upon TGTX's successful achievement of three sales milestones based on aggregate net sales by TGTX, for two licensed products, in addition to royalty payments based on a mid-single digit percentage of net sales by TGTX. TGTX also pays Checkpoint for 50% of IND enabling costs and patent expenses. The Company recognized $1.0 million and $1.5 million in revenue related to this arrangement during the year ended December 31, 2017 and 2016, respectively. There was no related revenue recognized during 2015.

Coronado SO Co.

License Agreement

In February 2015, Coronado SO entered into an exclusive license agreement and other arrangements with third parties to acquire development and commercialization rights to a topical product used in the treatment of hand-foot syndrome, a common painful side effect of chemotherapeutics. Coronado SO paid $0.9 million upfront, included in research and development-licenses acquired on the Consolidated Statements of Operations and issued a stock grant of 150,000 shares of Coronado SO common stock to such third party. In October 2015, Coronado SO paid an additional $0.5 million, which is included in research and development-licenses acquired on the Consolidated Statements of Operations. Four milestones totaling $10.7 million are due upon the achievement of certain development goals, three milestones totaling $26.2 million are due upon certain net sales milestones and a single digit royalty on net sales is due for the term of the contract.

The Company valued the stock grant to the third party utilizing a discounted cash flow model to determine the weighted market value of invested capital, discounted by a lack of marketability of 44.8% and a weighted average cost of capital of 30%, and net of debt utilized, resulting in a value of $1.19 per share or $0.2 million recorded as part of licenses acquired.

In October 2017, Coronado SO transferred its proprietary interests and rights in its lead product candidate to a third party. In exchange for this assignment, Fortress made a $50,000 cash payment and issued 43,292 shares of Fortress common stock valued at $0.2 million valued at $4.6197 per share, representing the five-day volume-weighted average closing price of Fortress common stock prior to October 10, 2017, the effective date of the transfer. Fortress recorded the expense of approximately $0.3 million during the fourth quarter of 2017 on it Consolidated Statements of Operations, in research and development expense. Further, terms of the assignment provide for the receipt by Coronado SO of three potential future sales milestones totaling $1.8 million from the third party transferee.

Cyprium

License Agreement with the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development

In March 2017, Cyprium and the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development ("NICHD"), part of the National Institutes of Health ("NIH"), entered into a Cooperative Research and Development Agreement to advance the clinical development of Phase 3 candidate CUTX-101 (copper histidinate injection) for the treatment of Menkes disease. Cyprium and NICHD also entered into a worldwide, exclusive license agreement to develop and commercialize AAV-based ATP7A gene therapy for use in combination with CUTX-101 for the treatment of Menkes disease and related copper transport disorders. This transaction was accounted for as an asset acquisition pursuant to ASU 2017-01, *Business Combinations (Topic 805): Clarifying the Definition of a Business,* as the majority of the fair value of the assets acquired was concentrated in a group of similar assets, and the acquired assets did not have outputs or employees. Cyprium made an upfront payment of $0.1 million to NICHD upon execution of the exclusive license, which was included in research and development – licenses acquired on the Consolidated Statement of Operations.

Escala

On July 16, 2015, Escala acquired from New Zealand Pharmaceuticals Limited ("NZP") a license from the NIH and cooperative research and development agreements for the development of oral ManNAc, a key compound in the sialic biosynthetic pathway, for the treatment of hyposialylation disorders, including GNE myopathy and various forms of nephropathy. As part of this agreement, Escala provided NZP and NIH an upfront payment of approximately $1.3 million comprised of an upfront milestone payment of $0.7 million to NZP and reimbursement of $0.6 million of development costs for Phase II Myopathy and Phase I Nephropathy Clinical Trial being conducted at the NIH. Additional development and sales-based milestone payments are payable upon achievement. During the year ended December 31, 2015, Escala recorded an expense of approximately $1.3 million in research and development-licenses acquired on the Consolidated Statements of Operations.

Seven milestones totaling approximately $22.0 million are due upon the achievement of certain development goals, two milestones totaling $7.0 million are due upon certain net sales milestones and a single digit royalty on net sales is due for a certain period. In addition, a one-time payment is due upon the assignment of the license.

In July 2017, Escala discontinued its development of ManNAc and as such returned the license to NIH and discontinued its funding of cooperative research and development of ManNAc. No expense was incurred in connection with the discontinuation of this development program.

Helocyte

License Agreement with the City of Hope

In March 2016, Helocyte entered into amended and restated license agreements for each of its PepVax and Triplex immunotherapies programs with its licensor City of Hope National Medical Center ("COH"). The amended and restated licenses expand the intellectual property and other rights granted to Helocyte by COH in the original license agreement. The financial terms of the original license have not been modified, and if Helocyte successfully develops and commercializes PepVax and Triplex, COH will receive milestones, royalties and other payments.

Helocyte entered into the original license agreement with COH on March 31, 2015, to secure: (i) an exclusive worldwide license for two immunotherapies for CMV control in the post-transplant setting (known as Triplex and PepVax); and (ii) an option for an exclusive worldwide license to an immunotherapy for the prevention of congenital CMV (known as Pentamer). In consideration for the license and option, Helocyte made an upfront payment of $150,000. On April 28, 2015, Helocyte exercised the option and secured exclusive worldwide rights to Pentamer from COH for an upfront payment of $45,000. If Helocyte successfully develops PepVax, COH could receive, up to $1.5 million for the achievement of three developmental milestones, $13.0 million for three sales milestones, single digit royalties based on net sales reduced by certain factors and a minimum annual royalty of $0.2 million per year related to marketing approval. If Helocyte successfully develops and commercializes Triplex, COH could receive up to $9.0 million for the achievement of three developmental milestones, $26.0 million for three sales milestones, single digit royalties based on net sales reduced by certain factors and a minimum annual royalty of $0.75 million per year following a first marketing approval. If Helocyte successfully develops and commercializes Pentamer, COH could receive up to $5.5 million for the achievement of four development milestones, $26.0 million for three sales milestones, single digit royalties based on net sales reduced by certain factors and a minimum annual royalty of $0.75 million per year following a first marketing approval. In 2015, Triplex and PepVax both entered Phase 2 clinical studies. The programs are supported by grants awarded to COH by the National Cancer Institute.

As further consideration for the licenses, in March and May 2016, Helocyte granted COH 500,000 shares of Helocyte Class A common stock and 8,333 shares of Helocyte Class A common stock, respectively. The Company valued the stock grants to the COH utilizing a discounted cash flow model to determine the weighted market value of invested capital, discounted by a lack of marketability of 44.5% and a weighted average cost of capital of 30%, net of debt utilized resulting in a value of $0.097 per share or $48,500 recorded as part of the license fee acquired.

Mustang

License Agreement with the City of Hope

In March 2015, Mustang entered into an exclusive license agreement with COH to acquire intellectual property rights pertaining to CAR-T (the "COH License"). Pursuant to the COH License, Mustang paid COH an upfront fee of $2.0 million in April 2015 (included in *research and development-licenses acquired expenses* on the Consolidated Statement of Operations), and granted COH 1.0 million shares of Mustang's Class A Common Stock, representing 10% ownership of Mustang. Additional payments totaling $2.0 million are due upon the completion of two financial milestones, and payments totaling $14.5 million are due upon the completion of six development goals. Future mid-single digit royalty payments are due on net sales of licensed products, with a minimum annual royalty of $1.0 million.

The Company valued the stock grant to COH utilizing a discounted cash flow model to determine the weighted market value of invested capital, discounted by a lack of marketability of 44.8%, weighted average cost of capital of 30%, and net of debt utilized, resulting in a value of $0.147 per share or $0.1 million on March 31, 2015. During the year ended December 31, 2015, in connection with the grant, $0.1 million of expenses were included in research and development - licenses acquired on the Consolidated Statements of Operations.

Effective October 2016, Mustang closed on gross proceeds of $10.0 million from third party investors in connection with its private placement, which triggered the issuance of additional 293,588 shares of Mustang Class A common stock to COH (the "COH Anti-Dilution Shares") in connection with the COH License. The shares were valued utilizing a weighted market model at approximately $5.73 per share or $1.7 million in total. Since Mustang only had 1.0 million Class A common shares authorized at December 31, 2016, of which all were issued to COH, Mustang recorded the contingent issuance as a current liability. In February 2017, COH executed a waiver and acknowledgement agreement permitting issuance of the COH Anti-Dilution Shares in the form of Mustang Common Stock, and such shares were issued.

CD123 License

Pursuant to the CD123 License, Mustang and COH acknowledge that an upfront fee was paid under the Original License. In addition, an annual maintenance fee will continue to apply. COH is eligible to receive up to approximately $14.5 million in milestone payments upon and subject to the achievement of certain milestones. Royalty payments in the mid-single digits are due on net sales of licensed products. Mustang is obligated to pay COH a percentage of certain revenues received in connection with a sublicense in the mid-teens to mid-thirties, depending on the timing of the sublicense in the development of any product. In addition, equity grants made under the Original License were acknowledged, and the anti-dilution provisions of the Original License were carried forward.

IL13R2 License

Pursuant to the IL13R2 License, Mustang and COH acknowledge that an upfront fee was paid under the Original License. In addition, an annual maintenance fee will continue to apply. COH is eligible to receive up to approximately $14.5 million in milestone payments upon and subject to the achievement of certain milestones. Royalty payments in the mid-single digits are due on net sales of licensed products. Mustang is obligated to pay COH a percentage of certain revenues received in connection with a sublicense in the mid-teens to mid-thirties, depending on the timing of the sublicense in the development of any product. In addition, equity grants made under the Original License were acknowledged, and the anti-dilution provisions of the Original License were carried forward. During the year ended December 31, 2017, Mustang recorded an expense of $0.5 million in connection with the achievement of certain milestones pursuant to the IL13R2 License.

Spacer License

Pursuant to the Spacer License, Mustang and COH acknowledge that an upfront fee was paid under the Original License. In addition, an annual maintenance fee will continue to apply. No royalties are due if the Spacer technology is used in conjunction with a CD123 CAR or an IL13R2 CAR, and royalty payments in the low single digits are due on net sales of licensed products if the Spacer technology is used in conjunction with other intellectual property. Mustang is obligated to pay COH a percentage (in the mid-thirties) of certain revenues received in connection with a sublicense. In addition, equity grants made under the Original License were acknowledged, and the anti-dilution provisions of the Original License were carried forward.

IV/ICV Agreement

On February 17, 2017, Mustang entered into an exclusive license agreement (the "IV/ICV Agreement") with COH to acquire intellectual property rights in patent applications related to the intraventricular and intracerebroventricular methods of delivering T cells that express CARs. Pursuant to the IV/ICV Agreement, Mustang paid COH an upfront fee of $0.1 million in March 2017. COH is eligible to receive up to approximately $0.1 million in milestone payments upon the achievement of a certain milestone as well as an annual maintenance fee. Royalty payments in the low-single digits are due on net sales of licensed products and services.

HER2 Technology License

On May 31, 2017, Mustang entered into an exclusive license agreement with the COH for the use of human epidermal growth factor receptor 2 (HER2) CAR T technology (HER2 Technology), which will initially be applied in the treatment of glioblastoma multiforme. Pursuant to the Agreement, Mustang paid an upfront fee of $0.6 million and will owe an annual maintenance fee of $50,000 (beginning in 2019). Additional payments of up to $14.9 million are due upon and subject to the achievement of ten development milestones, and royalty payments in the mid-single digits are due on net sales of licensed products.

CS1 Technology License

On May 31, 2017, Mustang entered into an exclusive license agreement with the COH for the use of CS1 specific CAR T technology (CS1 Technology) to be directed against multiple myeloma. Pursuant to the Agreement, Mustang paid an upfront fee of $0.6 million on July 3, 2017 and will owe an annual maintenance fee of $50,000 (beginning in 2019). Additional payments of up to $14.9 million are due upon and subject to the achievement of ten development milestones, and royalty payments in the mid-single digits are due on net sales of licensed products.

PSCA Technology License

On May 31, 2017, Mustang entered into an exclusive license agreement with the COH for the use of prostate stem cell antigen (PSCA) CAR T technology (PSCA Technology) to be used in the treatment of prostate cancer. Pursuant to the Agreement, Mustang paid an upfront fee of $0.3 million on July 3, 2017 and will owe an annual maintenance fee of $50,000 (beginning in 2019). Additional payments of up to $14.9 million are due upon and subject to the achievement of ten development milestones, and royalty payments in the mid-single digits are due on net sales of licensed products.

License with University of California

On March 17, 2017, Mustang entered into an exclusive license agreement with the Regents of the University of California ("UCLA License") to acquire intellectual property rights in patent applications related to the engineered anti-prostate stem cell antigen antibodies for cancer targeting and detection. Pursuant to the UCLA Agreement, Mustang paid UCLA an upfront fee of $0.2 million on April 25, 2017. Annual maintenance fees also apply; additional payments are due upon achievement of certain development milestones totaling $14.3 million, and royalty payments in the mid-single digits are due on net sales of licensed products.

Fred Hutchinson Cancer Research Center License

On July 3, 2017, Mustang entered into an exclusive, worldwide licensing agreement with Fred Hutchinson Cancer Research Center ("Fred Hutch") for the use of a CAR T therapy related to autologous T cells engineered to express a CD20-specific chimeric antigen receptor ("CD 20 Technology License"). Pursuant to the CD 20 Technology License, Mustang paid Fred Hutch an upfront fee of $0.3 million and will owe an annual maintenance fee of $50,000 on each anniversary of the license until the achievement by Mustang of regulatory approval of a licensed product using CD20 Technology. Additional payments are due for the achievement of certain development milestones totaling $39.1 million and royalty payments in the mid-single digits are due on net sales of licensed products.

Harvard College License

In December 2017, Mustang entered into a license agreement with the President and Fellows of Harvard College ("Harvard") for the development of CRISPR/Cas9-enhanced CAR T therapies for the treatment of cancer. Pursuant to the Harvard Agreement, Mustang paid Harvard in January 2018 an upfront fee of $0.2 million on. Annual maintenance fees also apply; additional payments are due upon achievement of three development milestones totaling $2.7 million, four sales and marketing milestones totaling $14.0 million, and royalty payments in the mid-single digits are due on net sales of licensed products.

Tamid

Licenses with the University of North Carolina

On November 30, 2017, Tamid entered into three exclusive AAV gene therapies licensing arrangements with the University of North Carolina at Chapel Hill ("UNC"). The preclinical product candidates acquired through these licenses target ocular manifestations of Mucopolysaccharidosis type 1 (MPS1), dysferlinopathies and corneal transplant rejections. The three therapies were developed in the lab of Matthew Hirsch, Ph.D., Assistant Professor, Ophthalmology at the UNC Gene Therapy center.

MPS1 License

As consideration for the exclusive rights to the MPS1 license Tamid paid an up-front fee paid in January 2018 of $85,000. Additional payments are due to UNC upon the achievement by Tamid of two development milestones totaling $5.5 million. Additional payments totaling $7.5 million are due upon the achievement of certain net sales milestones. In addition, the achievement of certain diligence milestones is required. Extension for such milestones is $10,000 per milestone for the first year and $20,000 per milestone thereafter.

Nanadysferlin License

As consideration for the exclusive rights to Nanadysferlin license Tamid paid an up-front fee paid in January 2018 of $85,000. Additional payments are due to UNC upon the achievement by Tamid of three development milestones totaling $5.4 million. Additional payments totaling $33 million are due upon the achievement of five net sales milestones. In addition, the achievement of certain diligence milestones is required. Extension for such milestones is $10,000 per milestone for the first year and $20,000 per milestone thereafter.

HLA-G License

As consideration for the exclusive rights to HLA-G license Tamid paid an up-front fee paid in January 2018 of $85,000. Additional payments are due to UNC upon the achievement by Tamid of three development milestones totaling $5.4 million. Additional payments totaling $42 million are due upon the achievement of five net sales milestones. In addition, the achievement of certain diligence milestones is required. Extension for such milestones is $10,000 per milestone for the first year and $20,000 per milestone thereafter.

As additional consideration for the three licenses, UNC, UNC received 1.0 million common shares of Tamid representing 10% of the ownership of Tamid. The stock grant to the UNC was valued utilizing an equity allocation method model to determine the value of the equity grant. The model utilized a discount for lack of marketability of 40.5%, and a volatility of 75% resulting in a value of $0.015 per share or $15,000 recorded as part of the license fee acquired.

9. Milestones and Sponsored Research Agreements

Fortress

The Company has a license agreement with the University College London Business PLC ("UCLB") under which the Company received an exclusive, worldwide license to develop and commercialize CNDO-109 to activate NK cells for the treatment of cancer-related and other conditions. In consideration for the license, the Company made upfront payments totaling $0.1 million and may be required to make future milestone payments totaling up to approximately $22.0 million upon the achievement of various milestones related to regulatory or commercial events. In March 2016, the Company paid UCLB $0.4 million due upon completion of the Phase 1 study for Acute Myeloid Leukemia. In the event that CNDO-109 is commercialized, the Company is obligated to pay to UCLB annual royalties ranging from 3% to 5% based upon various levels of net sales of the product. Under the terms of the license agreement, the Company is allowed to grant sublicenses to third parties without the prior approval of UCLB. In the event that the Company sublicenses CNDO-109 to a third party, the Company is obligated to pay to UCLB all or a portion of the royalties the Company receives from the sub-licensee. Through December 31, 2017, the Company has not sub-licensed CNDO-109 to a third party.

Checkpoint

NeuPharma, Inc. Sponsored Research Agreement

In connection with its license agreement with NeuPharma, Inc. ("NeuPharma"), Checkpoint entered into a Sponsored Research Agreement with NeuPharma for certain research and development activities. Effective January 11, 2016, TGTX, a related party, agreed to assume all costs associated with this Sponsored Research Agreement and paid Checkpoint for all amounts previously paid by the Company. For the year ended December 31, 2017 and 2016, approximately $0.6 million and $1.0 million, respectively, was recognized in revenue in connection with the Sponsored Research Agreement in the Consolidated Statements of Operations.

Cellvation

In October 2016, Cellvation entered research funding agreement with the University of Texas in connection with the license for a method and apparatus for conditioning cell populations for cell therapies. In connection with this agreement Cellvation agreed to fund $0.8 million of research quarterly through March 31, 2018. For the year ended December 31, 2017 and 2016, Cellvation recorded an expense of $0.1 million and $0.2 million, respectively, representing amounts due under this arrangement.

Helocyte

PepVax and Triplex Clinical Research and Support Agreements

In March 2016, Helocyte entered into an Investigator-Initiated Clinical Research Support Agreement, as amended, with the COH, to support a Phase 2 clinical study of its PepVax immunotherapy for CMV control in allogeneic stem cell transplant recipients ("PepVax Research Agreement"). The Phase 2 study is additionally supported by grants from the National Institutes of Health/National Cancer Institute ("NCI"). Under the terms of the agreement, Helocyte made an upfront payment to COH of $1.0 million, recorded as sponsored research expense, and will pay COH up to an additional $2.0 million upon the achievement of certain clinical milestones. Unless earlier terminated, the agreement expires upon the delivery of a final study report or December 31, 2018.

In February 2016, Helocyte entered into an Investigator-Initiated Clinical Research Support Agreement, as amended, with the COH, to support a Phase 2 clinical study of its Triplex immunotherapy for CMV control in allogeneic stem cell transplant recipients ("Triplex Research Agreement"). The Phase 2 study is additionally supported by grants from the NCI. Under the terms of the agreement, Helocyte made an upfront payment to COH of $1.0 million, recorded as sponsored research expense, and will pay COH up to an additional $3.4 million upon the achievement of certain clinical milestones. Unless earlier terminated, the agreement expires upon the delivery of a final study report or May 31, 2018.

For the years ended December 31, 2017, 2016 and 2015, Helocyte recorded approximately $3.7 million, $4.3 million and nil, consisting of $ 2.6 million, $1.8 million and nil in connection with the Triplex Research Agreement and $1.1 million, $2.5 million and nil connection with the PepVax Research Agreement and nil, respectively, recorded in research and development expenses in the Company's Consolidated Statements of Operations in connection with these agreements.

Pentamer Sponsored Research Agreement

On May 1, 2017, Helocyte and COH entered in a Sponsored Research Agreement for preclinical studies in connection with the development of Pentamer. In June 2017, Helocyte made an upfront payment of $1.5 million to fund the development plan, the payment was recorded as a prepayment on the Condensed Consolidated Balance Sheets. For the years ended December 31, 2017 and 2016, Helocyte recorded approximately $0.2 million and nil, respectively, in research and development expenses in the Company's Consolidated Statements of Operations.

Mustang

In March 2015, in connection with Mustang's license with COH for the development of CAR-T, Mustang entered into a Sponsored Research Agreement in which Mustang will fund continued research in the amount of $2.0 million per year, payable in four equal annual installments, over the next five years. For the year ended December 31, 2017, 2016 and 2015, Mustang incurred expense of $2.0 million, $2.0 million $1.5 million, respectively and recorded as research and development expense in the Company's Consolidated Statement of Operations.

CD 123 Clinical Research Support Agreement

On February 17, 2017, Mustang entered into a Clinical Research Support Agreement for CD123. Pursuant to the terms of this agreement Mustang made an upfront payment of approximately $20,000 and will contribute an additional $0.1 million per patient in connection with the on-going investigator-initiated study. Further, Mustang agreed to fund approximately $0.2 million over three years pertaining to the clinical development of CD123. For the year ended December 31, 2017 Mustang recorded approximately $1.1 million in research and development expenses in the Company's Consolidated Statements of Operations.

IL13Rα2 Clinical Research Support Agreement

Also, on February 17, 2017, Mustang entered into a Clinical Research Support Agreement for IL13R2 ("IL13R2 CRA"). Pursuant to the terms of this agreement Mustang made an upfront payment of approximately $9,300 and will contribute an additional $0.1 million per patient in connection with the on-going investigator-initiated study. Further, Mustang agreed to fund approximately $0.2 million over three years pertaining to the clinical development of IL13R2. For the year ended December 31, 2017, Mustang recorded approximately $1.4 million in research and development expenses under the IL13R2 CRA in the Company's Consolidated Statements of Operations.

CD20 Clinical Trial Agreement

Also, on July 3, 2017, in conjunction with the CD20 Technology License from Fred Hutch, Mustang entered into an investigator-initiated clinical trial agreement ("CD20 CTA") to provide partial funding for a Phase 1/2 clinical trial at Fred Hutch evaluating the safety and efficacy of the CD20 Technology in patients with relapsed or refractory B-cell non-Hodgkin lymphomas. In connection with the CD20 CTA, Mustang agreed to fund up to $5.3 million of costs associated with the clinical trial, which commenced during the fourth quarter of 2017. For the year ended December 31, 2017 Mustang recorded $0.6 million of expense related to this agreement in research and development expenses in the Company's Consolidated Statements of Operations.

CRISPR Sponsored Research Agreement

On November 28, 2017, Mustang entered into a Sponsored Research Agreement with Beth Israel Deaconess Medical Center Inc. ("BIDMC") to perform research relating to gene editing, via the use of CRISPR/Cas9, to be used in enhancing the efficacy of chimeric antigen receptor T (CAR-T) cell therapies for solid tumor indications and to generate universal off the shelf CAR-T cell therapies for both liquid and solid tumor indications. The Company agreed to fund approximately $0.8 million over a three-year period. The Company recorded $0.1 million in 2017 related to this arrangement related to this agreement in research and development expenses in the Company's Consolidated Statements of Operations.

10. Intangibles

Journey

In January 2016, JMC entered into a licensing agreement with a third party to distribute its prescription wound cream Luxamend ® and paid an upfront fee of $50,000. Additionally, in January 2016, JMC entered into a licensing agreement with a third party to distribute its prescription emollient Ceracade ® for the treatment of various types of dermatitis and paid an upfront fee of $0.3 million. JMC commenced the sale of both of these products during the year ended December 31, 2016 and accordingly commenced the amortization of these costs over their respective three year estimated useful life.

In March 2015, JMC entered into a license and supply agreement to acquire the rights to distribute Targadox® a dermatological product for the treatment of acne. JMC made an upfront payment of $1.3 million. Further payments will be made based on a revenue sharing arrangement. JMC received FDA approval for the manufacturing of this product in July 2016 and commenced sales of this product in October 2016.

For the years ended December 31, 2017 and 2016, JMC recognized expense of approximately $0.5 million and $0.2 million, respectively, which was recorded in costs of goods sold on the Consolidated Statement of Operations (see Note 22). No expense was recorded in 2015.

National

For the years ended December 31, 2017 and 2016, National recognized license amortization expense of approximately $1.7 million and $0.5 million, which was recorded in general and administrative expenses on the Consolidated Statement of Operations (see Note 3). No expense was recorded in 2015.

11. Debt and Interest

Debt

Total debt consists of the following as of December 31, 2017 and December 31, 2016

	December 31,			
($ in thousands)	**2017**	**2016**	**Interest rate**	**Maturity**
IDB Note	$ 14,929	$ 14,929	2.25%	Aug - 2020
NSC Note	-	3,608	8.00%	Sep - 2018
2017 Subordinated Note Financing	3,254	-	8.00%	March - 2020
2017 Subordinated Note Financing	13,893	-	8.00%	May - 2020
2017 Subordinated Note Financing	1,820	-	8.00%	June - 2020
2017 Subordinated Note Financing	3,018	-	8.00%	August - 2020
2017 Subordinated Note Financing	6,371	-	8.00%	September - 2020
Opus Credit Facility	9,500	7,000	12.00%	Sep - 2018
Helocyte Convertible Note, at fair value	1,000	1,031	5.00% - 8.00%	December 2017
Helocyte Convertible Note, at fair value	2,194	2,051	5.00% - 8.00%	March - 2018
Helocyte Convertible Note, at fair value	1,062	991	5.00% - 8.00%	April - 2018
Helocyte Convertible Note, at fair value	444	414	5.00% - 8.00%	May - 2018
Avenue Convertible Note, at fair value	-	200	5.00% - 8.00%	June - 2018
Caelum Convertible Note, at fair value	1,017	-	8.00%	January - 2019
Caelum Convertible Note, at fair value	6,900	-	8.00%	February - 2019
Caelum Convertible Note, at fair value	2,142	-	8.00%	June - 2019
Total notes payable	67,544	30,224		
Less: Discount on notes payable	1,035	2,009		
Total notes payable	$ 66,509	$ 28,215		

IDB Note

On February 13, 2014, the Company executed a promissory note in favor of IDB in the amount of $15.0 million (the "IDB Note"). The Company borrowed $14.0 million against this note and used it to repay its prior loan from Hercules Technology Growth Capital, Inc. The Company may request revolving advances under the IDB Note in a minimum amount of $0.1 million (or the remaining amount of the undrawn balance under the IDB Note if such amount is less than $0.1 million). All amounts advanced under the IDB Note are due in full at the earlier of: (i) August 1, 2020, as extended or (ii) on the IDB's election following the occurrence and continuation of an event of default. The unpaid principal amount of each advance shall bear interest at a rate per annum equal to the rate payable on the Company's money market account plus a margin of 150 basis points. The interest rate at December 31, 2016 was 2.25%. The IDB Note contains various representations and warranties customary for financings of this type.

The obligations of the Company under the IDB Note are collateralized by a security interest in, a general lien upon, and a right of set-off against the Company's money market account of $15.0 million pursuant to the Assignment and Pledge of Money Market Account, dated as of February 13, 2014 (the "Pledge Agreement"). Pursuant to the Pledge Agreement, the Bank may, after the occurrence and continuation of an event of default under the IDB Note, recover from the money market account all amounts outstanding under the IDB Note. The Pledge Agreement contains various representations, warranties, and covenants customary for pledge agreements of this type.

The Company will default on the IDB Note if, among other things, it fails to pay outstanding principal or interest when due. Following the occurrence of an event of default under the IDB Note, the Bank may: (i) declare the entire outstanding principal balance of the IDB Note, together with all accrued interest and other sums due under the IDB Note, to be immediately due and payable; (ii) exercise its right of setoff against any money, funds, credits or other property of any nature in possession of, under control or custody of, or on deposit with IDB; (iii) terminate the commitments of IDB; and (iv) liquidate the money market account to reduce the Company's obligations to IDB.

During 2016, the Company and IDB extended the maturity date of the IDB Note to February 27, 2018. On September 18, 2017, the maturity on the IDB Note was extended to August 1, 2020. The Company applied the 10% cash flow test pursuant to ASC 470 to calculate the difference between the present value of the amended IDB Note's cash flows and the present value of the original remaining cash flow and concluded that the results didn't exceed the 10% factor, the debt modification is not considered substantially different and did not apply extinguishment accounting, rather accounting for the modification on a prospective basis pursuant to ASC 470. The Company only pays interest on the IDB Note through maturity.

At December 31, 2017 and 2016, the Company had approximately $14.9 million outstanding under its promissory note with IDB.

NSC Note

In March 2015, the Company closed a private placement of a promissory note for $10.0 million through National Securities Corporation's "NSC Note. The Company's Chairman, President and Chief Executive Officer and the Company's Executive Vice President, Strategic Development, are Co-Portfolio Managers and Partners of Opus Point Partners Management, LLC ("OPPM"), which owns approximately 4.7% of National Holdings Corporation, Inc. the parent of National Securities Inc. The Company used the proceeds from the NSC Note to acquire medical technologies and products. The NSC Note matures in 36 months, provided that during the first 24 months the Company can extend the maturity date by six months. No principal amount is due for the first 24 months (or the first 30 months if the maturity date is extended). Thereafter, the NSC Note will be repaid at the rate of 1/12 of the principal amount per month for a period of 12 months. Interest on the note is 8% payable quarterly during the first 24 months (or the first 30 months if the note is extended) and monthly during the last 12 months. NSC, a wholly owned subsidiary of National Holdings Corporation, acted as the sole placement agent for the NSC Note. The Company paid NSC a fee of $0.9 million during the year ended December 31, 2015, in connection with the NSC Note. At December 31, 2015, the Company recorded the fee as a discount to notes payable, long-term on the Consolidated Balance Sheets and amortized it over the life of the NSC Note. The effective interest rate on the NSC Note was approximately 17.83% and 14.00% at December 31, 2016 and 2017, respectively. The NSC Note was paid in July 2017.

The NSC Note was amended and restated on July 29, 2015 to provide that any time a Fortress subsidiary receives from the Company any proceeds from the NSC Note, the Company may, in its sole discretion, cause the Fortress Company to issue to NSC Biotech Venture Fund I LLC a new promissory note (the "Amended NSC Note") on identical terms as the NSC Note, giving effect to the passage of time with respect to maturity. The Amended NSC Note will equal the dollar amount of the Fortress Company's share of the NSC Note and reduce the Company's obligations under the NSC Note by such amount. The Company will guarantee the Amended NSC Note until the Fortress Company either completes an initial public offering of its securities or raises sufficient equity capital so that it has cash equal to five times the Amended NSC Note. As of December 31, 2015, the Company transferred $2.8 million, $3.0 million and $3.6 million, including debt discount, of the NSC Note to Checkpoint, Avenue and Mustang, respectively, representing Checkpoint's, Avenue's and Mustang's pro rata share of the NSC Note. The Company applied the 10% cash flow test pursuant to ASC 470 to calculate the difference between the present value of the amended NSC's Note's cash flows and the present value of the original remaining cash flow and concluded that the results didn't exceed the 10% factor, the debt modification is not considered substantially different and did not apply extinguishment accounting, rather accounting for the modification on a prospective basis pursuant to ASC 470.

In connection with the transfer of NSC Note proceeds to a Fortress Company, NSC will receive a warrant to purchase the Fortress Company's common stock equal to 25% of the NSC Note proceeds transferred to that Fortress Company divided by the lowest price at which the Fortress Company sells its equity in its first third party financing. The warrants issued will have a term of 10 years and an exercise price equal to the par value of the Fortress Company's common stock.

On October 30, 2015, Checkpoint granted 139,592 warrants to NSC after an initial closing of an offering on September 30, 2015. The warrants are immediately vested with a ten-year term and are exercisable at $0.0001 per share. The warrant upon issuance in October 2015, was valued at approximately $0.6 million. The initial fair value of $0.2 million was recorded as debt discount and will be amortized over the remaining life of the note. The incremental fair value at the time of issuance of $0.4 million was recorded as change in fair value of subsidiary's warrant liabilities on the Consolidated Statement of Operations. Upon the grant of the warrant, the Company no longer guaranteed Checkpoint's NSC Note.

On October 31, 2015, Avenue recorded approximately $0.1 million of debt discount related to the Contingently Issuable Warrants issued in connection with NSC Note, based on its fair value (see Note 7). The debt discount will be amortized over the life of the note.

In February 2016, Checkpoint repaid its NSC Debt of $2.8 million. Approximately $0.3 million, of which $0.2 million was related to the fair value of the NSC contingently issuable warrant, of unamortized debt discount was accelerated into interest expense upon payment.

In July 2016, Fortress transferred $3.6 million of Mustang's indebtedness to its NSC Note. In connection with the debt transfer a contingently issuable warrant equal to 25% of the transferred indebtedness will be recorded. The initial fair value of $0.6 million was recorded as debt discount and will be amortized over the remaining life of the note.

On October 25, 2016, Mustang issued 138,462 warrants to NSC after certain closings of Mustang's private placement. The warrants are immediately vested with a ten-year term and are exercisable at $0.0001 per share. The warrants, upon issuance in October 2016, were valued at approximately $0.8 million. Upon the grant of the warrants, the Company no longer guaranteed Mustang's NSC Note.

As of December 31, 2016, Avenue recorded approximately $0.4 million of NSC debt discount of which $0.1 million relates to the Contingently Issuable Warrants issued in connection with the NSC Note, based on its initial fair value. The entire debt discount will be amortized over the life of the note.

In January 2017, the Company and Avenue notified NSC of their intention to extend the maturity date of the NSC Notes by six months, to September 2018.

On July 5, 2017, the Company repaid it NSC Note in the amount of $3.6 million.

Helocyte Convertible Notes

During 2016 Helocyte entered into an agreement with Aegis Capital Corp. ("Aegis") to raise up to $5.0 million in convertible notes. The notes have an initial term of 18 months, which can be extended at the option of the holder, on one or more occasions, for up to 180 days and accrue simple interest at the rate of 5% per annum for the first 12 months and 8% per annum simple interest thereafter. The notes are guaranteed by Fortress. The outstanding principal and interest of the notes automatically converts into the type of equity securities sold by Helocyte in the next sale of equity securities in which Helocyte realizes aggregate gross cash proceeds of at least $10.0 million (before commissions or other expenses and excluding conversion of the notes) at a conversion price equal to the lesser of (a) the lowest price per share at which equity securities of Helocyte are sold in such sale less a 33% discount and (b) a per share price based on a pre-offering valuation of $50.0 million divided by the number of common shares outstanding on a fully-diluted basis. The outstanding principal and interest of the notes may be converted at the option of the holder in any sale of equity securities that does not meet the $10.0 million threshold for automatic conversion using the same methodology. The notes also automatically convert upon a "Sale" of Helocyte, defined as (a) a transaction or series of related transactions where one or more non-affiliates acquires (i) capital stock of Helocyte or any surviving successor entity possessing the voting power to elect a majority of the board of directors or (ii) a majority of the outstanding capital stock of Helocyte or the surviving successor entity (b) the sale, lease or other disposition of all or substantially all of Helocyte's assets or any other transaction resulting in substantially all of Helocyte's assets being converted into securities of another entity or cash. Upon a Sale of Helocyte, the outstanding principal and interest of the notes automatically converts into common shares at a price equal to the lesser of (a) a discount to the price per share being paid in the Sale of Helocyte equal to 33% or (b) a conversion price per share based on a pre-sale valuation of $50.0 million divided by the fully-diluted common stock of Helocyte immediately prior to the Sale of Helocyte (excluding the notes).

As of December 31, 2016, Helocyte realized net proceeds in its four separate closings of $3.9 million after paying Aegis, its placement fee of $0.4 million, or approximately 10% of the net proceeds, and legal fees of approximately $0.1 million. Additionally, Aegis received warrants ("Helocyte Warrants") to purchase the number of shares of Helocyte's common stock equal to $0.4 million, divided by the price per share at which any note sold to investors first converts into Helocyte's common stock. The warrants are issued at each closing. The Helocyte Warrants, which were recorded as a liability in accordance with ASC 815, have a five-year term and have a per share exercise price equal to 110% of the price per share at which any note sold to investors first converts into Helocyte's common stock. The Offering expired on December 31, 2016.

Due to the complexity and number of embedded features within each convertible note, and as permitted under accounting guidance, the Company elected to account for the convertible notes and all the embedded features under the fair value option (see note 7).

On January 1, 2018, the first $1.0 million tranche of the Helocyte Convertible Notes matured and was paid.

Opus Credit Facility Agreement

On September 14, 2016, Fortress entered into a Credit Facility Agreement (the "Opus Credit Facility") with Opus Point Healthcare Innovations Fund, LP ("OPHIF"). Since Fortress's Chairman, President and Chief Executive Officer (Lindsay A. Rosenwald) and Fortress's Executive Vice President, Strategic Development (Michael S. Weiss), are Co-Portfolio Managers and Partners of Opus Point Partners Management, LLC ("Opus"), an affiliate of OPHIF, all of the disinterested directors of Fortress's board of directors approved the terms of the Credit Facility Agreement and accompanying Pledge and Security Agreement and forms of Note and Warrant (collectively, the "Financing Documents").

Pursuant to the Opus Credit Facility, Fortress may borrow up to a maximum aggregate amount of $25.0 million from OPHIF and any other lender that joins the Credit Facility Agreement from time to time (OPHIF and each subsequent lender, a "Lender") under one or more convertible secured promissory notes (each a "Note") from September 14, 2016 until September 1, 2017 (the "Commitment Period"). All amounts borrowed under the Credit Facility Agreement must be paid in full on September 14, 2018 (the "Maturity Date"), though Fortress may prepay the Notes at any time without penalty.

Pursuant to the Opus Credit Facility and form of Note, each Note will bear interest at 12% per annum and interest will be paid quarterly in arrears commencing on December 1, 2016 and on the first business day of each September, December, March and June thereafter until the Maturity Date. Upon the occurrence and continuance of an event of default (as specified in Credit Facility Agreement and form of Note), each Note will bear interest at 14% and be payable on demand. The Lenders may elect to convert the principal and interest of the Notes at any time into shares of Fortress's common stock ("Common Stock") at a conversion price of $10.00 per share. All Notes are secured by shares of capital stock currently held by Fortress in certain Fortress companies as set forth in the Pledge and Security Agreement entered into between Fortress, its wholly owned subsidiary, FBIO Acquisition, Inc., and OPHIF (as collateral agent on behalf of all the Lenders) on September 14, 2016 (the "Pledge and Security Agreement").

Fortress may terminate the Opus Credit Facility upon notice to the Lenders and payment of all outstanding obligations under the Credit Facility Agreement. Notwithstanding any early termination of the Credit Facility Agreement, within 15 days after termination of the Commitment Period, Fortress will issue each Lender warrants (each a "Warrant") pursuant to the terms of the Credit Facility Agreement and form of Warrant to purchase their pro rata share of (a) 1,500,000 shares of Common Stock; and (b) that number of shares of Common Stock equal to the product of (i) 1,000,000, times (ii) the principal amount of all Notes divided by 25,000,000. The Warrants will have a five-year term and will be exercisable at a price of $3.00 per share.

As of December 31, 2017 and 2016, $9.5 million and $7.0 million, respectively, was outstanding under the Opus Credit Facility.

Avenue Convertible Notes

On December 31, 2016, Avenue held the first closing of the sale of convertible promissory notes (the "Avenue Notes"). The Avenue Notes have an initial term of 18 months, which can be extended at the option of the holder, on one or more occasions, for up to 180 days and accrue simple interest at the rate of 5% per annum for the first 12 months and 8% per annum simple interest thereafter. The Avenue Notes are guaranteed by Fortress. The outstanding principal and interest of the Avenue Notes automatically converts into the type of equity securities sold by Avenue in the next sale of equity securities in which Avenue realizes aggregate gross cash proceeds of at least $10.0 million (before commissions or other expenses and excluding conversion of the notes) at a conversion price equal to the lesser of (a) the lowest price per share at which equity securities of Avenue are sold in such sale less a 33% discount and (b) a per share price based on a pre-offering valuation of $30.0 million divided by the number of common shares outstanding on a fully-diluted basis. The outstanding principal and interest of the Avenue Notes may be converted at the option of the holder in any sale of equity securities that does not meet the $10.0 million threshold for automatic conversion using the same methodology. The Avenue Notes also automatically convert upon a "Sale" of Avenue, defined as (a) a transaction or series of related transactions where one or more non-affiliates acquires (i) capital stock of Avenue or any surviving successor entity possessing the voting power to elect a majority of the board of directors or (ii) a majority of the outstanding capital stock of Avenue or the surviving successor entity (b) the sale, lease or other disposition of all or substantially all of Avenue's assets or any other transaction resulting in substantially all of Avenue's assets being converted into securities of another entity or cash. Upon a Sale of Avenue, the outstanding principal and interest of the Avenue Notes automatically converts into common shares at a price equal to the lesser of (a) a discount to the price per share being paid in the Sale of Avenue equal to 33% or (b) a conversion price per share based on a pre-sale valuation of $30.0 million divided by the fully-diluted common stock of Avenue immediately prior to the Sale of Avenue (excluding the Avenue Notes).

Gross proceeds from this offering totaled $0.2 million. Avenue realized net proceeds of $0.1 million after paying $58,000 of fees, of which $10,000 represents its placement fee (approximately 10% of the gross proceeds of $0.1 million for which the placement agent provided an introduction), legal fees of approximately $44,000 and other professional fees of $4,000. Additionally, the placement agent received warrants ("Avenue Warrants") to purchase the number of shares of Avenue's common stock equal to $10,000, divided by the price per share at which any note sold to investors first converts into Avenue common stock. The Avenue Warrants, which were recorded as a liability in accordance with ASC 815, have a ten-year term and have a per share exercise price equal to the price per share at which any note sold to investors first converts into Avenue's common stock. The offering expired on December 31, 2016.

Due to the complexity and number of embedded features within each convertible note, and as permitted under accounting guidance, the Company elected to account for the convertible notes and all the embedded features (collectively, the "hybrid instrument ") under the fair value option.

At December 31, 2017 and 2016 Avenue had nil and $0.2 million, respectively, outstanding under the Avenue Notes.

IDB Letters of Credit

The Company has several letters of credit ("LOC") with IDB securing rent deposits for lease facilities totaling approximately $2.0 million. Interest paid on the letters of credit is 2%.

2017 Subordinated Note Financing

On March 31, 2017, the Company entered into Note Purchase Agreements (the "Purchase Agreements") with NAM Biotech Fund II, LLC I ("NAM Biotech Fund") and NAM Special Situations Fund I QP, LLC ("NAM Special Situations Fund"), both of which are accredited investors, and sold subordinated promissory notes (the "Notes") of the Company (the "2017 Subordinated Note Financing") in the aggregate principal amount of $3.25 million. The Notes bear interest at the rate of 8% per annum; additionally, the Notes accrue paid-in-kind interest at the rate of 7% per annum, which will be paid quarterly in shares of the Company's common stock and/or shares of common stock of one of the Company's subsidiaries that are publicly traded, in accordance with the terms of the Notes. Each Note is due on the third anniversary of its issuance, provided that the Company may extend the maturity date for two one-year periods in its sole discretion. The 2017 Subordinated Note Financing is for a maximum of $40.0 million (which the Company may, in its sole discretion, increase to $50.0 million).

National Securities Corporation ("NSC"), a subsidiary of National and a related party, (see Note 18), pursuant to a Placement Agency Agreement entered into between the Company, NAM Biotech Fund and NSC (the "NAM Placement Agency Agreement") and a Placement Agency Agreement entered into between the Company, NAM Special Situations Fund and NSC (together with the NAM Placement Agency Agreement, the "Placement Agency Agreements") acts as placement agent in the 2017 Subordinated Note Financing. Pursuant to the terms of the Placement Agency Agreements, NSC receives (in addition to reimbursement of certain expenses) an aggregate cash fee equal to 10% of the aggregate sales price of the Notes sold in the 2017 Subordinated Note Financing to NAM Biotech Fund and NAM Special Situations Fund. The Placement Agent also receives warrants equal to 10% of the aggregate principal amount of the Notes sold in the 2017 Subordinated Note Financing divided by the closing share price of the Company's common stock on the date of closing (the "Placement Agent Warrants"). The Placement Agent Warrants are exercisable immediately at such closing share price for a period of five years. The Placement Agent will have a right of first offer for a period of 12 months for any proposed issuance of the Company's capital stock in a private financing, subject to certain exceptions, and will also have the right to participate as an investor in subsequent financings.

On March 31, 2017, held its first closing of the 2017 Subordinated Note Financing and received gross proceeds of $3.2 million. NSC received a cash fee of approximately $0.3 million and warrant to purchase 87,946 shares of the Company's common stock at an exercise price of per share $3.70.

On May 1, 2017, the Company held a second closing of the 2017 Subordinated Note Financing and received gross proceeds of $8.6 million, before expenses. NSC received a placement agent fee of approximately $0.9 million in the second closing and warrants to purchase 234,438 shares of the Company's common stock at an exercise price of $3.65 per share.

On May 31, 2017, the Company held a third closing of the 2017 Subordinated Note Financing and received gross proceeds of $5.3 million, before expenses. NSC received a placement agent fee of approximately $0.5 million in the third closing and warrants to purchase 147,806 shares of the Company's common stock at an exercise price of $3.61 per share.

On June 30, 2017, the Company held a fourth closing of the 2017 Subordinated Note Financing and received gross proceeds of $1.8 million, before expenses. NSC received a placement agent fee of approximately $0.2 million in the fourth closing and warrants to purchase 38,315 shares of the Company's common stock at an exercise price of $4.75 per share.

On August 31, 2017, the Company held a fifth closing of the 2017 Subordinated Note Financing and received gross proceeds of $3.0 million, before expenses. NSC received a placement agent fee of approximately $0.3 million in the fifth closing and warrants to purchase 63,526 shares of the Company's common stock at an exercise price of $4.75 per share.

On September 30, 2017, the Company held a sixth closing of the 2017 Subordinated Note Financing and received gross proceeds of $6.4 million, before expenses. NSC received a placement agent fee of approximately $0.6 million in the sixth closing and warrants to purchase 144,149 shares of the Company's common stock at an exercise price of $4.42 per share.

Caelum Convertible Notes

On July 31, 2017 Caelum through National Securities Corporation ("NSC" or "Placement Agent"), a subsidiary of National offered up to $10 million, convertible promissory notes (the "Caelum Convertible Notes") to accredited investors (as defined under the U.S. Federal securities laws). Under the terms of the offering the Placement Agent received a 10% selling commission, payable by Caelum and deducted from the gross proceeds (see Note 18).

During the year ended December 31, 2017, Caelum raised $9.9 million in the offering, in three separate closings and paid a placement fee equal to 10% of the proceeds of the sale or $0.9 million. Additionally NSC received warrants to purchase a number of shares the Caelum's Common Stock equal to 10% of the aggregate amount of shares underlying the Notes with a per share exercise price equal to 110% of the per share conversion price of the Notes; provided, however, that if no Note converts, the exercise price will be $75 million dollars divided by the total number of fully-diluted shares of Common Stock outstanding immediately prior to exercise of the warrant, giving effect to the assumed conversion of all options, warrants, and convertible securities of the Company .

The notes convert upon a qualified financing in which Caelum raises gross proceeds of at least $10 million as follows: the lesser of (a) a discount to the price per common share being paid in the Sale of the Company equal to 20% or (b) a conversion price per share based on a pre-sale valuation of $75,000,000 divided by the number of common shares outstanding at that time assuming the hypothetical conversion or exercise of any convertible securities, options, warrants and other rights to acquire common shares of the Company. The Company elected the fair value option to account for this note.

Interest Expense

The following table shows the details of interest expense for all debt arrangements during the periods presented. Interest expense includes contractual interest and amortization of the debt discount and amortization of fees represents fees associated with loan transaction costs, amortized over the life of the loan:

($ in thousands)	For the Years Ended December 31, 2017	2016	2015
IDB Note			
Interest	$ 340	$ 328	$ 314
Amortization of fees	-	1	5
Total IDB Note	340	329	319
NSC Debt			
Interest	147	599	690
Amortization of fees	201	1,270	309
Total NSC Debt	348	1,869	999
2017 Subordinated Note			
Interest	2,234	-	-
Amortization of fees	76	-	-
Total 2017 Subordinated Note	2,310	-	-
Opus Credit Facility			
Interest	1,087	192	-
Amortization of fees	1,037	195	-
Total Opus Note	2,124	387	-
Ovamed			
Interest	-	-	166
Total Ovamed	-	-	166
LOC Fees			
Interest	36	11	-
Total LOC	36	11	-
Helocyte Convertible Note			
Interest	261	61	-
Financing fee	1	962	-
Total Helocyte Convertible Note	262	1,023	-
Avenue Convertible Note			
Interest	5	-	-
Financing fee	3	70	-
Total Avenue Convertible Note	8	70	-
Caelum Convertible Note			
Interest	265	-	-
Financing fee	100	-	-
Total Caelum Convertible Note	365	-	-
Falk CSR			
Interest	64	-	-
Total Falk CSR	64	-	-
D&O Insurance			
Interest	3	1	-
Total D&O Insurance	3	1	-
Total Interest Expense and Financing Fee	$ 5,860	$ 3,690	$ 1,484

12. Accrued Liabilities and other Long-Term Liabilities

Accrued expenses and other long-term liabilities, excluding National, consisted of the following ($ in thousands):

	December 31,	
	2017	2016
Accrued expenses:		
Professional fees	$ 1,625	$ 1,253
Salaries, bonuses and related benefits	5,279	2,846
Accrued expenses – related party	95	-
Accrued severance	-	53
Ovamed manufacturing rights - short term component	-	900
Research and development	4,046	394
Dr. Falk Pharma milestone (See Note 16)	3,059	2,634
Accrued royalties payable	1,411	263
Accrued coupon expense	1,087	463
Lease impairment	-	128
Other	1,030	1,148
Total accrued expenses	$ 17,632	$ 10,082
Other long-term liabilities:		
Deferred rent and long-term lease abandonment charge	4,739	5,014
Total other long-term liabilities	$ 4,739	$ 5,014

National's accounts payable and other accrued expenses as of September 30, 2017, consisted of the following ($ in thousands):

	September 30,	
	2017	2016
Legal	$ 877	$ 1,346
Audit	176	198
Telecommunications	205	209
Data Services	464	425
Regulatory	540	444
Settlements	2,403	832
Deferred rent	497	65
Other	3,242	3,223
Total	$ 8,404	$ 6,742

13. Non-Controlling Interests

Non-controlling interests in consolidated entities are as follows ($ in thousands):

	As of December 31, 2017			
	NCI equity share	Net gain/(loss) attributable to non-controlling interests	Non-controlling interests in consolidated entities	Non-controlling ownership
Aevitas	$ (126)	$ (168)	$ (294)	35.4%
Avenue[2]	17,454	(4,646)	12,808	66.1%
Caelum	(815)	(1,262)	(2,077)	34.7%
Cellvation	(259)	(96)	(355)	21.5%
Checkpoint[1]	21,635	(12,314)	9,321	62.0%
Coronado SO	(236)	(54)	(290)	13.0%
Cyprium	(143)	(15)	(158)	11.1%
Helocyte	(1,907)	(1,193)	(3,100)	20.0%
JMC	(469)	7	(462)	6.3%
Mustang[2]	48,740	(11,911)	36,829	61.6%
National Holdings	17,021	(1,216)	15,805	43.4%
Tamid	(6)	(92)	(98)	24.0%
Total	$ 100,889	$ (32,960)	$ 67,929	

	As of December 31, 2016			
	NCI equity share	Net loss attributable to non-controlling interests	Non-controlling interests in consolidated entities	Non-controlling ownership
Avenue	(494)	(349)	(843)	10.2%
Cellvation	4	(158)	(154)	22.0%
Checkpoint[1]	32,160	(11,733)	20,427	62.9%
Coronado SO	(217)	(19)	(236)	13.0%
Helocyte	(612)	(1,155)	(1,767)	20.5%
JMC	(192)	(355)	(547)	7.0%
Mustang	12,376	(1,805)	10,571	26.7%
National Holdings	17,643	(621)	17,022	43.4%
Total	$ 60,668	$ (16,195)	$ 44,473	

	As of December 31, 2015			
	NCI equity share	Net loss attributable to non-controlling interests	Non-controlling interests in consolidated entities	Non-controlling ownership
Avenue	$ 6	$ (567)	$ (561)	11.5%
Checkpoint[1]	32,760	(3,855)	28,905	62.3%
Coronado SO	23	(240)	(217)	13.0%
JMC	79	(420)	(341)	8.8%
Mustang	14	(373)	(359)	10.0%
Total	$ 32,882	$ (5,455)	$ 27,427	

(1) Checkpoint is consolidated with Fortress' operations because Fortress maintains voting control through its ownership of Checkpoint's Class A Common Shares which provide super-majority voting rights.

(2) Avenue and Mustang are consolidated with Fortress' operations because Fortess maintains voting control through its ownership of Preferred Class A Shares which provide super-majority voting rights.

14. Net Loss per Common Share

The Company calculates loss per share using the two-class method, which is an earnings allocation formula that determines earnings per share for Common Stock and participating securities, if any, according to dividends declared and non-forfeitable participation rights in undistributed earnings. Under this method, all earnings (distributed and undistributed) are allocated to Common Stock and participating securities, if any, based on their respective rights to receive dividends. Holders of restricted Common Stock were entitled to all cash dividends, when and if declared, and such dividends are non-forfeitable. The participating securities do not have a contractual obligation to share in any losses of the Company. As a result, net losses are not allocated to the participating securities for any periods presented.

Basic net loss per share is calculated by dividing the net loss by the weighted-average number of shares of Common Stock outstanding during the period, without consideration for Common Stock equivalents. Diluted net loss per share is computed by dividing the net loss by the weighted-average number of Common Stock and Common Stock equivalents outstanding for the period.

Included in Common Stock issued and outstanding as of December 31, 2017, 2016 and 2015 were 9,840,614, 8,749,052 and 6,816,321 shares of unvested restricted stock, which is excluded from the weighted average Common Stock outstanding since its effect would be dilutive.

The Company's potential dilutive securities which consist of unvested restricted stock, unvested restricted stock units, options, and warrants have been excluded from the computation of diluted net loss per share as the effect would be to reduce the net loss per share. Therefore, the weighted-average Common Stock outstanding used to calculate both basic and diluted net loss per share is the same.

The following shares of potentially dilutive securities, weighted during the years ended December 31, 2017, 2016, and 2015 have been excluded from the computations of diluted weighted average shares outstanding as the effect of including such securities would be antidilutive:

	For the Years Ended December 31,		
	2017	2016	2015
Warrants to purchase Common Stock	745,285	456,150	685,061
Opus warrants to purchase Common Stock	628,383	1,780,000	-
Options to purchase Common Stock	1,093,283	1,604,214	1,960,443
Series A Preferred Stock	2,740	-	-
Unvested Restricted Stock	9,840,614	8,749,052	6,816,321
Unvested Restricted Stock Units	1,390,799	1,087,563	427,627
Total	13,701,104	13,676,979	9,889,452

15. Stockholders' Equity

Common Stock

The Company's Certificate of Incorporation, as amended, authorizes the Company to issue 100,000,000 shares of $0.001 par value Common Stock of which 50,991,285 and 48,932,023 shares are outstanding at December 31, 2017 and 2016, respectively.

The terms, rights, preference and privileges of the Common Stock are as follows:

Voting Rights

Each holder of Common Stock is entitled to one vote per share of Common Stock held on all matters submitted to a vote of the stockholders, including the election of directors. The Company's certificate of incorporation and bylaws do not provide for cumulative voting rights.

Dividends

Subject to preferences that may be applicable to any then outstanding preferred stock, the holders of the Company's outstanding shares of Common Stock are entitled to receive dividends, if any, as may be declared from time to time by the Company's Board of Directors out of legally available funds.

Liquidation

In the event of the Company's liquidation, dissolution or winding up, holders of Common Stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of the Company's debts and other liabilities, subject to the satisfaction of any liquidation preference granted to the holders of any outstanding shares of Preferred Stock.

Rights and Preference

Holders of the Company's Common Stock have no preemptive, conversion or subscription rights, and there is no redemption or sinking fund provisions applicable to our Common Stock. The rights, preferences and privileges of the holders of Common Stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of the Company's preferred stock that are or may be issued.

Fully Paid and Nonassessable

All of the Company's outstanding shares of Common Stock are fully paid and nonassessable.

Series A Preferred Stock

On October 26, 2017, the Company designated 5,000,000 shares of preferred stock as Series A Preferred Stock. On December 15, 2017, the Company issued $25.0 million (or 1,000,000 shares) of Series A Preferred Stock through B. Riley FBR, as lead manager and joint bookrunner of the placement, and NSC and H.C. Wainwright & Co. as joint bookrunners. NSC is a subsidiary of National Holdings Corporation.

Voting Rights

Except as may be otherwise required by law, the voting rights of the holders of the Series A Preferred Stock are limited to the affirmative vote or consent of the holders of at least two-thirds of the votes entitled to be cast by the holders of the Series A Preferred Stock outstanding at the time in connection with the: (1) authorization or creation, or increase in the authorized or issued amount of, any class or series of capital stock ranking senior to the Series A Preferred Stock with respect to payment of dividends or the distribution of assets upon liquidation, dissolution or winding up or reclassification of any of the Company's authorized capital stock into such shares, or creation, authorization or issuance of any obligation or security convertible into or evidencing the right to purchase any such shares; or (2) amendment, alteration, repeal or replacement of the Company's certificate of incorporation, including by way of a merger, consolidation or otherwise in which the Company may or may not be the surviving entity, so as to materially and adversely affect and deprive holders of Series A Preferred Stock of any right, preference, privilege or voting power of the Series A Preferred Stock.

Dividends

Dividends on Series A Preferred Stock accrue daily and will be cumulative from, and including, the date of original issue and shall be payable quarterly every March 31, June 30, September 30, and December 31, at the rate of 9.375% per annum of its liquidation preference, which is equivalent to $2.34375 per annum per share. The first dividend on Series A Preferred Stock sold in the offering was payable on December 31, 2017 (in the amount of $0.299479 per share) to the holders of record of the Series A Preferred Stock at the close of business on December 15, 2017. The Company recorded approximately $0.3 million of dividends in Additional Paid in Capital on the Consolidated Balance Sheets as of December 31, 2017.

No Maturity Date or Mandatory Redemption

The Series A Preferred Stock has no maturity date, and the Company is not required to redeem the Series A Preferred Stock. Accordingly, the Series A Preferred Stock will remain outstanding indefinitely unless the Company decides to redeem it pursuant to its optional redemption right or its special optional redemption right in connection with a Change of Control (as defined below), or under the circumstances set forth below under "Limited Conversion Rights Upon a Change of Control" and elect to convert such Series A Preferred Stock. The Company is not required to set aside funds to redeem the Series A Preferred Stock.

Optional Redemption

The Series A Preferred Stock may be redeemed in whole or in part (at the Company's option) any time on or after December 15, 2022, upon not less than 30 days nor more than 60 days' written notice by mail prior to the date fixed for redemption thereof, for cash at a redemption price equal to $25.00 per share, plus any accumulated and unpaid dividends to, but not including, the redemption date.

Special Optional Redemption

Upon the occurrence a Change of Control (as defined below), the Company may redeem the shares of Series A Preferred Stock, at its option, in whole or in part, within one hundred twenty (120) days of any such Change of Control, for cash at $25.00 per share, plus accumulated and unpaid dividends (whether or not declared) to, but excluding, the redemption date. If, prior to the Change of Control conversion date, the Company has provided notice of its election to redeem some or all of the shares of Series A Preferred Stock (whether pursuant to the Company's optional redemption right described above under "Optional Redemption" or this special optional redemption right), the holders of shares of Series A Preferred Stock will not have the Change of Control conversion right with respect to the shares of Series A Preferred Stock called for redemption. If the Company elects to redeem any shares of the Series A Preferred Stock as described in this paragraph, the Company may use any available cash to pay the redemption price.

A "Change of Control" is deemed to occur when, after the original issuance of the Series A Preferred Stock, the following have occurred and are continuing:

- the acquisition by any person, including any syndicate or group deemed to be a "person" under Section 13(d)(3) of the Exchange Act of beneficial ownership, directly or indirectly, through a purchase, merger or other acquisition transaction or series of purchases, mergers or other acquisition transactions of the Company's stock entitling that person to exercise more than 50% of the total voting power of all the Company's stock entitled to vote generally in the election of the Company's directors (except that such person will be deemed to have beneficial ownership of all securities that such person has the right to acquire, whether such right is currently exercisable or is exercisable only upon the occurrence of a subsequent condition); and

- following the closing of any transaction referred to in the bullet point above, neither the Company nor the acquiring or surviving entity has a class of common equity securities (or American Depositary Receipts representing such securities) listed on the NYSE, the NYSE American LLC or the Nasdaq Stock Market, or listed or quoted on an exchange or quotation system that is a successor to the NYSE, the NYSE American LLC or the Nasdaq Stock Market.

Conversion, Exchange and Preemptive Rights

Except as described below under "Limited Conversion Rights upon a Change of Control," the Series A Preferred Stock is not subject to preemptive rights or convertible into or exchangeable for any other securities or property at the option of the holder.

Limited Conversion Rights upon a Change of Control

Upon the occurrence of a Change of Control, each holder of shares of Series A Preferred Stock will have the right (unless, prior to the Change of Control Conversion Date, the Company has provided or provides irrevocable notice of its election to redeem the Series A Preferred Stock as described above under "Optional Redemption," or "Special Optional Redemption") to convert some or all of the shares of Series A Preferred Stock held by such holder on the Change of Control Conversion Date, into the Common Stock Conversion Consideration, which is equal to the lesser of:

- the quotient obtained by dividing (i) the sum of the $25.00 liquidation preference per share of Series A Preferred Stock plus the amount of any accumulated and unpaid dividends (whether or not declared) to, but not including, the Change of Control Conversion Date (unless the Change of Control Conversion Date is after a record date for a Series A Preferred Stock dividend payment and prior to the corresponding Dividend Payment Date, in which case no additional amount for such accumulated and unpaid dividend will be included in this sum) by (ii) the Common Stock Price (such quotient, the "Conversion Rate"); and

- 13.05483 shares of common stock, subject to certain adjustments.

In the case of a Change of Control pursuant to which the Company's common stock will be converted into cash, securities or other property or assets, a holder of Series A Preferred Stock will receive upon conversion of such Series A Preferred Stock the kind and amount of Alternative Form Consideration which such holder would have owned or been entitled to receive upon the Change of Control had such holder held a number of shares of the Company's common stock equal to the Common Stock Conversion Consideration immediately prior to the effective time of the Change of Control.

Notwithstanding the foregoing, the holders of shares of Series A Preferred Stock will not have the Change of Control Conversion Right if the acquiror has shares listed or quoted on the NYSE, the NYSE American LLC or Nasdaq Stock Market or listed or quoted on an exchange or quotation system that is a successor to the NYSE, the NYSE American LLC or Nasdaq Stock Market, and the Series A Preferred Stock becomes convertible into or exchangeable for such acquiror's listed shares upon a subsequent Change of Control of the acquiror.

Liquidation Preference

In the event the Company liquidates, dissolves or is wound up, holders of the Series A Preferred Stock will have the right to receive $25.00 per share, plus any accumulated and unpaid dividends to, but not including, the date of payment, before any payment is made to the holders of the Company's common stock.

Ranking

The Series A Preferred Stock will rank, with respect to rights to the payment of dividends and the distribution of assets upon the Company's liquidation, dissolution or winding up, (1) senior to all classes or series of the Company's common stock and to all other equity securities issued by the Company other than equity securities referred to in clauses (2) and (3); (2) on a par with all equity securities issued by the Company with terms specifically providing that those equity securities rank on a par with the Series A Preferred Stock with respect to rights to the payment of dividends and the distribution of assets upon the Company's liquidation, dissolution or winding up; (3) junior to all equity securities issued by the Company with terms specifically providing that those equity securities rank senior to the Series A Preferred Stock with respect to rights to the payment of dividends and the distribution of assets upon the Company liquidation, dissolution or winding up; and (4) junior to all of the Company's existing and future indebtedness.

As of December 31, 2017 and 2016, 1,000,000 and nil shares, respectively, of Series A Preferred Stock were issued and outstanding.

Stock-Based Compensation including National

As of December 31, 2017, the Company had four equity compensation plans: the Fortress Biotech, Inc. 2007 Stock Incentive Plan (the "2007 Plan"), the Fortress Biotech, Inc. 2013 Stock Incentive Plan, as amended (the "2013 Plan"), the Fortress Biotech, Inc. 2012 Employee Stock Purchase Plan (the "ESPP") and the Fortress Biotech, Inc. Long Term Incentive Plan ("LTIP"). In 2007, the Company's Board of Directors adopted and stockholders approved the 2007 Plan authorizing the Company to grant up to 6,000,000 shares of Common Stock to eligible employees, directors, and consultants in the form of restricted stock, stock options and other types of grants. In 2013, the Company's Board of Directors adopted and stockholders approved the 2013 Plan authorizing the Company to grant up to 2,300,000 shares of Common Stock to eligible employees, directors, and consultants in the form of restricted stock, stock options and other types of grants. In 2015, the Company's Board of Directors and stockholders approved an increase of 7,700,000 shares for the 2013 Plan bringing the total number of shares approved under this plan to 10,000,000, with the aggregate total of authorized shares available for grants under the 2007 Plan and the 2013 Plan of up to 16,000,000 shares. An aggregate of 12,506,679 shares were granted under both the Company's 2007 and 2013 plans, net of cancellations, and 3,493,321 shares were available for issuance as of December 31, 2017.

Fortress Companies have their own equity compensation plan under which shares are granted to eligible employees, directors and consultants in the form of restricted stock, stock options, and other types of grants of stock of the respective Fortress Company. The table below provides a summary of those plans as of December 31, 2017:

Fortress Company	Stock Plan	Shares Authorized	Shares available at December 31, 2017
Avenue	Avenue Therapeutics, Inc. 2015 Stock Plan	2,000,000	1,115,000
Caelum	Caelum Biosciences Inc. 2017 Incentive Plan	2,000,000	125,002
Cellvation	Cellvation Inc. 2016 Incentive Plan	2,000,000	300,000
Checkpoint	Checkpoint Therapeutics, Inc. Amended and Restated 2015 Stock Plan	5,000,000	2,961,697
Cyprium	Cyprium Therapeutics, Inc. 2017 Stock Plan	2,000,000	2,000,000
Helocyte	DiaVax Biosciences, Inc. 2015 Incentive Plan	2,000,000	341,667
Journey	Journey Medical Corporation 2015 Stock Plan	3,000,000	614,792
Mustang	Mustang Bio, Inc. 2016 Incentive Plan	2,000,000	444,325
Tamid	FBIO Acquisition Corp. V 2017 Incentive Plan	2,000,000	1,600,000

The purpose of the Company's and the Fortress Companies' equity compensation plans is to provide for equity awards as part of an overall compensation package of performance-based rewards to attract and retain qualified personnel. Such awards include, without limitation, options, stock appreciation rights, sales or bonuses of restricted stock, restricted stock units or dividend equivalent rights, and an award may consist of one such security or benefit, or two or more of them in any combination or alternative. Vesting of awards may be based upon the passage of time, the occurrence of one or more events, or the satisfaction of performance criteria or other conditions.

Incentive and non statutory stock options are granted pursuant to option agreements adopted by the plan administrator. Options generally have 10-year contractual terms and vest in three equal annual installments commencing on the grant date.

The Company estimates the fair value of stock option grants using a Black-Scholes option pricing model. In applying this model, the Company uses the following assumptions:

- *Risk-Free Interest Rate:* The risk-free interest rate is based on the yields of United States Treasury securities with maturities similar to the expected term of the options for each option group.
- *Volatility:* As the Company has a limited trading history for its Common Stock, the expected stock price volatility for its Common Stock was estimated by incorporating two years of the Company's historical volatility and the average historical price volatility for industry peers based on daily price observations over a period equivalent to the expected term of the stock option grants. Industry peers consist of several public companies in the biopharmaceutical industry similar in size, stage of life cycle and financial leverage. The Company's historical volatility is weighted with that of the peer group and that combined historical volatility is weighted 80% with a 20% weighting of the Company's implied volatility, which is obtained from traded options of the Company's stock. The Company intends to continue to consistently apply this process using the same or similar public companies until it has sufficient historical information regarding the volatility of its Common Stock that is consistent with the expected life of the options. Should circumstances change such that the identified companies are no longer similar to the Company, more suitable companies whose share prices are publicly available would be utilized in the calculation.
- *Expected Term:* Due to the limited exercise history of the Company's stock options, the Company determined the expected term based on the Simplified Method under SAB 107 and the expected term for non-employees is the remaining contractual life for both options and warrants.
- *Expected Dividend Rate:* The Company has not paid and does not anticipate paying any cash dividends in the near future.

The fair value of each option award was estimated on the grant date using the Black-Scholes option-pricing model and expensed under the straight line method. Journey and Mustang issued stock options during the years ended December 31, 2017, 2016 and 2015.

The fair value for non-employee stock based awards are marked-to-market on each valuation date until vested using the Black-Scholes pricing model.

The following table summarizes the stock-based compensation expense from stock option, employee stock purchase programs and restricted Common Stock awards and warrants for the years ended December 31, 2017, 2016 and 2015:

	For the Years Ended December 31,		
($ in thousands)	2017	2016	2015
Employee awards	$ 6,606	$ 7,386	$ 8,130
Executive awards of Fortress Companies' stock	-	-	2,228
Non-employee awards	83	33	33
Fortress Companies:			
Avenue	604	28	51
Caelum	595	-	-
Cellvation	31	7	-
Checkpoint	3,118	3,867	3,252
Helocyte	128	250	-
JMC	224	515	597
Mustang	2,013	-	-
Tamid	1	-	-
National	602	42	-
Total stock-based compensation expense	$ 14,005	$ 12,128	$ 14,291

For the years ended December 31, 2017, 2016 and 2015, $4.0 million, $4.7 million and $5.8 million was included in research and development expenses, and $10.0 million, $7.4 million and $8.5 million was included in general and administrative expenses, respectively.

Options

The following table summarizes Fortress stock option activities excluding activities related to Fortress Companies:

	Number of shares	Weighted average exercise price	Total weighted average intrinsic value	Weighted average remaining contractual life (years)
Options vested and expected to vest at December 31, 2015	1,779,365	$ 4.37	$ 666,396	6.32
Forfeited	(648,864)	0.51	-	-
Options vested and expected to vest at December 31, 2016	1,130,501	3.73	602,451	4.93
Exercised	(20,000)	1.37	52,400	-
Exercisable as of December 31, 2016	1,110,501	$ 3.78	$ 1,351,080	3.95
Options vested and expected to vest at December 31, 2017	1,085,501	$ 3.75	$ 1,351,080	3.93

During the years ended December 31, 2017, 2016 and 2015, exercises of stock options resulted in total proceeds of approximately $27,000, nil and $0.2 million, respectively.

As of December 31, 2017, the Company had unrecognized stock-based compensation expense related to all unvested options and vested options of nil and nil, respectively.

Restricted Stock

Stock-based compensation expense from restricted stock awards and restricted stock units for the years ended December 31, 2017, 2016, 2015 was $11.3 million, $9.9 million and $6.9 million, respectively.

Senior Vice President ("SVP") Grant

On July 15, 2015, the Company's SVP, Biologics Operations, was granted 1.0 million restricted stock units which vest 10% immediately and an additional 10% per year over four years commencing the later of trading availability, under the Company's Insider Trading Policy, or July 15, 2015. The remaining 50% vests in accordance with the achievement of certain performance goals. As a condition of this grant, the SVP surrendered his option grant dated June 2013 for 200,000 shares. On the date of modification, the incremental value of the new award of $3.3 million plus the unamortized expense of the old award of $0.4 million yielded a value of $3.7 million to be amortized over the life of the restricted stock units. For the year ended December 31, 2017, 2016 and 2015, 150,000, 150,000 and 300,000, respectively, restricted stock units vested resulting in a charge of $0.3 million, $1.2 million and $1.9 million, respectively on the Consolidated Statements of Operations.

Acceleration of Grants to Former Director

On July 15, 2015, the Board of Directors accelerated the vesting of 133,000 restricted shares of Fortress common stock granted to a former member of the Board of Directors for his service on the Board through July 15, 2015. In connection with this acceleration, Fortress recorded a charge of approximately $0.4 million during 2015 on the Consolidated Statements of Operations.

Restricted Stock Unit Grant to a Current Director

During 2017, the Company granted 1,325,396 restricted shares of its Common Stock to executives and directors of the Company and 1,128,750 restricted stock units to employees and non-employees of the Company. The fair value of the restricted stock awards issued during 2017 of $3.6 million and the fair value of the restricted stock unit awards issued during 2017 of $4.7 million were estimated on the grant date using the Company's stock price as of the grant date. The 2017 restricted stock awards and restricted stock unit awards vest upon both the passage of time as well as meeting certain performance criteria. Restricted stock awards and restricted stock unit awards are expensed under the straight-line method over the vesting period.

During 2016, the Company granted 1,240,868 restricted shares of its Common Stock to executives and directors of the Company and 641,000 restricted stock units to employees and non-employees of the Company. The fair value of the restricted stock awards issued during 2016 of $3.4 million and the fair value of the restricted stock unit awards issued during 2016 of $1.8 million were estimated on the grant date using the Company's stock price as of the grant date. The 2016 restricted stock awards and restricted stock unit awards vest upon both the passage of time as well as meeting certain performance criteria. Restricted stock awards and restricted stock unit awards are expensed under the straight-line method over the vesting period.

Restricted Stock Issuance Agreements to Chief Executive Officer and Executive Chair, Strategic Development

In December 2017, the Company modified the vesting schedule on the 1.9 million share grant made to its Chief Executive Officer and Executive Chair, Strategic Development in December 2013, and the 3.9 million share inducement grant made to its Executive Chair, Strategic Development in February 2014. These grants had been previously modified in February 2016, when the vesting on the first tranche of the grants was extended by 12 months. The impact of the 2016 modification was $0.4 million, which was amortized over the remaining life of the award. The impact of the 2017 modification, which extends the vesting to December 2022, was $2.5 million, which will be amortized over the remaining life of the award.

The following table summarizes Fortress restricted stock awards and restricted stock units activities, excluding activities related to Fortress Companies:

	Number of shares	Weighted average grant price
Unvested balance at December 31, 2015	8,757,935	$ 2.47
Restricted stock granted	1,240,868	2.77
Restricted stock cancelled	(33,333)	2.69
Restricted stock vested	(173,333)	2.73
Restricted stock units granted	641,000	2.93
Restricted stock units cancelled	(111,750)	3.58
Restricted stock units vested	(227,292)	3.56
Unvested balance at December 31, 2016	10,094,095	$ 2.49
Restricted stock granted	1,325,396	2.70
Restricted stock vested	(213,333)	2.75
Restricted stock units granted	1,128,750	4.17
Restricted stock units forfeited	(15,000)	2.98
Restricted stock units vested	(445,874)	3.50
Unvested balance at December 31, 2017	11,874,034	$ 2.63

As of December 31, 2017, the Company had unrecognized stock-based compensation expense related to all unvested restricted stock and restricted stock unit awards of $3.4 million and $3.2 million, respectively, which is expected to be recognized over the remaining weighted-average vesting period of 4.6 years and 1.5 years, respectively.

Deferred Compensation Plan

On March 12, 2015, the Company's Compensation Committee approved the Deferred Compensation Plan allowing all non-employee directors the opportunity to defer all or a portion of their fees or compensation, including restricted stock and restricted stock units. During the year ended December 31, 2017, 2016, and 2015 certain non-employee directors elected to defer an aggregate of 230,000, 230,000 and 290,000 restricted stock awards, respectively, under this plan.

Employee Stock Purchase Plan

Eligible employees can purchase the Company's Common Stock at the end of a predetermined offering period at 85% of the lower of the fair market value at the beginning or end of the offering period. The ESPP is compensatory and results in stock-based compensation expense.

On June 1, 2015, the Company issued 14,681 shares of Common Stock under the ESPP. The shares were issued at $1.80 per share, which represents 85% of the closing price of $2.12 of the Common Stock on December 1, 2014. On December 1, 2015, the Company issued 13,317 shares of Common Stock under the ESPP. The shares were issued at $2.41 per share, which represents 85% of the closing price of $2.84 of the Common Stock on June 1, 2015.

On June 1, 2016, the Company issued 33,958 shares of Common Stock under the ESPP. The shares were issued at $2.40 per share, which represents 85% of the closing price of $2.82 of the Common Stock on May 31, 2016. On December 31, 2016, the Company issued 52,769 shares of Common Stock under the ESPP. The shares were issued at $2.03 per share, which represents 85% of the closing price of $2.39 of the Common Stock on November 30, 2016.

On June 1, 2017, the Company issued 22,076 shares of Common Stock under the ESPP. The shares were issued at $1.90 per share, which represents 85% of the closing price of $2.24 of the Common Stock on December 1, 2016. On December 1, 2017, the Company issued 45,657 shares of Common Stock under the ESPP. The shares were issued at $3.26 per share, which represents 85% of the closing price of $3.83 of the Common Stock on June 1, 2017.

As of December 31, 2017, 245,652 shares have been purchased and 154,348 shares are available for future sale under the Company's ESPP. The Company recognized share-based compensation expense of $0.2 million, $0.1 million and $45,000 for the years ended December 31, 2017, 2016 and 2015, respectively.

Warrants

The following table summarizes Fortress warrant activities, excluding activities related to Fortress Companies:

	Number of shares	Weighted average exercise price	Total weighted average intrinsic value	Weighted average remaining contractual life (years)
Outstanding as of December 31, 2015	569,835	$ 6.31	$ 120,700	1.84
Granted	1,880,000	3.00	-	5.65
Expired	(161,382)	6.30	-	-
Exercised (*)	(25,000)	1.37	33,250	-
Outstanding as of December 31, 2016	2,263,453	$ 3.62	$ 79,800	4.74
Granted	816,180	3.84	260,380	4.87
Forfeited	(305,444)	7.07	-	-
Outstanding as of December 31, 2017	2,774,189	$ 3.30	$ 2,204,530	4.47
Exercisable as of December 31, 2017	869,189	$ 3.96	$ 318,580	4.05

(*) – cashless

All stock-based expense in connection with these warrants has been recognized prior to January 1, 2017.

Long-Term Incentive Program ("LTIP")

On July 15, 2015, the stockholders approved the LTIP for the Company's Chairman, President and Chief Executive Officer, Dr. Rosenwald, and Executive Vice Chairman, Strategic Development, Mr. Weiss. The LTIP consists of a program to grant equity interests in the Company and in the Company's subsidiaries, and a performance-based bonus program that is designed to result in performance-based compensation that is deductible without limit under Section 162(m) of the Internal Revenue Code of 1986, as amended.

On July 15, 2015 and on October 31, 2016, the following grants of 500,000 warrants each were made to Dr. Rosenwald and Mr. Weiss for their services to the Company:

2015	Warrant Shares	Risk Free Rate	Volatility	Life	Exercise price	Fair Value
Mustang	1,000,000	2.36%	106.11%	10	$ 0.147	$ 135,000
Checkpoint	1,000,000	2.36%	106.11%	10	$ 0.129	$ 118,000
Avenue	1,000,000	2.36%	106.11%	10	$ 0.146	$ 134,000
CNDO SO	1,000,000	2.36%	106.11%	10	$ 1.190	$ 1,091,000
Helocyte	1,000,000	2.36%	106.11%	10	$ 0.097	$ 89,000
JMC	1,000,000	2.36%	106.11%	10	$ 0.650	$ 596,000
Escala	1,000,000	2.36%	106.11%	10	$ 0.071	$ 65,000
2016						
Cellvation	1,000,000	2.86%	70%	9	$ 0.024	$ 18,000

The exercise price, which approximates the fair value, was determined by the Company utilizing a discounted cash flow model to determine the weighted market value of invested capital, discounted by a lack of marketability of 44.8%, weighted average cost of capital of 30%, and net of debt utilized. For the years ended December 31, 2016 and 2015, the Company recorded expense of approximately $18,000 and $2.2 million, respectively, related to these grants in general and administrative expenses on the Consolidated Statements of Operations.

Beginning in 2017, the LTIP equity interest grants were made in the form of stock. During the year ended December 31, 2017, Mr. Weiss and Dr. Rosenwald received, for their services to the Company, stock awards of 500,000 shares representing 5% of the ownership in the following entities:

2017	Stock Shares	Risk Free Rate	Volatility	Discount for Lack of Marketability	Exercise price	Fair Value
Aevitas	1,000,000	1.92	79.8%	42.6%	$ 0.020	$ 20,000
Caelum	1,000,000	1.93	70.0%	49.5%	$ 0.028	$ 28,000
Cyprium	1,000,000	1.92	84.3%	44.2%	$ 0.004	$ 4,000
Acquisition Corp. III	1,000,000	1.92	83.9%	44.0%	$ 0.007	$ 7,000
Acquisition Corp. IV	1,000,000	1.92	83.9%	44.0%	$ 0.007	$ 7,000
Tamid	1,000,000	1.92	83.9%	44.0%	$ 0.007	$ 7,000
Acquisition Corp. VI	1,000,000	1.92	83.9%	44.0%	$ 0.007	$ 7,000
Acquisition Corp. VII	1,000,000	1.92	83.9%	44.0%	$ 0.007	$ 7,000
Acquisition Corp. VIII	1,000,000	1.92	83.9%	44.0%	$ 0.007	$ 7,000

For the year ended December 31, 2017, the Company recorded expense of approximately $0.1 million related to these grants in general and administrative expenses on the Consolidated Statements of Operations. These grants are expensed by the Company at the time of the grant, as they are immediately vested.

On January 1, 2017 and 2016, the Compensation Committee granted 552,698 and 510,434 shares each to Lindsay Rosenwald and Michael Weiss, respectively. These equity grants, made in accordance with the LTIP, represent 1% of total outstanding shares of the Company as of the dates of such grants and were granted in recognition of their performance in 2016 and 2015. The shares are subject to repurchase by the Company until both of the following conditions are met: (i) the Company's market capitalization increases by a minimum of $100.0 million, and (ii) the employee is either in the service of the Company as an employee or as a Board member (or both) on the tenth anniversary of the LTIP, or the eligible employee has had an involuntary separation from service (as defined in the LTIP). The Company's repurchase option on such shares will also lapse upon the occurrence of a corporate transaction (as defined in the LTIP) if the eligible employee is in service on the date of the corporate transaction. The fair value of each grant on the grant date was approximately $1.5 million for the 2017 grant and $1.4 million for the 2016 grant. For the year ended December 31, 2017 and 2016, the Company recorded expense of approximately $0.6 million and $0.3 million, respectively. No expense was recorded in 2015.

Capital Raise

Avenue Therapeutics, Inc.

On June 26, 2017, Avenue completed an IPO of its common stock. In connection with the IPO, Avenue issued 6,325,000 shares of its common stock, inclusive of 825,000 shares subject to an underwriter over-allotment. The shares were issued at $6.00 per share, resulting in net proceeds of approximately $34.2 million after deducting underwriting discounts, and other offering costs. NSC acted as co-manager in this offering and earned commissions and fees of approximately $2.3 million.

In conjunction with the closing of the IPO, Avenue issued warrants in connection with its NSC Debt and its Convertible Notes.

Avenue issued to National warrants for 125,000 common shares at par with a fair value of $0.8 million, relating to its aggregate gross proceeds from its third-party offerings exceeding five times the value of the debt. Upon the issuance of the warrant, Fortress was removed as the guarantor on the note.

Checkpoint Therapeutics, Inc.

On September 18, 2015, Checkpoint entered into a placement agency agreement with National Securities Corporation (the "Placement Agent") relating to Checkpoint's offering, issuance and sale (the "Offering") to select institutional investors (the "Investors") of units consisting of 10,000 shares of Checkpoint's common stock, $0.0001 par value per share (the "Common Stock"), and warrants (the "Warrants") exercisable for 2,500 shares of common stock at an exercise price of $7.00 per share, for a purchase price of $50,000 per unit. Pursuant to the agreement, Checkpoint agreed to pay the Placement Agent a cash fee of 10.0% of the gross proceeds from the Offering and granted a warrant exercisable for shares of Checkpoint's common stock equal to 10% of the aggregate number of shares of Checkpoint's common stock sold in the Offering (the "Placement Agent Warrants"). In addition, Checkpoint and the Investors entered into a unit purchase agreement (the "Unit Purchase Agreement") relating to the sale of the Checkpoint's common stock and the warrants in five separate closings during the third and fourth quarter of 2015. In the aggregate, in 2015, Checkpoint closed on gross proceeds of $57.8 million, before commissions and expenses. Net proceeds from this offering were approximately $51.5 million. The financing involved the sale of Units, each consisting of 10,000 shares of common stock and a warrant exercisable for 2,500 shares of common stock at an exercise price of $7.00 per share, for a purchase price of $50,000 per Unit. The warrants have a five-year term and are only exercisable for cash. Checkpoint expects to use the net proceeds primarily for general corporate purposes, which may include financing Checkpoint's growth, developing new or existing product candidates, and funding capital expenditures, acquisitions and investments.

Following this capital raise, the Company's ownership in Checkpoint decreased to 37.7%. Since the Company's ownership of Checkpoint is through Class A Common Shares, which have super-majority voting rights, the Company maintains voting control, thereby consolidating Checkpoint.

On February 23, 2016, Checkpoint closed on gross proceeds of $0.6 million, in a private placement of shares and warrants to Opus Point Healthcare Fund GP, LLC, a fund managed by OPPM, a related party. The financing involved the sale of units, each consisting of 10,000 shares of common stock and a warrant exercisable for 3,500 shares of common stock at an exercise price of $7.00 per share, for a total price of $45,000 per unit. The warrants have a five-year term and are only exercisable for cash. Checkpoint issued 126,640 unregistered shares of common stock and 44,324 warrants in connection with this transaction. Due to the absence of a placement agent in this transaction, the net proceeds to, and warrants issued by, Checkpoint were consistent with terms of the December 2015 third-party financing, which included the payment of fees and issuance of warrants to a placement agent.

Mustang Bio, Inc.

In third and fourth quarter of 2016, Mustang closed on gross proceeds of $39.1 million, before expenses, in a private placement of shares and warrants for which OPN Capital Markets was the placement agent and received a fee of $3.9 million (recorded as contra-equity) or 10% of the gross proceeds. The financing involved the sale of units, each consisting of 10,000 shares of common stock and a warrant exercisable for 2,500 shares of common stock at an exercise price of $8.50 per share, for a total price of $65,000 per unit. The warrants have a five-year term and are only exercisable for cash. Mustang issued 6.0 million unregistered shares of common stock, excluding founder shares, and 1.5 million warrants in connection with this transaction. In addition, the placement agent received 601,486 warrants or 10% of the shares issued.

In 2017, Mustang raised gross proceeds of $56.0 million, before expenses. Mustang issued 8,610,774 unregistered shares of common stock and 2,152,693 warrants in connection with this closing. NSC received a placement agent fee of $5.6 million or approximately 10% of the gross proceeds. In addition, NSC received 861,077 warrants or approximately 10% of the shares issued.

As of December 31, 2017, the Company determined that the warrants still did not meet the definition of a derivative and continued to qualify for equity recognition.

At Market Offerings

In May 2016, the Company issued 150,556 shares at an average price of $2.89 per share for gross proceeds of $0.4 million under its then existing at the market facility. Fees totaled $79,000.

On August 17, 2016, the Company entered into an Amended and Restated At Market Issuance Sales Agreement, or Sales Agreement, with MLV & Co. LLC, or MLV, and FBR Capital Markets & Co., or FBR. On August 18, 2016, the Company filed a Registration Statement on Form S-3, which became effective on December 1, 2016 and permits the Company to issue and sell shares of its common stock having an aggregate offering price of up to $53.0 million from time to time through MLV and FBR, as sales agents under the Sales Agreement. The Sales Agreement terminates on August 17, 2019.

Perpetual Preferred Offering

In November 2017, the Company raised gross proceeds of $25.0 million in an underwritten public offering of one million shares of 9.375% Series A Cumulative Redeemable Perpetual Preferred Stock (“Series A Preferred Stock”) at a price of $25.00 per share. Net proceeds totaled approximately $22.2 million in the Series A Preferred Stock offering after the payment of underwriter fees of approximately $2.7 million, of which $2.1 million was paid to NSC, one of several bookrunners for the offering and $0.1 million of other fees.

16. Commitments and Contingencies

Operating Lease Obligations - Fortress (excluding National)

Fortress

In October 2015, the Company entered into a 5-year lease for approximately 6,100 square feet of office space in Waltham, MA at an average annual rent of approximately $0.2 million. The Company took occupancy of this space in January 2016. For the twelve months ended December 31, 2017 and 2016, the Company recorded $0.2 million and 0.2 million, respectively of rent expense related to this facility. No expense was recorded in 2015.

On October 3, 2014, the Company entered into a 15-year lease for office space at 2 Gansevoort Street New York, NY 10014, at an average annual rent of $2.7 million. The Company took possession of this space in December 2015, and it became the Company’s principal executive office upon occupancy in the first half of 2016. Also, on October 3, 2014, the Company entered into Desk Share Agreements with each of OPPM and TGTX, to occupy 10% and 45%, respectively, of the New York, NY office space that requires them to pay their share of the average annual rent of $0.3 million and $1.1 million, respectively. These initial rent allocations will be adjusted periodically for each party based upon actual percentage of the office space occupied. Additionally, the Company has reserved the right to execute additional desk share agreements with other third parties and those arrangements will also affect the cost of the lease actually borne by the Company. The lease was executed to further the business strategy, which includes forming additional subsidiaries and/or affiliate companies. Mr. Weiss is Executive Chairman, Chief Executive Officer, President and a stockholder of TGTX. The lease is subject to early termination by the Company, or in circumstances including events of default, the landlord, and includes a five-year extension option in our favor. For the twelve months ended December 31, 2017, 2016 and 2015, the Company recorded $1.0 million, $1.3 million and $0.2 million, respectively of rent expense related to this facility

In December 2012, we assumed a lease from TSO Laboratories, Inc., a wholly owned subsidiary of Ovamed GmbH, for approximately 8,700 square feet of space in Woburn, MA for the purpose of establishing a manufacturing facility for TSO. The term of the lease ends February 28, 2018. The annual rent payment is approximately $0.1 million. In July 2017, the Company entered into an agreement with the landlord of this facility, whereby the Company returned the facility to the landlord.

In April 2013, the Company entered into a three-year lease for approximately 1,500 square feet of office space in New York, NY at an average annual rent of approximately $0.1 million. The Company commenced occupancy of this space in May 2013. In March 2014, the Company made the decision to close this New York, NY office and commenced marketing the facility for sub-lease. In April 2014, the Company entered into a sub-lease arrangement for this New York, NY office for the remaining term of the lease, and in December 2014, the sub-tenant returned the space. The lease expired in June 2016.

Journey

In June 2017 and July 2016, Journey extended its lease for one year for $2,295 square feet of office space in Scottsdale, AZ, at an annual rate of approximately $55,000 and $53,000. Journey took occupancy of this space in November 2014. For the twelve months ended December 31, 2017, 2016 and 2015, the Company recorded $0.1 million, $0.1 million and $0.1 million,, respectively of rent expense related to this facility

Mustang

On October 27, 2017, Mustang entered into a lease agreement with WCS - 377 Plantation Street, Inc., a Massachusetts nonprofit corporation (“Landlord”). Pursuant to the terms of the lease agreement, Mustang agreed to lease 27,043 sf from the Landlord, located at 377 Plantation Street in Worcester, MA (the “Facility”), through November 2026, subject to additional extensions at Mustang’s option. Base rent, net of abatements of $0.6 million over the lease term, totals approximately $3.6 million, on a triple-net basis. Mustang plans to make improvements to the facility of approximately $3.5 million.

The terms of the lease also require that Mustang post an initial security deposit of $0.8 million, in the form of $0.5 million letter of credit and $0.3 million in cash, which shall increase to $1.3 million ($1.0 million letter of credit, $0.3 million in cash) when the Facility is fully occupied by Mustang. After the fifth lease year, the letter of credit obligation is subject to reduction.

The Facility is expected to be operational for the production of personalized CAR T therapies in 2018.

For the twelve months ended December 31, 2017 Mustang recorded $0.1 million of rent expense, no expense was recorded in 2016 or 2015 for this facility.

Total future minimum lease payments under these leases are:

($ in thousands)	
2018	$ 2,761
2019	2,976
2020	3,203
2021	3,084
2022	3,084
Beyond	26,600
Total minimum lease payments	$ 41,708

The Company recognizes rent expense on a straight-line basis over the non-cancellable lease term. Rent expense for the years ended December 31, 2017, 2016 and 2015 was $1.2 million, $1.8 million and $0.4 million, respectively.

Operating Lease Obligations - National

As of September 30, 2017, National leases office space in various states expiring at various dates through August 2025, and is committed under operating leases for future minimum lease payments as follows ($ in thousands):

Fiscal Year Ending	Rental Expense	Less, Sublease Income	Net
2018	$ 3,040	$ 360	$ 2,680
2019	2,481	30	2,451
2020	2,346	—	2,346
2021	2,043	—	2,043
2022	1,331	—	1,331
Thereafter	4,524	—	4,524
Total	$ 15,765	$ 390	$ 15,375

Rental expense under all operating leases for the period from September 9, 2016 through September 30, 2016 and for the year ended September 30, 2017 was approximately $0.2 million and $4.3 million, respectively. Sublease income under all operating subleases for the period from September 9, 2016 through September 30, 2016 and for the year ended September 30, 2017 was approximately $8,200 and $0.2 million, respectively.

As of September 30, 2017, and 2016, National had outstanding three letters of credit, which have been issued in the maximum amount of $1.4 million and $0.4 million, respectively, as security for property leases, and are collateralized by the restricted cash as reflected in the statements of financial condition.

Indemnification

In accordance with its certificate of incorporation, bylaws and indemnification agreements, the Company has indemnification obligations to its officers and directors for certain events or occurrences, subject to certain limits, while they are serving at the Company's request in such capacity. There have been no claims to date, and the Company has director and officer insurance to address such claims. Pursuant to agreements with clinical trial sites, the Company provides indemnification to such sites in certain conditions.

Legal Proceedings

Fortress

In the ordinary course of business, the Company and its subsidiaries may be subject to both insured and uninsured litigation. Suits and claims may be brought against the Company by customers, suppliers, partners and/or third parties (including tort claims for personal injury arising from clinical trials of the Company's product candidates and property damage) alleging deficiencies in performance, breach of contract, etc., and seeking resulting alleged damages.

In March 2012, Fortress and Dr. Falk Pharma, GmbH ("Dr. Falk Pharma") entered into a Collaboration Agreement whereby they agreed to collaborate to develop a product for treatment of Crohn's disease. A dispute has arisen between Dr. Falk Pharma and the Company with respect to their relative rights and obligations under the Collaboration Agreement. Specifically, Dr. Falk Pharma contends that it fulfilled its contractual obligations to Fortress and is entitled to the final milestone payment due under the Collaboration Agreement - EUR 2.5 million. Fortress contends that no such payment is due because a condition of the EUR 2.5 million payment was the delivery of a clinical study report that addressed the primary and secondary objectives of a Phase II trial, and Fortress contends that Dr. Falk Pharma failed to deliver such report. Dr. Falk Pharma disputes that it failed to deliver such report and further disputes that the delivery of such report is a condition of Fortress's obligation to make the EUR 2.5 million payment. After the parties' attempts to negotiate a settlement of the dispute were unsuccessful, Dr. Falk Pharma filed a lawsuit against Fortress in Frankfurt, Germany to recover the EUR 2.5 million plus interest and attorneys' fees, and Fortress was served with the English translation of the lawsuit on August 11, 2016. Fortress retained counsel in Germany and, on December 14, 2016, filed an answer to the complaint, denying that it had any liability to Dr. Falk Pharma. On August 2, 2017, Fortress received a judgment from the court in Frankfurt awarding the full amount (EUR 2.5 million) plus interest to Dr. Falk Pharma. Fortress has appealed the decision to the Higher Regional Court of Frankfurt on August 28, 2017 and intends to defend its position vigorously on appeal.

At December 31, 2017 and 2016, the Company recorded a liability of approximately $3.0 million and $2.6 million, representing the U.S. dollar equivalent of the EUR 2.5 million on the Consolidated Balance Sheets.

Fortress and Mustang

On January 15, 2016, Dr. Winson Tang ("Tang") filed a Complaint against us in the Superior Court of the State of California, County of Los Angeles. *Winson Tang v. Lindsay Rosenwald et al.,* Case No. BC607346. As amended, the Complaint alleged a breach of contract by us and two of our officers, Dr. Rosenwald and Mr. Weiss, and two claims against other Defendants, including Mustang. On November 3, 2017, Tang and Defendants entered into a Settlement Agreement regarding this matter.

In connection with the legal settlement, above, the Company delivered 200,000 Mustang common shares, held by the Company, to Tang. During the year ended December 31, 2017, Mustang recorded this transaction as a capital contribution from Fortress and a corresponding expense of approximately $2.0 million based upon the closing share price of Mustang shares as of the date of the Settlement Agreement. In addition to the share issuance Mustang paid, in November 2017, a $0.2 million cash settlement to Tang. The total settlement of $2.2 million, was recorded in general and administrative expenses on the Consolidated Statements of Operations.

Litigation and Regulatory Matters – National

National is a defendant or respondent in various pending and threatened arbitrations, administrative proceedings and lawsuits seeking compensatory damages. Several cases have no stated alleged damages. Claim amounts are infrequently indicative of the actual amounts National will be liable for, if any. Further, National has a history of collecting amounts awarded in these types of matters from its brokers that are still affiliated, as well as from those that are no longer affiliated. Many of these claimants also seek, in addition to compensatory damages, punitive or treble damages, and all seek interest, costs and fees. These matters arise in the normal course of business. National intends to vigorously defend itself in these actions, and the ultimate outcome of these matters cannot be determined at this time.

Liabilities for potential losses from complaints, legal actions, government investigations and proceedings are established where management believes that it is probable that a liability has been incurred and the amount of loss can be reasonably estimated. In making these decisions, management bases its judgments on its knowledge of the situations, consultations with legal counsel and its historical experience in resolving similar matters. In many lawsuits, arbitrations and regulatory proceedings, it is not possible to determine whether a liability has been incurred or to estimate the amount of that liability until the matter is close to resolution. However, accruals are reviewed regularly and are adjusted to reflect management's estimates of the impact of developments, rulings, advice of counsel and any other information pertinent to a particular matter. Because of the inherent difficulty in predicting the ultimate outcome of legal and regulatory actions, management cannot predict with certainty the eventual loss or range of loss related to such matters. These amounts are included in accounts payable and other accrued expenses in the statements of financial condition. Awards ultimately paid, if any, may be covered by our errors and omissions insurance policy. While National will vigorously defend itself in these matters and will assert insurance coverage and indemnification to the maximum extent possible, there can be no assurance that such matters will not have a material adverse impact on our financial position, results of operations or cash flows. National has included in "Professional fees" litigation and FINRA related expenses of $0.2 million for the period from September 9, 2016 through September 30, 2016, and $1.5 million for the fiscal year ended September 30, 2017.

17. Employee Benefit Plan

Fortress Biotech, Inc.

On January 1, 2008, the Company adopted a defined contribution 401(k) plan which allows employees to contribute up to a percentage of their compensation, subject to IRS limitations and provides for a discretionary Company match up to a maximum of 4% of employee compensation. For the years ended December 31, 2017, 2016 and 2015, the Company paid a matching contribution of $0.2 million, $0.2 million, and $0.1 million and, respectively.

National Holdings Corporation

In September 2011, National created a new defined contribution 401(k) plan (the "Plan") merging the two plans originally formed prior to the merger of National and vFinance effective October 1, 2011. Under the Plan, employees can elect to defer up to 75% of eligible compensation, subject to certain limitations, by making voluntary contributions to the Plan. National's contributions are made at the discretion of the Board of Directors. For the period from September 9, 2016 through September 30, 2016 National made no contributions to the plan.

18. Related Party Transactions

Other Related Parties

The Company's Chairman, President and Chief Executive Officer, individually and through certain trusts over which he has voting and dispositive control, beneficially owned approximately 13.0%, 12.3%, and 12.2% of the Company's issued and outstanding Common Stock as of December 31, 2017, 2016 and 2015. The Company's Executive Vice Chairman, Strategic Development individually owns approximately 15.2%, 14.5% and 14.8% of the Company's issued and outstanding Common Stock at December 31, 2017, 2016 and 2015.

Service Agreement with Opus Point Management Partners, LLC

On April 3, 2014, the Company entered into a Shared Services Agreement with OPPM in which the parties agreed to share a rented facility as well as costs for certain services, which they individually require for the operation of their respective entities. The Company's Chairman, President and Chief Executive Officer and the Company's Executive Vice President, Strategic Development, are both Co-Portfolio Managers and Partners of OPPM. The Company incurred expense of approximately nil, $84,000 and $24,000 for the years ended December 31, 2017, 2016 and 2015, respectively. This agreement was terminated April 30, 2016 by Fortress as the Company took occupancy of the new office space in April 2016.

Shared Services Agreement with TGTX

In July 2015, TGTX and the Company entered into an arrangement to share the cost of certain research and development employees. The Company's Executive Vice Chairman, Strategic Development, is Executive Chairman and Interim Chief Executive Officer of TGTX. Under the terms of the Agreement, TGTX will reimburse the Company for the salary and benefit costs associated with these employees based upon actual hours worked on TGTX related projects. For the year ended December 31, 2017 and 2016, the Company invoiced TGTX $1.0 million and $0.8 million, respectively. The Company received payments of $0.9 million and $71,800, respectively, for the years ended December 31, 2017 and 2016.

Desk Share Agreements with TGTX and OPPM

In September 2014, the Company entered into Desk Share Agreements with OPPM and TGTX to occupy 20% and 40% of the New York, NY office space that requires TGTX and OPPM to pay their share of the average annual rent of $0.5 million and $1.1 million, respectively. These initial rent allocations will be adjusted periodically for each party based upon actual percentage of the office space occupied. Additionally, the Company has reserved the right to execute desk share agreements with other third parties and those arrangements will also affect the cost of the lease actually borne by the Company. The Desk Share Agreement was amended in May 2016, adjusting the initial rent allocations to 45% for TGTX and 10% for OPPM.

Each initial Desk Share Agreement has a term of five years. The Company took possession of the New York, NY office space in December 2015, commenced build out of the space shortly thereafter and took occupancy of the space in April 2016. The Company expects the total build out costs to approximate $5.1 million and will share the costs with OPPM and TGTX under the Desk Space Agreements. As of December 31, 2016, the Company had paid $1.0 million in rent under the Desk Space Agreements, and invoiced OPPM and TGTX approximately $95,000 and $0.4 million, respectively, for their prorated share of the rent base. In addition, as of December 31, 2016 the Company had incurred $4.8 million in connection with the build out of the space and recorded a receivable of $2.1 million due from TGTX and $0.5 million due from OPPM.

As of December 31, 2017, the Company had paid $2.4 million in rent under the Desk Space Agreements, and invoiced OPPM and TGTX approximately $135,000 and $1.0 million, respectively, for their prorated share of the rent base. In addition, as of December 31, 2017 the Company had incurred $163,000 in connection with the build out of the space and recorded a receivable of $24,000 due from TGTX and $6,600 due from OPPM.

Checkpoint Collaborative Agreements with TGTX

Checkpoint has entered into various agreements with TGTX to develop and commercialize certain assets in connection with its licenses, including a collaboration agreement for some of the Dana Farber licensed antibodies, an option agreement and sponsored research agreement for compounds licensed from NeuPharma, and a sublicense agreement for the Jubilant family of patents. Checkpoint believes that by partnering with TGTX to develop these compounds in therapeutic areas outside of its business focus, it may substantially offset its preclinical costs and milestone costs related to the development and marketing of these compounds in solid tumor indications.

Opus Credit Facility

On September 14, 2016, the Company and Opus Point Health Innovations Fund ("OPHIF") entered into a Credit Facility Agreement (the "Opus Credit Facility"). Fortress's Chairman, President and Chief Executive Officer (Lindsay A. Rosenwald) and Fortress's Executive Vice President, Strategic Development (Michael Weiss), are Co-Portfolio Managers and Partners of OPPM, an affiliate of OPHIF. As such, all of the disinterested directors of Fortress's board of directors approved the terms of the Opus Credit Facility and related agreements. For the years ended December 31, 2017, 2016 and 2015, the Company paid interest expense of $1.1 million, $0.2 million and nil, respectively (see Note 11).

2017 Subordinated Note Financing

On March 17, 2017, the Company and NSC, a subsidiary of National (of which the Company owns 56.6% and Michael Weiss serves as Chairman of the Board of Directors), entered into placement agency agreements with NAM Biotech Fund and NAM Special Situation Fund in connection with the sale of subordinated promissory notes (see Note 11). Pursuant to the terms of the agreements, NSC received a placement agent fee in cash of 10% of the debt raised and warrants equal to 10% of the aggregate principal amount of debt raised divided by the closing share price of the Company's common stock on the date of closing.

For the year ended December 31, 2017, NSC earned a placement agent fee of $2.8 million and a Placement Agent Warrant to purchase 716,180 shares of the Company's common stock, all of which are outstanding, with exercise prices ranging from $3.61 to $4.75. These fees were eliminated in consolidation.

Caelum Convertible Notes

On July 31, 2017 Caelum through NSC, a subsidiary of National, offered up to $10 million, convertible promissory notes to accredited investors (as defined under the U.S. Federal securities laws). Caelum raised $9.9 million in the offering, in three separate closings and paid a placement fee equal to NSC of 10% of the proceeds of the sale or $1.0 million. Additionally NSC received warrants to purchase a number of shares the Caelum's Common Stock equal to 10% of the aggregate amount of shares underlying the Notes with a per share exercise price equal to 110% of the per share conversion price of the Notes; provided, however, that if no Note converts, the exercise price will be $75 million dollars divided by the total number of fully-diluted shares of Common Stock outstanding immediately prior to exercise of the warrant, giving effect to the assumed conversion of all options, warrants, and convertible securities of the Company.

For the year ended December 31, 2017, NSC earned fees of approximately $1.0 million, which were eliminated in consolidation.

Avenue IPO

On June 26, 2017, Avenue completed an IPO in which NSC acted as co-manager and earned fees and commissions of approximately $2.3 million that were deducted from the proceeds. The fees were eliminated in consolidation.

Founders Agreement and Management Services Agreement

The Company has entered into Founders Agreements with each of the Fortress Companies listed in the table below. Pursuant to each Founders Agreement, in exchange for the time and capital expended in the formation of each Fortress Company and the identification of specific assets the acquisition of which result in the formation of a viable emerging growth life science company, the Company will loan each such Fortress Company an amount representing the up-front fee required to acquire assets. Each Founders Agreement has a term of 15 years, which upon expiration automatically renews for successive one-year periods unless terminated by the Company or a Change in Control (as defined in the Founders Agreement) occurs. In connection with each Founders Agreement the Company receives 250,000 Class A Preferred shares (except for that with Checkpoint, in which the Company holds Class A Common Stock). The Class A Preferred Stock (Class A Common Stock with respect to Checkpoint) is identical to common stock other than as to voting rights, conversion rights and the PIK Dividend right (as described below). Each share of Class A Preferred Stock (Class A Common Stock with respect to Checkpoint) is entitled to vote the number of votes that is equal to one and one-tenth (1.1) times a fraction, the numerator of which is the sum of (A) the shares of outstanding common stock and (B) the whole shares of common stock into which the shares of outstanding Class A Preferred Stock (Class A Common Stock with respect to Checkpoint) are convertible and the denominator of which is the number of shares of outstanding Class A Preferred Stock (Class A Common Stock with respect to Checkpoint). Thus, the Class A Preferred Stock (Class A Common Stock with respect to Checkpoint) will at all times constitute a voting majority. Each share of Class A Preferred Stock (Class A Common Stock with respect to Checkpoint) is convertible, at the holder's option, into one fully paid and nonassessable share of common stock of such Fortress Company, subject to certain adjustments. The holders of Class A Preferred Stock (and the Class A Common Stock with respect to Checkpoint), as a class, are entitled receive on each effective date or "Trigger Date" (defined as the date that the Company first acquired, whether by license or otherwise, ownership rights to a product) of each agreement (each a "PIK Dividend Payment Date") until the date all outstanding Class A Preferred Stock (Class A Common Stock with respect to Checkpoint) is converted into common stock or redeemed (and the purchase price is paid in full), pro rata per share dividends paid in additional fully paid and nonassessable shares of common stock ("PIK Dividends") such that the aggregate number of shares of common stock issued pursuant to such PIK Dividend is equal to two and one-half percent (2.5%) of such Fortress Company's fully-diluted outstanding capitalization on the date that is one (1) business day prior to any PIK Dividend Payment Date. The Company has reached agreements with several of the Fortress Companies to change the PIK Dividend Interest Payment Date to January 1 of each year – a change that has not and will not result in the issuance of any additional Fortress Company common stock beyond that amount to which the Company would otherwise be entitled absent such change(s). The Company owns 100% of the Class A Preferred Stock (Class A Common Stock with respect to Checkpoint) of each Fortress Company that has a Founders Agreement with the Company.

As additional consideration under the Founders Agreement, each Fortress Company with which the Company has entered into a Founders Agreement will also: (i) pay an equity fee in shares of the common stock of such Fortress Company, payable within five (5) business days of the closing of any equity or debt financing for each Fortress Company or any of its respective subsidiaries that occurs after the effective date of the Founders Agreement and ending on the date when the Company no longer has majority voting control in such Fortress Company's voting equity, equal to two and one-half (2.5%) of the gross amount of any such equity or debt financing; and (ii) pay a cash fee equal to four and one-half percent (4.5%) of such Fortress Company's annual net sales, payable on an annual basis, within ninety (90) days of the end of each calendar year. In the event of a Change in Control, each such Fortress Company will pay a one-time change in control fee equal to five (5x) times the product of (A) net sales for the twelve (12) months immediately preceding the change in control and (B) four and one-half percent (4.5%).

The following table summarizes, by subsidiary, the effective date of the Founders Agreements and PIK dividend or equity fee payable to the Company in accordance with the terms of the Founders Agreements, Exchange Agreements and the subsidiaries' certificates of incorporation.

Fortress Company	Effective Date [(1)]	PIK Dividend as a % of fully diluted outstanding capitalization	Class of Stock Issued
Helocyte	March 20, 2015	2.5%	Common Stock
Avenue	February 17, 2015	2.5%	Common Stock
Mustang	March 13, 2015	2.5%	Common Stock
Checkpoint	March 17, 2015	0.0%(2)	Common Stock
Cellvation	October 31, 2016	2.5%	Common Stock
Caelum	January 1, 2017	2.5%	Common Stock
Cyprium	March 13, 2017	2.5%	Common Stock
Aevitas	July 28, 2017	2.5%	Common Stock
Tamid	November 30, 2017 (3)	2.5%	Common Stock

(1) - Represents the effective date of each subsidiary's Founders Agreement. Each PIK dividend and equity fee is payable on the annual anniversary of the effective date of the original Founders Agreement.

(2) - Instead of a PIK dividend, Checkpoint pays the Company an annual equity fee in shares of Checkpoint's common stock equal to 2.5% of Checkpoint's fully diluted outstanding capitalization.

(3) – Represents the Trigger Date.

Financing Fees

Pursuant to the Founders' Agreement, Caelum, in connection with each Convertible Note Closing during the three months ended September 30, 2017, issued to Fortress approximately 218,000 shares of its common stock representing the 2.5% fee or approximately $0.2 million.

On June 26, 2017, pursuant to the Founders' Agreement, Avenue, in connection with its IPO, issued to Fortress approximately 158,000 shares or approximately $0.9 million of its common stock representing the 2.5% financing fee.

Equity Fees

The following table summarizes, by subsidiary, the PIK dividend or equity fee recorded by the Company in accordance with the terms of the Founders Agreements, Exchange Agreements and the subsidiaries' certificates of incorporation for the year ended December 31, 2017 ($ in thousands):

Fortress Company	PIK Dividend Date	Year Ended December 31, 2017[1]	Year Ended December 31, 2016
Aevitas[2]	July 28	$ -	$ -
Avenue	February 17	1,103	49
Caelum	January 1	302	-
Cellvation	October 31	8	-
Checkpoint	March 17	2,296	3,919
Cyprium	January 1	1	-
Helocyte	March 20	321	-
Mustang	March 13	9,479	4,396
Tamid[3]	November 30	-	-
Fortress		(13,510)	(8,364)
Consolidated (Income)/Expense		$ -	$ -

Note 1: Includes 2018 PIK dividend accrued for the year ended December 31, 2017, as Type 1 subsequent event
Note 2: Aevitas PIK dividend wll be recorded during the third quarter of 2018
Note 3: Tamid PIK dividend will be recorded during the fourth quarter of 2018

Management Services Agreements

The Company has entered into Management Services Agreements (the "MSAs") with certain of the Fortress Companies. Pursuant to each MSA, the Company's management and personnel provide advisory, consulting and strategic services to each Fortress Company that has entered into an MSA with Fortress for a period of five (5) years. Such services may include, without limitation, (i) advice and assistance concerning any and all aspects of each such Fortress Company's operations, clinical trials, financial planning and strategic transactions and financings and (ii) conducting relations on behalf of each such Fortress Company with accountants, attorneys, financial advisors and other professionals (collectively, the "Services"). Each such Fortress Company is obligated to utilize clinical research services, medical education, communication and marketing services and investor relations/public relation services of companies or individuals designated by Fortress, provided those services are offered at market prices. However, such Fortress Companies are not obligated to take or act upon any advice rendered from Fortress, and the Company shall not be liable to any such Fortress Company for its actions or inactions based upon the Company's advice. The Company and its affiliates, including all members of Fortress' Board of Directors, have been contractually exempted from fiduciary duties to each such Fortress Company relating to corporate opportunities.

The following table summarizes, by Fortress Company, the effective date of the MSA and the annual consulting fee payable by the subsidiary to the Company in quarterly installments ($ in thousands):

Fortress Company	Effective Date	R&D	G&A	Annual MSA Fee (Income)/Expense
Helocyte	March 20, 2015	$ 250	$ 250	$ 500
Avenue	February 17, 2015	250	250	500
Mustang	March 13, 2015	250	250	500
Checkpoint	March 17, 2015	250	250	500
Cellvation	October 31, 2016	250	250	500
Caelum	January 1, 2017	250	250	500
Cyprium	March 13, 2017	250	250	500
Aevitas	July 28, 2017	250	250	500
Tamid	November 30, 2017 (1)	250	250	500
Fortress		(2,250)	(2,250)	(4,500)
Consolidated (Income)/Expense		$ -	$ -	$ -

(1) – Represents the Trigger Date.

Fees and Stock Grants Received by Fortress

Fees recorded in connection with the Company's agreements with its subsidiaries re eliminated in consolidation. These include management services fees, issuance of common shares of Fortress Companies in connection with third party raises and annual stock dividend or issuances on the anniversary date of respective Founders Agreements.

Chord Advisors, LLC

In May 2015, the Company entered into a full-service consulting agreement with Chord Advisors, LLC ("Chord") to provide advisory accounting services. Under the terms of the agreement, the Company pays Chord $10,000 per month to provide technical accounting and financial reporting support. Either party upon 30-days written notice can terminate the agreement. Mr. Horin, Managing Partner of Chord, serves as Interim Chief Financial Officer to Caelum andHelocyte. Pursuant to the agreements with Helocyteand Caelum, Chord provides back office accounting support and accounting policy and financial reporting services, including the services of Mr. Horin. Chord receives up to $5,000 per month from Caelum and Helocyte, and up to $7,500 per month in a separate agreement with Mustang. Checkpoint and Avenue are billed at a blended hourly rate, for services incurred. For the years ended December 31, 2017, 2016 and 2015, Checkpoint incurred approximately $65,000, $75,000 and $10,000, respectively, and Avenue incurred approximately $64,700, $15,000 and nil, respectively, in hourly fees.

National

In September 2016, pursuant to the terms of the Merger Agreement between National and Fortress, the Company acquired 56.6% of National for $22.9 million, thereby becoming the majority shareholder of National. The Company's Executive Vice Chairman, Strategic Development is the Chairman of the Board of National. In the normal course, National provides the Company and the Company's subsidiaries with placement agent services in connection with third party raises.

The following table summarizes, by entity, fees earned by National for the periods ending September 30, 2017 and 2016, respectively ($ in thousands):

Fortress Company	Description	September 30, 2017	September 30, 2016
Fortress	Subordinated Financing	$ 2,836	$ -
Avenue	IPO Fees	2,331	-
Mustang	Private Placement Offering	9,527	1,265
Caelum	Convertible Debt Raise	991	-
Total Fees per Fortress		15,685	1,265
Less:	Mustang fee recorded by National in 2016	1,265	-
Total National Fees		$ 14,420	$ 1,265

Additionally, the Company's Chairman, President and Chief Executive Officer and the Company's Executive Vice Chairman, Strategic Development are both Co-Portfolio Managers and Partners of OPPM which owns approximately 4.6% of National.

19. Income Taxes

Deferred income taxes reflect the net tax effects of (a) temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes, and (b) operating losses and tax credit carryforwards.

The components of the income tax provision (benefit) are as follows:

($ in thousands)	For the years ended December 31, 2017	2016
Current		
Federal	$ 1,074	$ -
State	439	-
Deferred		
Federal	-	-
State	-	-
Total	$ 1,513	$ -

The Company has incurred net operating losses since inception. The Company has not reflected any benefit of such net operating loss carryforwards ("NOL") in the accompanying consolidated financial statements and has established a valuation allowance of $101.6 million against its net deferred tax assets. Deferred income taxes reflect the net tax effects of (a) temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes, and (b) operating losses and tax credit carryforwards.

The significant components of the Company's deferred taxes consist of the following:

($ in thousands)	As of December 31, 2017	2016
Deferred tax assets:		
Net operating loss carryforwards	$ 71,616	$ 76,486
Amortization of license fees	13,648	7,277
Amortization of in-process R&D	557	742
Stock compensation	10,682	10,899
Accruals and reserves	5,166	4,025
Tax credits	7,376	6,305
Start up costs	75	98
Unrealized loss on investments	-	1,095
Total deferred tax assets	109,120	106,927
Less: valuation allowance	(101,645)	(94,687)
Net deferred tax assets	$ 7,475	$ 12,240
Deferred tax liabilities:		
Unrealized gain/loss on investment	$ (685)	$ -
Intangibles	(3,321)	(4,450)
Basis in subsidiary	(3,469)	(7,790)
Total deferred tax assets, net	$ -	$ -

A reconciliation of the statutory tax rates and the effective tax rates is as follows:

	For the Year Ended December 31,		
	2017	**2016**	**2015**
Percentage of pre-tax income:			
U.S. federal statutory income tax rate	35%	35%	35%
State taxes, net of federal benefit	8%	3%	5%
Credits	1%	2%	1%
Non-deductible items	(2%)	(4%)	-%
Provision to return	1%	2%	-%
Stock based compensation shortfall	(1)%	(2)%	(1)%
Change in federal rate	(43)%	-%	-%
Change in state rate	2%	-%	-%
Intercomapny elimination adjustments	(3)%	-%	-%
Change in fair value of warrants	3%	-%	-%
Change in valuation allowance	(7)%	(33)%	(44)%
Change in subsidiary basis	4%	(3)%	3%
Other	-%	-%	1%
Effective income tax rate	(2)%	-%	-%

The Company files a consolidated income tax return with Subsidiaries for which the Company has an 80% or greater ownership interest. Subsidiaries for which the Company does not have an 80% or more ownership are not included in the Company's consolidated income tax group and file their own separate income tax return. As a result, certain corporate entities included in these financial statements are not able to combine or offset their taxable income or losses with other entities' tax attributes.

On December 22, 2017, "H.R.1", formerly known as the "Tax Cuts and Jobs Act", was signed into law. Among other items, H.R.1 reduces the federal corporate tax rate to 21% from the existing maximum rate of 35%, effective January 1, 2018. As a result, the Company has recorded a decrease related to its deferred tax assets and valuation allowance of $42.2 million, with a corresponding net adjustment to deferred income tax expense of zero for the year ended December 31, 2017.

The SEC staff issued Staff Accounting Bulletin 118 ("SAB 118") to address the application of U.S. GAAP in situations when a registrant does not have the necessary information available, prepared or analyzed in reasonable detail to complete the accounting for certain income tax effects of the Tax Act and allows the registrant to record provisional amounts during the measurement period. The Company is in the process of analyzing the impact of the various provisions of the Tax Act. The Company expects to complete its analysis within the measurement period in accordance with SAB 118.

ASC 740 requires a valuation allowance to reduce the deferred tax assets reported if, based on the weight of all positive and negative evidence, it is more likely than not that some portion, or all, of the deferred tax assets will not be realized. Realization of the deferred tax assets is substantially dependent on the Company's ability to generate sufficient taxable income within certain future periods. Management has considered the Company's history of cumulative tax and book losses incurred since inception, and the other positive and negative evidence, and has concluded that it is more likely than not that the Company will not realize the benefits of the net deferred tax assets as of December 31, 2016 and December 31, 2017. Accordingly, a full valuation allowance has been established against the net deferred tax assets as of December 31, 2016 and December 31, 2017. The valuation allowance increased by a net $7.0 million during the current year.

The Company has incurred net operating losses ("NOLs") since inception. At December 31, 2017, the Company had federal NOLs of $259.0 million, which will begin to expire in the year 2020, state NOLs of $259.0 million, which will begin to expire in 2022, and federal income tax credits of $7.5 million, which will begin to expire in 2028. The utilization of the Company's NOLs and tax credit carryovers are subject to annual Internal Revenue Code Section 382 limitations ("382 Limitations"). Based on the analysis of the NOLs and tax credit carryovers subject to the 382 Limitations, the Company has concluded that the 382 Limitations would not prevent the Company from utilizing all of its NOLs and tax credit carryovers before expiration.

In 2016, the Company acquired approximately 56% of National's outstanding shares on a fully-diluted basis. Management determined that it was more likely than not that the Company will not realize the benefit of National's deferred tax assets. Therefore, the Company established a valuation allowance of $8.8 million against the acquired net deferred tax assets, with a corresponding adjustment to goodwill.

As of December 31, 2017, the Company had no unrecognized tax benefits and does not anticipate any significant change to the unrecognized tax benefit balance. The Company would classify interest and penalties related to uncertain tax positions as income tax expense, if applicable. There was no interest expense or penalties related to unrecognized tax benefits recorded through December 31, 2017. The NOLs from tax years 2006 through 2017 remain open to examination (and adjustment) by the Internal Revenue Service and state taxing authorities. In addition, federal tax years ending December 31, 2014, 2015, 2016, and 2017 are open for assessment of federal taxes.

20. Net Capital Requirements of Broker-Dealer Subsidiaries

National Securities is subject to the SEC's Uniform Net Capital Rule (Rule 15c3-1), which, among other things, requires the maintenance of minimum net capital. In February 2015, pursuant to a directive form FINRA, National Securities reverted back to using the alternative method of computing net capital from the aggregate indebtedness method. At September 30, 2017, National Securities had net capital of $9.2 million which was $9.0 million in excess of its required net capital of $250,000. National Securities is exempt from the provisions of Rule 15c-3-3 since it is an introducing broker-dealer that clears all transactions on a fully disclosed basis and promptly transmits all customer funds and securities to clearing brokers. Calculations of net capital and claimed exemptions are reviewed by an independent audit firm on an annual basis.

vFinance Investments is also subject to the SEC's Uniform Net Capital Rule (Rule 15c3-1), which, among other things, requires the maintenance of minimum net capital and requires that the ratio of aggregate indebtedness to net capital, both as defined, shall not exceed 15 to 1. At September 30, 2017, vFinance Investments had net capital of $1.4 million which was $0.4 million in excess of its required net capital of $1.0 million. vFinance Investments ratio of aggregate indebtedness to net capital was .8 to 1. vFinance Investments is exempt from the provisions of Rule 15c-3-3 since it is an introducing broker-dealer that clears all transactions on a fully disclosed basis and promptly transmits all customer funds and securities to clearing brokers. Calculations of net capital and claimed exemptions are reviewed by an independent audit firm on an annual basis.

Advances, dividend payments and other equity withdrawals from its Broker-Dealer Subsidiaries are restricted by the regulations of the SEC, and other regulatory agencies. These regulatory restrictions may limit the amounts that a subsidiary may dividend or advance to the Company.

21. Off Balance Sheet Risk and Concentrations of Credit Risk

National is engaged in trading and providing a broad range of securities brokerage and investment services to a diverse group of retail and institutional clientele, as well as corporate finance and investment banking services to corporations and businesses. Counterparties to National's business activities include broker-dealers and clearing organizations, banks and other financial institutions. National uses clearing brokers to process transactions and maintain customer accounts for National on a fee basis. National permits the clearing firms to extend credit to its clientele secured by cash and securities in the client's account. National's exposure to credit risk associated with the non-performance by its customers and counterparties in fulfilling their contractual obligations can be directly impacted by volatile or illiquid trading markets, which may impair the ability of customers and counterparties to satisfy their obligations to National. National has agreed to indemnify the clearing brokers for losses they incur while extending credit to National's clients. It is National's policy to review, as necessary, the credit standing of its customers and counterparties. Amounts due from customers that are considered uncollectible by the clearing broker are charged back to National by the clearing broker when such amounts become determinable. Upon notification of a charge back, such amounts, in total or in part, are then either (i) collected from the customers, (ii) charged to the broker initiating the transaction and/or (iii) charged to operations, based on the particular facts and circumstances.

National maintains cash in bank deposits, which, at times, may exceed federally insured limits. National has not experienced and does not expect to experience losses on such accounts.

A short sale involves the sale of a security that is not owned in the expectation of purchasing the same security (or a security exchangeable) at a later date at a lower price. A short sale involves the risk of a theoretically unlimited increase in the market price of the security that would result in a theoretically unlimited loss.

22. Segment Information

The Company operates in three reportable segments, Dermatology Product Sales, Pharmaceutical and Biotechnology Product Development and National. The accounting policies of the Company's segments are the same as those described in Note 2. The following tables summarize, for the periods indicated, operating results by reportable segment ($ in thousands):

Year Ended December 31, 2017	Dermatology Products Sales	Pharmaceutical and Biotechnology Product Development	National	Consolidated
Net Revenue	$ 15,520	$ 1,725	$ 170,339	$ 187,584
Direct cost of goods	(3,658)	-	-	(3,658)
Sales and marketing costs	(10,410)	-	-	(10,410)
Research and development	-	(52,486)	-	(52,486)
General and administrative	(1,140)	(39,347)	-	(40,487)
National expenses	-	-	(181,751)	(181,751)
Segment profit (loss) from operations	$ 312	$ (90,108)	$ (11,412)	$ (101,208)
Segment assets	$ 9,644	$ 187,941	$ 48,365	$ 245,950

Year Ended December 31, 2016	Dermatology Products Sales	Pharmaceutical and Biotechnology Product Development	National	Consolidated
Net Revenue	$ 3,587	$ 2,570	$ 10,323	$ 16,480
Direct cost of goods	(790)	-	-	(790)
Sales and marketing costs	(5,774)	-	-	(5,774)
Research and development	-	(35,134)	-	(35,134)
General and administrative	(1,474)	(26,755)	-	(28,229)
National expenses	-	-	(12,263)	(12,263)
Segment loss from operations	$ (4,451)	$ (59,319)	$ (1,940)	$ (65,710)
Segment assets	$ 4,469	$ 115,145	$ 51,117	$ 170,731

Year Ended December 31, 2015	Dermatology Products Sales	Pharmaceutical and Biotechnology Product Development	National	Consolidated
Net Revenue	$ 273	$ 590	$ -	$ 863
Direct cost of goods	-	-	-	-
Sales and marketing costs	(2,850)	-	-	(2,850)
Research and development	-	(29,810)	-	(29,810)
General and administrative	(1,682)	(17,052)	-	(18,734)
Segment loss from operations	$ (4,259)	$ (46,272)	$ -	$ (50,531)
Segment assets	$ 1,965	$ 116,542	$ -	$ 118,610

Corporate pre-tax loss consists of certain expenses that have not been allocated to reportable segments.

Significant Customers

For the year ended December 31, 2017, three of the Company's customers each accounted for more than 10.0% of its total gross product revenue in the amount of $10.8 million, $7.7 million, and $5.4 million, respectively. The revenue from these customers is captured in the product revenue, net line item within the Condensed Consolidated Statements of Operations.

For the year ended December 31, 2016, three of the Company's customers each accounted for more than 10% of its total gross revenue in the amount of $1.9 million, $1.1 million, and $0.7 million respectively.

For the year ended December 31, 2015, 100% of net revenue related to co-promotion revenue.

At December 31, 2017, three of the Company's customers each accounted for more than 10.0% of its total accounts receivable balance in the amount of $1.9 million, $1.5 million, and $0.9 million, respectively.

At December 31, 2016, two of the Company's customers each accounted for more than 10.0% of its total accounts receivable balance in the amount of $1.1 million and $0.5 million, respectively.

Net Revenue from Pharmaceutical and Biotechnology Product Development represents collaboration revenue from TGTX in connection with Checkpoint, which is classified as related party revenue.

23. Subsequent Events

2018 Venture Debt Financing

On February 28, 2018 the Company entered into Note Purchase Agreements (the "Purchase Agreements") with NSC Biotech Opportunities Fund, LLC I ("NSC Biotech Opportunities Fund") and NSC Biotech Opportunities Fund QP, LLC ("NSC Biotech QP Fund"), both of which are accredited investors, and sold subordinated promissory notes (the "Notes") of the Company (the "2018 Venture Debt Financing") in the aggregate principal amount of $6.5 million. The Notes bear interest at the rate of 8% per annum. Each Note matures on the 24 month anniversary of issuance, provided that the Company may extend the maturity date for two six-month periods. The 2018 Venture Debt Financing is for a maximum of $30.0 million and is set to expire on March 31, 2018.

The Company entered into a Placement Agreement with National Securities Corporation ("NSC"), a subsidiary of National and a related party, (see Note 18). Pursuant to the terms of the Agreement NSC as placement agent for both funds receives an 8% cash fee and fees and expenses are capped at $0.3 million.

The 2018 Venture Debt Financing allows for transfer of indebtedness to existing and future Fortress Companies. At the time such debt is transferred to the Fortress Company, the respective fund is issued a warrant to purchase a number of shares of common stock of the Fortress Company equal to twenty five percent (25%) of the Fortress Company's share of proceeds divided by the lowest price at which equity securities are sold in the first third party financing of the Fortress Company.

On February 28, 2018, the Company raised gross proceeds of $6.5 million and paid NSC placement agent fees of $0.5 million.

Checkpoint Public Offering of Common Stock

On March 8, 2018, Checkpoint announced the pricing of an underwritten public offering, whereby it sold 4,600,000 shares of its common stock (plus a 45-day option to purchase up to an additional 690,000 shares of common stock, which has been exercised) at a price of $4.35 per share for gross proceeds of approximately $23.0 million. Total net proceeds from this offering, including the overallotment, were approximately $20.9 million, net of underwriting discounts and estimated offering expenses of approximately $2.0 million. The shares were sold under a Registration Statement (No. 333-221493) on Form S-3, filed by Checkpoint with the Securities and Exchange Commission. The offering closed on March 12, 2018.

Opus Credit Facility Agreement Maturity Date Extension

On March 12, 2018, the Company and OPHIF amended and restated the Opus Credit Facility (the "A&R Opus Credit Facility"). The A&R Opus Credit Facility extends the maturity date of the notes issued under the Opus Credit Facility from September 14, 2018 by one year to September 14, 2019. The A&R Opus Credit Facility also permits the Company to make portions of interest and principal repayments in the form of shares of the Company's common stock and/or in common stock of the Company's publicly-traded subsidiaries, subject to certain conditions. Fortress retains the ability to prepay the Notes at any time without penalty. The notes payable under the A&R Opus Credit Facility continue to bear interest at 12% per annum.

Discontinuation of Helocyte PepVax Development.

During the first quarter of 2018, Helocyte elected to discontinue the further development of its HLA-restricted, single-antigen PepVax program.

24. Selected Quarterly Financial Data (Unaudited)

The following table contains quarterly financial information for fiscal years 2017 and 2016. The Company believes that the following information reflects all normal recurring adjustments necessary for a fair statement of the information for the periods presented.

($ in thousands, except per share data)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
2017				
Total Revenue	$ 44,682	$ 50,697	$ 46,886	$ 45,319
Operating expenses	$ (62,259)	$ (73,890)	$ (79,489)	$ (73,154)
Other income/(expense)	$ 3,015	$ 244	$ (3,704)	$ 3,330
Income tax expense	$ -	$ -	$ -	$ 1,513
Non-controlling interests	$ 2,580	$ 5,584	$ 9,191	$ 15,605
Net loss attributable to common stockholders	$ (11,982)	$ (17,365)	$ (27,116)	$ (10,413)
Basic and diluted net loss per common share	$ (0.30)	$ (0.43)	$ (0.67)	$ (0.25)
2016				
Total Revenue	$ 660	$ 2,230	$ 975	$ 14,405
Operating expenses	$ (15,571)	$ (17,042)	$ (17,180)	$ (32,217)
Other income/(expense)	$ (1,552)	$ (1,253)	$ (710)	$ (2,065)
Non-controlling interests	$ 4,438	$ 3,911	$ 3,975	$ 3,871
Net loss attributable to common stockholders	$ (12,205)	$ (12,478)	$ (12,981)	$ (17,431)
Basic and diluted net loss per common share	$ (0.31)	$ (0.31)	$ (0.32)	$ (0.43)

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.

Fortress Biotech, Inc.

March 16, 2018

By: /s/ Lindsay A. Rosenwald, M.D.
Lindsay A. Rosenwald, M.D.
Chairman, President and Chief Executive Officer (Principal Executive Officer)

POWER OF ATTORNEY

We, the undersigned directors and/or executive officers of Fortress Biotech, Inc., hereby severally constitute and appoint Lindsay A. Rosenwald, M.D., acting singly, his or her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him or her in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing necessary or appropriate to be done in connection therewith, as fully for all intents and purposes as he or she might or could do in person, hereby approving, ratifying and confirming all that said attorney-in-fact and agent, or his 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/ Lindsay A. Rosenwald, M.D. Lindsay A. Rosenwald, M.D.	Chairman of the Board of Directors, President and Chief Executive Officer (*Principal Executive Officer*)	March 16, 2018
/s/ Robyn M. Hunter Robyn M. Hunter	Chief Financial Officer (*Principal Financial Officer*)	March 16, 2018
/s/ Eric K. Rowinsky, M.D. Eric K. Rowinsky, M.D.	Vice Chairman of the Board of Directors	March 16, 2018
/s/ Michael S. Weiss Michael S. Weiss	Executive Vice Chairman, Strategic Development and Director	March 16, 2018
/s/ Jimmie Harvey, Jr., M.D. Jimmie Harvey, Jr., M.D.	Director	March 16, 2018
/s/ Malcolm Hoenlein Malcolm Hoenlein	Director	March 16, 2018
/s/ Dov Klein Dov Klein	Director	March 16, 2018
/s/ J. Jay Lobell J. Jay Lobell	Director	March 16, 2018

EXHIBIT 31.1

CERTIFICATION PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Lindsay A. Rosenwald, M.D. certify that:

(1) I have reviewed this Annual Report on Form 10-K for the year ended December 31, 2017 of Fortress Biotech, Inc. (the "Registrant");

(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 the 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 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.

Dated: March 16, 2018

By: /s/ Lindsay A. Rosenwald, M.D.
Lindsay A. Rosenwald, M.D.
Chairman, President and Chief Executive Officer
(Principal Executive Officer)

EXHIBIT 31.2

CERTIFICATION PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Robyn M. Hunter certify that:

(6) I have reviewed this Annual Report on Form 10-K for the year ended December 31, 2017 of Fortress Biotech, Inc. (the "Registrant");

(7) 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;

(8) 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;

(9) 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 the 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

(10) 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 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.

Dated: March 16, 2018

By: /s/ Robyn M. Hunter
Robyn M. Hunter
Chief Financial Officer
(Principal Financial Officer)

EXHIBIT 32.1

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

In connection with the Annual Report on Form 10-K of Fortress Biotech, Inc. (the "Company") for the period ended December 31, 2017, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Lindsay A. Rosenwald, M.D., Chairman, President and Chief Executive Officer of the Company, hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

(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 results of operations of the Company as of, and for, the periods presented in the Report.

Dated: March 16, 2018

By: /s/ Lindsay A. Rosenwald, M.D.
Lindsay A. Rosenwald, M.D.
Chairman, President and Chief Executive Officer
(Principal 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 on Form 10-K of Fortress Biotech, Inc. (the "Company") for the period ended December 31, 2017, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Robyn M. Hunter, Chief Financial Officer of the Company, hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

(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 results of operations of the Company as of, and for, the periods presented in the Report.

Dated: March 16, 2018

By: /s/ Robyn M. Hunter
Robyn M. Hunter
Chief Financial Officer
(Principal Financial Officer)

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Board of Directors

Lindsay A. Rosenwald, M.D., Chairman and Director
Chairman of the Board, President and Chief Executive Officer, Fortress Biotech, Inc.
Co-Portfolio Manager and Partner, Opus Point Partners Management, LLC

Michael S. Weiss, Vice Chairman and Director
Executive Vice Chairman, Strategic Development, Fortress Biotech, Inc.
Executive Chairman, President and Chief Executive Officer, TG Therapeutics, Inc.
Co-Portfolio Manager and Partner, Opus Point Partners Management, LLC

Eric K. Rowinsky, M.D., Director
Co-Vice Chairman of the Board, Fortress Biotech, Inc.
Executive Chairman and President, Rgenix, Inc.

Jimmie Harvey, Jr., M.D., Director
Founder, Alabama Oncology, L.L.C.

Malcolm Hoenlein, Director
Chief Executive Officer and Executive Vice Chairman, Conference of Presidents of Major American Jewish Organizations

Dov Klein, CPA, Director
Partner, Marks Paneth LLP

J. Jay Lobell, Director
CEO and Co-Founder, GMF Capital LLC
Senior Consultant, Meridian Capital Group, LLC

Financial Reports

Copies of the Company's Annual Report on Form 10-K as filed with the Securities and Exchange Commission are available at www.fortressbiotech.com or on request, free of charge, by calling (781) 652-4500 or emailing ir@fortressbiotech.com.

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