Filed Pursuant to Rule 424(b)(4)
Registration Nos. 333-217225 and 333-217365

PROSPECTUS

5,200,000 Shares

Common Stock

We are offering 5,200,000 shares of our common stock.

Our common stock is listed on The NASDAQ Global Market under the symbol "BOLD." The last reported sale price of our common stock on The NASDAQ Global Market on April 18, 2017 was $15.19 per share. We are an "emerging growth company" as defined under the federal securities laws and, as such, have elected to comply with certain reduced public company reporting requirements.

Investing in the common stock involves risks that are described in the section entitled "Risk Factors" beginning on page 13 of this prospectus.

	Per Share	Total
Public offering price	$14.50	$75,400,000
Underwriting discounts and commissions(1)	$.87	$4,524,000
Proceeds, before expenses, to us	$13.63	$70,876,000

(1) See the section entitled "Underwriting" for a description of the compensation payable to the underwriters.

The underwriters may also exercise their option to purchase up to an additional 780,000 shares from us, at the public offering price, less the underwriting discounts and commissions, for 30 days after the date of this prospectus.

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

The shares will be ready for delivery on or about April 24, 2017.

Joint Book-Running Managers

BofA Merrill Lynch **Cowen and Company** **Piper Jaffray**

Co-Manager

Wedbush PacGrow

The date of this prospectus is April 18, 2017

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Neither we nor the underwriters have authorized anyone to provide any information or to make any representations other than those contained in this prospectus or in any free writing prospectuses we have prepared. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The information in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or any sale of shares of our common stock. Our business, financial condition, results of operations and prospects may have changed since that date.

For investors outside the United States: Neither we nor the underwriters have done anything that would permit our public offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of our common stock and the distribution of this prospectus outside of the United States.

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus and does not contain all of the information you should consider in making your investment decision. Before deciding to invest in shares of our common stock, you should read this summary together with the more detailed information, including our consolidated financial statements and the accompanying notes, which are incorporated by reference into this prospectus. You should carefully consider, among other things, the matters discussed in the sections entitled "Risk Factors" and "Selected Consolidated Financial Data" included elsewhere in this prospectus and our consolidated financial statements and the accompanying notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations" incorporated by reference into this prospectus. Some of the statements in this prospectus constitute forward-looking statements that involve risks and uncertainties. See "Special Note Regarding Forward-Looking Statements."

Audentes Therapeutics, Inc.

Overview

We are a biotechnology company focused on developing and commercializing gene therapy products for patients suffering from serious, life-threatening rare diseases caused by single gene defects. We believe that gene therapy has powerful potential to treat these diseases through delivery of a functional copy of the affected gene to cells, resulting in production of the normal protein. We have built a compelling portfolio of product candidates, including AT132 for the treatment of X-Linked Myotubular Myopathy, or XLMTM, AT342 for the treatment of Crigler-Najjar Syndrome, or Crigler-Najjar, AT982 for the treatment of Pompe disease and AT307 for the treatment of the CASQ2 subtype of Catecholaminergic Polymorphic Ventricular Tachycardia, or CASQ2-CPVT. The Investigational New Drug applications, or INDs, for both AT132 and AT342 are active. Our collaborating institution, the University of Florida, has submitted an investigator sponsored IND to conduct a proof-of-concept study of AT982 delivered via intra-muscular injection in adults with Pompe disease that is currently under review by the U.S. Food and Drug Administration, or FDA. We are conducting IND-enabling preclinical studies for the systemic administration of AT982 for the treatment of Pompe disease and exploratory preclinical studies evaluating intrathecal delivery of AT982. We plan to file an IND for the systemic administration of AT982 in the first half of 2018. We are also conducting IND-enabling studies of AT307 and plan to file an IND in the second half of 2017. We expect to have preliminary clinical data from the AT132, AT342 and AT982 programs in the second half of 2017. We maintain full global rights to all our product candidates.

We have developed a proprietary in-house cGMP manufacturing capability that we believe provides us with a core strategic advantage, enabling superior control over development timelines, costs and intellectual property. Our manufacturing facility is located in South San Francisco in a building that we have improved to support our research, process development and manufacturing capabilities in accordance with current Good Manufacturing Practices, or cGMP, requirements. We believe we have established a comprehensive platform for production of our adeno-associated virus vector, or AAV, product candidates and plan continued investment to further optimize our manufacturing capabilities to cost-effectively produce high-quality AAV vectors at both clinical and commercial scale. We initiated cGMP manufacturing of our products in our facility in the second half of 2016.

Our vision is to become a fully integrated biotechnology company. In pursuit of this goal, we are executing on our core strategic initiatives, which include the advancement of our current product candidates, the continued development of our proprietary in-house manufacturing capabilities, and the expansion of our pipeline. We have assembled a world-class team with expertise in gene therapy, rare disease drug development and commercialization, and biologics manufacturing.

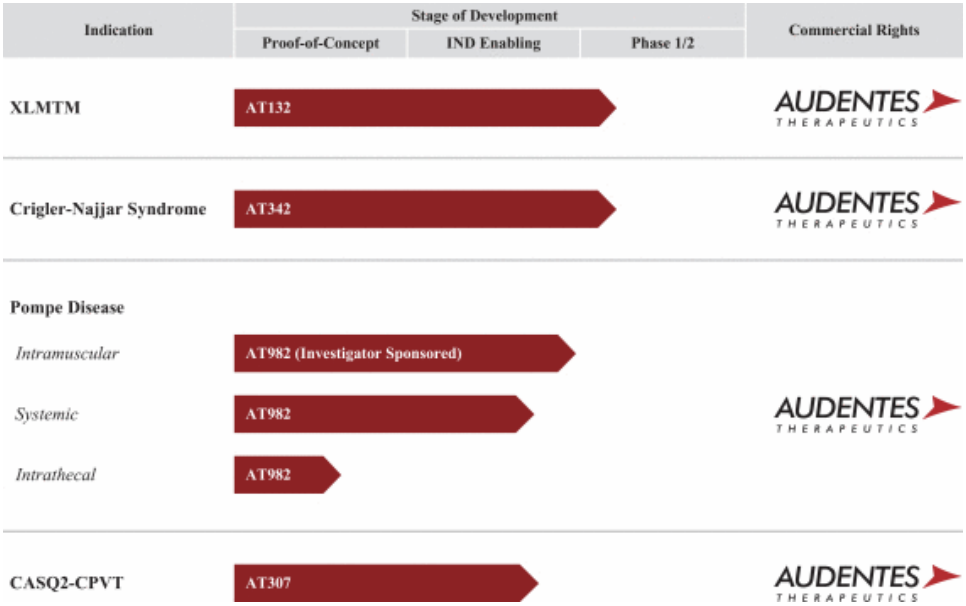
Our mission is to dramatically and positively transform the lives of patients suffering from serious, life- threatening rare diseases with limited or no treatment options. For example, we are developing AT132 to treat XLMTM, a disease for which there are no approved therapies and from which approximately 50% of affected children die in the first 18 months of life. We believe our product candidates have the potential to provide long-lasting benefits, changing the lives of patients with these devastating diseases. Given the available clinical and regulatory pathways, we believe that the rarity and severity of the diseases we target may provide advantages for drug development, including the potential for expedited development and regulatory review, and market exclusivity.

We focus on the treatment of rare diseases caused by single gene, or monogenic, defects in DNA that we believe can be effectively addressed using gene therapy. Conventional approaches such as protein therapeutics attempt to replace the deficient protein, but they do not correct the underlying genetic defect causing the disease. In addition, protein therapeutics often require frequent administration by injection or infusion and often result in sub-optimal safety and efficacy. We believe gene therapy is an ideal treatment modality for diseases caused by monogenic defects. Our portfolio of product candidates employs the use of AAV, a small, non-pathogenic virus that is genetically engineered to function as a delivery vehicle, or vector, and is administered to a patient to introduce a healthy copy of a mutated gene to the body. AAV gene therapy vectors are modified such that they will not cause an infection like a normal virus, but are capable of delivering therapeutic genes into patients' cells. Vectors derived from AAV have a well-established safety profile in humans and have been shown to effectively deliver genes to the liver, eye, muscle and brain. Preclinical and clinical data demonstrate that AAV vectors are capable of providing durable efficacy with a favorable adverse event profile due at least in part to AAV's low immunogenic potential. AAV vectors can be described by the serotype, or strain, of the original virus isolate that was used to form the outer shell, or capsid, of the vector. We selected AAV8 and AAV9 as our in-licensed vector capsid serotypes, based on their biological properties, which we believe will translate into positive clinical effect in our target indications.

Our business model is to develop and commercialize a broad portfolio of gene therapy product candidates to treat rare diseases. We use a focused set of criteria to select product candidates that we believe have the best chance of success. These criteria include:

- serious, life-threatening rare diseases;
- monogenic diseases with well-understood biology;
- disease characteristics well-suited for treatment with AAV gene therapy technology;
- high potential for meaningful clinical benefit;
- compelling preclinical data;
- clear measures for evaluation in clinical trials; and
- opportunities for expedited development through established regulatory pathways.

We have built a portfolio of gene therapy product candidates and we intend to further expand our portfolio over time. Set forth below is a table summarizing our development programs.



AT132. XLMTM is characterized by extreme muscle weakness, respiratory failure and early death with an estimated 50% mortality rate in the first 18 months of life. The disease is the result of mutations in the MTM1 gene that affect the production of myotubularin, an enzyme required for normal development and function of skeletal muscle. The incidence of XLMTM is estimated to be one in 50,000 male births. Currently, only supportive treatment options, such as ventilator use or a feeding tube, are available. We are developing AT132, an AAV8 vector containing a functional copy of the MTM1 gene, for the treatment of XLMTM. We believe AT132 may provide patients with significantly improved outcomes based on the ability of AAV8 to treat skeletal muscle. Preclinical study results in both canine and murine models of the disease demonstrated dramatic improvements in all outcomes, including histology, muscle strength, respiratory function and survival. Our goal is to achieve these same benefits in XLMTM patients following a single intravenous administration of AT132.

The clinical development plan for AT132 consists of three studies to evaluate AT132 in children with XLMTM and to characterize the disease. The IND for AT132 is active, and we have initiated RECENSUS, a retrospective medical chart review study, and INCEPTUS, a clinical assessment and Phase 1/2 run-in study. We recently reported initial data from RECENSUS that confirms and expands upon the understanding of the significant medical burden associated with XLMTM. Key observations noted in the initial analysis of 112 male patients include:

- overall mortality was 44% (64% of patients ≤18 months of age; 32% of patients >18 months of age);
- in the first year of life, infants with XLMTM spent 35% of their time in the hospital and underwent an average of 3.7 surgeries;

- at birth, 95% of the patients were hypotonic and 90% required respiratory support;
- 48% of the patients required 24-hour ventilation and 60% had received a tracheostomy. Those patients that were not ventilated 24-hours per day still spent an average of 8.5 hours daily on a ventilator; and
- the majority of patients for whom data were available were receiving the most invasive forms of ventilatory support (67%—CPAP/BiPAP, and 64%—IPPV/SIMV/Pressure support).

We plan to report preliminary data from INCEPTUS in mid-2017, and are planning to initiate ASPIRO, the Phase 1/2 study of AT132 this year, and to report preliminary clinical data from ASPIRO in the fourth quarter of 2017. AT132 has been granted orphan drug designation in both the United States and European Union.

AT342. Crigler-Najjar is a rare, congenital autosomal recessive monogenic disease characterized by severely high levels of bilirubin in the blood and risk of irreversible neurological damage and death. The average life expectancy is reported as being 30 years of age with phototherapy. Crigler-Najjar is estimated to affect approximately one in 1,000,000 newborns. Infants with Crigler-Najjar develop severe jaundice shortly after birth resulting in rapid presentation and diagnosis. Crigler-Najjar is caused by mutations in the gene encoding the UGT1A1 (uridine-diphosphate (UDP)-glucuronosyltransferase (UGT) 1A1) enzyme resulting in an inability to convert unconjugated bilirubin to a water-soluble form that can be excreted from the body. Clinical diagnosis is confirmed via genetic testing of the UGT1A1 gene. The current standard of care for Crigler-Najjar is aggressive management of high bilirubin levels with persistent, daily phototherapy, usually for longer than 12 hours per day using intense fluorescent light focused on the bare skin, while the eyes are shielded. Phototherapy speeds bilirubin decomposition and excretion and lowers serum bilirubin levels, although not to normal levels. Phototherapy wanes in effectiveness beginning around age four due to thickening of the skin and a reduction in surface area to body mass ratio, and a liver transplant may be required for survival.

We are developing AT342, an AAV8 vector containing a functional version of the UGT1A1 gene. We have conducted a dose ranging study of AT342 in a Crigler-Najjar knockout mouse model. In this study, a single tail vein injection of AT342 rapidly reduced and normalized bilirubin levels for the duration of the study, an effect that was seen across a range of doses. Previously reported results demonstrate that administration of AAV8-UGT1A1 in newborn Crigler-Najjar mice significantly and durably reduced bilirubin levels, even at UGT1A1 liver expression levels of just five to eight percent of normal. We are advancing AT342 with the goal of administering a single dose that results in a robust, durable reduction in serum bilirubin, a reduction in or elimination of lengthy daily phototherapy, and elimination of the need for a liver transplant. We believe that serum bilirubin levels will be a clinically relevant endpoint and that determination of efficacy of AT342 will be straightforward due to the ease and reliability of measurement.

The IND for AT342 is active, and we have initiated LUSTRO, a clinical assessment and a Phase 1/2 run-in study designed to characterize the disease course, natural history, bilirubin variability and phototherapy usage of patients with Crigler-Najjar. We plan to report initial data from the LUSTRO study in mid-2017. We are also planning to initiate VALENS, the Phase 1/2 clinical study of AT342, and to report preliminary clinical data from VALENS in the fourth quarter of 2017. AT342 has been granted orphan drug designation in both the United States and European Union.

AT982. Pompe disease is a serious, progressive genetic disease characterized by severe muscle weakness, respiratory failure leading to ventilator dependence and, in infants, increased cardiac mass and heart failure. In untreated infants, the disease is often fatal due to cardio-respiratory failure within the first year of life. Pompe disease is caused by mutations in the gene encoding the lysosomal enzyme alpha-glucosidase, or GAA, which results in a deficiency of GAA protein and leads to the accumulation of glycogen. The incidence of Pompe

disease is approximately one in 40,000 births. The only approved treatment for Pompe disease is enzyme replacement therapy, or ERT, which is a chronic treatment delivered in bi-weekly intravenous infusions. Despite the availability of ERT, significant medical need still persists, which is primarily due to the inability of ERT to penetrate key tissues affected by the disease and immunogenicity of ERT. We believe our approach with AT982, which uses an AAV serotype 9 capsid vector containing a functional copy of the GAA gene, can overcome the limitations of ERT and provide long-term improvement in patient symptoms. Further, we believe AT982 may provide patients with superior outcomes based on the ability of AAV9 to penetrate key cells and tissues affected by the disease, such as motoneurons, which are not effectively treated with ERT. Preclinical data in a murine model achieved statistically significant improvements in weight gain, ventilation parameters, glycogen deposition and cardiac left ventricle mass. We believe intracellular production of the therapeutic protein may improve efficacy, reduce immunogenicity and deliver a durable therapeutic effect with a single intravenous administration.

Our collaborating institution, the University of Florida, has submitted an investigator sponsored IND to conduct a proof-of-concept study of AT982 delivered via intra-muscular injection in adults with Pompe disease. This IND is currently under review with the FDA. We expect preliminary data from this study to be available in the fourth quarter of 2017. We are conducting IND-enabling preclinical studies for the systemic administration of AT982 and exploratory preclinical studies evaluating intrathecal delivery of AT982. We plan to file an IND for the systemic administration of AT982 in the first half of 2018. AT982 has been granted orphan drug designation in both the United States and European Union.

AT307. CASQ2-CPVT is a rare monogenic disease that is characterized by life-threatening arrhythmias that may lead to sudden cardiac death. There are currently only limited treatment options with variable efficacy for patients suffering from CPVT, including beta-blockers and a sodium channel blocker. The autosomal recessive form of the disease is caused by mutations in the calsequestrin 2 gene, or CASQ2 gene, and is characterized by stress-induced heartbeat rhythm changes in an otherwise structurally normal heart. It is estimated that CPVT occurs in one in 10,000 people, with approximately 2% to 5% due to mutations in the CASQ2 gene. This equates to an approximate prevalence of 6,000 affected people in North America, Europe and other addressable markets. Despite treatment with anti-arrhythmia therapies, sympathectomy and implantable cardiac defibrillators, a significant portion of the patients remain symptomatic. We are developing AT307, an AAV9 vector containing a functional version of the CASQ2 gene. We believe AT307 may provide patients with improved outcomes based on the ability of AAV9 to treat cardiac muscle. Preclinical data in murine models of the disease demonstrated an ability to prevent ventricular tachycardia through restoration of CASQ2 protein expression. We are advancing AT307 with the goal of providing a single administration of AT307 that results in a significant reduction in life-threatening arrhythmic events and a major improvement in quality of life.

We are conducting IND-enabling studies of AT307 and plan to file an IND in the second half of 2017. Thereafter, we plan to initiate a Phase 1/2 study, in which we plan to evaluate the safety of AT307 in patients with CASQ2-CPVT and to use the efficacy endpoint of an exercise electrocardiogram, which we believe provides a clear means to evaluate therapeutic benefit. AT307 has been granted orphan drug designation in both the United States and European Union.

Although we believe our product candidates have the potential to provide long-term improvement in patient symptoms with a single administration, we will need to complete additional preclinical studies and clinical trials to determine the safety and efficacy of our product candidates. The results of these future studies and trials may be different than the results of our earlier studies and trials. We have not received regulatory approval for any of our product candidates, and in order to obtain regulatory approval and commercialize our product candidates, the FDA or foreign regulatory agencies will need to determine that our product candidates are safe and effective. To date, no gene therapy products have been approved in the United States and two have been approved in Europe.

We have a focused, passionate team with collective expertise in gene therapy, rare disease drug development and commercialization, and biologics manufacturing. Matthew Patterson, our President, Chief Executive Officer and Co-Founder, is a biotechnology leader with over 20 years of experience at Genzyme Corporation, BioMarin Pharmaceutical, Amicus Therapeutics and our company.

Our Strategy

Our strategy is to leverage the expertise of our team and the transformative potential of gene therapy technology to develop treatments that improve outcomes for patients with serious, life-threatening rare diseases. Key elements of our strategy are:

- ***Focus on serving patients***. We take pride in our efforts to harness the transformative potential of gene therapy to improve the lives of patients suffering from devastating rare diseases. We intend to continue to engage with patient advocacy groups to better understand the burden of disease and align our efforts with the needs of patients and caregivers.

- ***Advance our lead product candidates through clinical development.*** We have active INDs for AT132 for the treatment of XLMTM and AT342 for the treatment of Crigler-Najjar, and expect to have preliminary clinical data from both programs in the fourth quarter of 2017. We are conducting IND-enabling preclinical studies for the systemic administration of both AT307 to treat CASQ2-CPVT and AT982 to treat Pompe disease, and plan to file INDs for these programs in the second half of 2017 and the first half of 2018, respectively. Over time, we plan to develop and commercialize a broad portfolio of gene therapy product candidates to treat serious, life-threatening rare diseases in indications with high unmet medical need.

- ***Continue to expand our pipeline with additional gene therapy product candidates targeting serious, life-threatening rare diseases.*** We intend to continue leveraging our expertise and focused selection criteria to expand our pipeline of product candidates. Our relationships with leading academic institutions and other rare disease companies are an important component of our strategy for sourcing additional product candidates.

- ***Continue to build our proprietary manufacturing capabilities and invest in a state-of-the-art cGMP facility.*** We believe the quality, reliability and scalability of our gene therapy manufacturing approach will be a core competitive advantage crucial to our long-term success. We initiated cGMP manufacturing of our product candidates in our facility in the second half of 2016.

Our Strengths

We believe our leadership position is based on our following strengths:

- ***Rare disease expertise.*** Led by a management team with over 100 years of combined experience in rare diseases, we are building a fully integrated and industry-leading biotechnology company. Leveraging recent developments in gene therapy, we aim to provide durable and meaningful treatment options to patients suffering from rare monogenic diseases.

- ***Highly focused selection criteria for development programs.*** We employ a disciplined approach to select and expand our pipeline of product candidates. We believe the application of our selection criteria enables the efficient, cost-effective and successful development of our product candidates.

- ***Promising product candidate pipeline.*** On the basis of rigorous preclinical investigation, we are preparing to advance our product candidates into the clinic: AT132 for the treatment of XLMTM,

AT342 for the treatment of Crigler-Najjar, AT982 for the treatment of Pompe disease and AT307 for the treatment of CASQ2-CPVT.

- ***Proprietary know-how and capabilities***. Our proprietary manufacturing capabilities provide a major core strategic advantage, including better control over the cost and timelines of developing our product candidates, superior protection of novel inventions and intellectual property, and expanded possibilities for new programs and partnerships.

- ***Broad network***. We believe our strong relationships with key opinion leaders and patient advocacy groups will support our product development efforts and our potential for future commercial success. Leveraging our collaborations with these parties allows us to better understand the diseases we target and optimize our research, clinical development and commercial plans.

Risks Related to Our Business

Our business is subject to numerous risks and uncertainties, including those highlighted in and incorporated by reference into the section entitled "Risk Factors" immediately following this prospectus summary. These risks include, but are not limited to, the following:

- we have a limited operating history and are very early in our development efforts, all of our product candidates are still in preclinical development and we may be unable to advance our product candidates to clinical development, obtain regulatory approval and ultimately commercialize our product candidates;

- we have not tested any of our product candidates in clinical trials, and success in early preclinical studies or clinical trials may not be indicative of results obtained in later preclinical studies and clinical trials;

- if we do not achieve our projected development goals in the time frames we announce and expect, the commercialization of our products may be delayed and, as a result, our stock price may decline;

- our product candidates are based on a novel AAV gene therapy technology with which there is little clinical experience, which makes it difficult to predict the time and cost of product candidate development and subsequently obtaining regulatory approval;

- ethical and legal concerns about gene therapy and genetic testing may result in additional regulations or restrictions on the development and commercialization of our product candidates;

- even if we complete the necessary clinical trials, we cannot predict when, or if, we will obtain regulatory approval to commercialize a product candidate and the approval may be for a more narrow indication than we seek;

- delays in establishing that our manufacturing process and facility comply with cGMPs or disruptions in our manufacturing process may delay or disrupt our development and commercialization efforts;

- we may not be successful in our efforts to build a pipeline of additional product candidates;

- if we are unable to obtain and maintain patent protection for our products and technology, or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize products and technology similar or identical to ours, and our ability to successfully commercialize our products and technology may be adversely affected;

- there have been several adverse side effects identified in clinical trials for other gene therapy product candidates in the past, and our product candidates, which are based on gene therapy technology, may cause undesirable and unforeseen side effects or be perceived by the public as unsafe;

- we have a history of operating losses, and we may not achieve or sustain profitability; and

- all of our current product candidates are licensed from or based upon licenses from third parties, and if any of these license or sublicense agreements are terminated or interpreted to narrow our rights, our ability to advance our current product candidates or develop new product candidates based on these technologies will be materially adversely affected.

Corporate Information

We were incorporated in Delaware in November 2012. Our principal executive offices are located at 600 California Street, 17th Floor, San Francisco, California 94108, and our telephone number is (415) 818-1001. Our website address is www.audentestx.com. The information contained on, or that can be accessed through, our website is not a part of this prospectus. Investors should not rely on any such information in deciding whether to purchase our common stock.

Unless the context indicates otherwise, as used in this prospectus, the terms "company," "Audentes," "Audentes Therapeutics," "Registrant," "we," "us" and "our" refer to Audentes Therapeutics, Inc., a Delaware corporation, and its subsidiaries taken as a whole, unless otherwise noted.

We have registered the trademarks "Audentes," "Audentes Therapeutics" and "Courageous Patients. Bold Effort." in the European Union and we have trademark applications for each of these trademarks pending with the U.S. Patent and Trademark Office. The Audentes logo and all product names are our common law trademarks. All other service marks, trademarks and tradenames appearing in this prospectus are the property of their respective owners. Solely for convenience, the trademarks and trade names referred to in this prospectus appear without the ® and ™ symbols, but those references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights, or the right of the applicable licensor to these trademarks and tradenames.

Implications of Being an Emerging Growth Company

As a company with less than $1.07 billion in revenue during our most recently completed fiscal year, we qualify as an "emerging growth company" as defined in Section 2(a) of the Securities Act of 1933, or the Securities Act, as modified by the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. As an emerging growth company, we may take advantage of certain exemptions from various public company reporting requirements, including:

- an exemption from compliance with the auditor attestation requirement on the effectiveness of our internal control over financial reporting;

- an exemption from compliance with any requirement that the Public Company Accounting Oversight Board may adopt regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements;

- reduced disclosure about our executive compensation arrangements; and

- exemptions from the requirements to obtain a non-binding advisory vote on executive compensation or a stockholder approval of any golden parachute arrangements.

We may take advantage of these exemptions for up to five years after our initial public offering or such earlier time that we are no longer an emerging growth company. Accordingly, the information contained and incorporated by reference herein may be different than the information you receive from other public companies in which you hold stock. We would cease to be an emerging growth company upon the earliest to occur of: the last day of the fiscal year in which we have more than $1.07 billion in annual revenue; the date we qualify as a "large accelerated filer," with at least $700 million of equity securities held by non-affiliates; the issuance, in any three-year period, by us of more than $1.0 billion in non-convertible debt securities; and the last day of the fiscal year ending after the fifth anniversary of our initial public offering.

The JOBS Act also permits us, as an emerging growth company, to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies and thereby allows us to delay the adoption of those standards until those standards would apply to private companies. We have irrevocably elected not to avail ourselves of this exemption from new or revised accounting standards and, therefore, will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

The Offering

Common stock offered by us	5,200,000 shares
Common stock to be outstanding immediately after this offering	26,931,259 shares
Option to purchase additional shares	We have granted to the underwriters the option, exercisable for 30 days from the date of this prospectus, to purchase up to 780,000 additional shares of our common stock.
Use of proceeds	We estimate that the net proceeds from the sale of our common stock sold in this offering will be approximately $70.4 million, based on a public offering price of $14.50 per share, after deducting the underwriting discounts and commissions and estimated offering expenses. We intend to use the net proceeds from this offering to advance AT132 for the treatment of XLMTM; to advance AT342 for the treatment of Crigler-Najjar, to advance AT982 for the treatment of Pompe disease and to advance AT307 for the treatment of CASQ2- CPVT; to improve our internal manufacturing capabilities, and for working capital and other general corporate purposes. See the section entitled "Use of Proceeds."
Risk factors	You should read the section entitled "Risk Factors" and other information included in and incorporated by reference into this prospectus for a discussion of factors you should consider carefully before deciding to invest in shares of our common stock.
NASDAQ Global Market symbol	"BOLD"

The number of shares of our common stock to be outstanding following this offering is based on 21,731,259 shares of our common stock outstanding as of December 31, 2016 and excludes:

- 2,534,622 shares of our common stock issuable upon the exercise of outstanding options as of December 31, 2016, with a weighted-average exercise price of approximately $5.60 per share;
- 1,150,750 shares of our common stock issuable upon the exercise of outstanding options granted after December 31, 2016, with a weighted-average exercise price of $15.79 per share;
- 9,914 shares of our common stock issuance upon the exercise of an outstanding warrant granted after December 31, 2016, with an exercise price of $15.13 per share; and
- 950,342 shares of common stock reserved for future issuance under our stock-based compensation plans as of December 31, 2016, consisting of (i) 740,342 shares of common stock reserved for future issuance under our 2016 Equity Incentive Plan as of December 31, 2016 (consisting of 1,891,092 shares reserved as of December 31, 2016, reduced by 1,150,750 shares underlying stock options granted after December 31, 2016) and (ii) 210,000 shares of common stock reserved for future issuance under our 2016 Employee Stock Purchase Plan. Our 2016 Equity Incentive Plan and

2016 Employee Stock Purchase Plan also provide for automatic annual increases in the number of shares reserved under the plans each year, as more fully described in the section entitled "Executive Compensation—Employee Benefit and Stock Compensation Plans."

Unless otherwise noted, the information in this prospectus assumes no exercise of outstanding options and no exercise of the underwriters' option to purchase additional shares.

SUMMARY CONSOLIDATED FINANCIAL DATA

The following tables summarize our consolidated statements of operations and consolidated balance sheet data. We derived our summary statements of operations data for the years ended December 31, 2014, 2015 and 2016 from our audited consolidated financial statements incorporated by reference into this prospectus. Our historical results are not necessarily indicative of the results that may be expected in any future period.

The summary consolidated financial data below should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and related notes incorporated by reference into this prospectus.

	Year Ended December 31,		
	2016	2015	2014
	(in thousands, except share and per share amounts)		
Operating expenses:			
Research and development	$ 48,770	$ 20,235	$ 9,280
General and administrative	11,276	6,491	1,670
Total operating expenses	60,046	26,726	10,950
Loss from operations	(60,046)	(26,726)	(10,950)
Interest income	472	245	6
Other (expense) income, net	(94)	23	125
Net loss	(59,668)	(26,458)	(10,819)
Net loss per share, basic and diluted(1)	$ (5.59)	$ (23.03)	$ (21.56)
Weighted-average number of shares used in computing net loss per share, basic and diluted(1)	10,673,559	1,148,827	501,707

(1) See Notes 2 and 11 to our audited consolidated financial statements incorporated by reference into this prospectus for an explanation of the calculations of our basic and diluted net loss per share and the shares used in computing basic and diluted net loss per share.

	December 31, 2016	
	Actual	As Adjusted(1)
	(in thousands)	(unaudited)
Consolidated Balance Sheet Data:		
Cash, cash equivalents and short-term investments	$ 104,883	$ 175,239
Property and equipment, net	18,936	18,936
Working capital	95,877	166,233
Total assets	142,057	212,413
Total liabilities	22,686	22,686
Accumulated deficit	(100,411)	(100,411)
Total stockholders' equity	119,371	189,727

(1) The as adjusted consolidated balance sheet data as of December 31, 2016 reflects the sale and issuance of 5,200,000 shares of our common stock in this offering, at the public offering price of $14.50 per share, after deducting the underwriting discounts and commissions and estimated offering expenses.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should consider carefully the risks and uncertainties described below and in our Annual Report on Form 10-K for the year ended December 31, 2016, which is incorporated by reference into this prospectus, together with all of the other information included in or incorporated by reference into this prospectus, including the consolidated financial statements, the notes thereto and the section entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations" in the documents incorporated by reference into this prospectus before deciding whether to invest in shares of our common stock. The risks and uncertainties described below and incorporated by reference into this prospectus are not the only ones we face. Additional risks and uncertainties that we are unaware of or that we deem immaterial may also become important factors that adversely affect our business. If any of the following risks actually occur, our business, financial condition, results of operations and future prospects could be materially and adversely affected. In that event, the market price of our stock could decline, and you could lose part or all of your investment.

Risks Related to this Offering

Our management will have broad discretion over the use of the proceeds we receive in this offering and might not apply the proceeds in ways that increase the value of your investment.

Our management will have broad discretion to use the net proceeds from this offering, including for any of the purposes described in the section entitled "Use of Proceeds," and you will be relying on the judgment of our management regarding the application of these proceeds. You will not have the opportunity to influence our decisions on how to use the proceeds, and we may not apply the net proceeds of this offering in ways that increase the value of your investment. Because of the number and variability of factors that will determine our use of the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. The failure by our management to apply these funds effectively could harm our business. Pending their use, we intend to invest the net proceeds from this offering in marketable securities that may include investment-grade interest-bearing securities, money market accounts, certificates of deposit, commercial paper and guaranteed obligations of the U.S. government. These investments may not yield a favorable return to our stockholders. If we do not invest or apply the net proceeds from this offering in ways that enhance stockholder value, we may fail to achieve expected financial results, which could cause our stock price to decline.

If you purchase our common stock in this offering, you will incur immediate and substantial dilution in the book value of your shares.

You will suffer immediate and substantial dilution in the net tangible book value of our common stock you purchase in this offering. At the public offering price of $14.50 per share, purchasers of common stock in this offering will experience immediate dilution of $7.89 per share in net tangible book value of our common stock. In the past, we issued options, warrants and other securities to acquire common stock at prices below the public offering price. To the extent these outstanding securities are ultimately exercised, investors purchasing common stock in this offering will sustain further dilution. See "Dilution" for a more detailed description of the dilution to new investors in the offering.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference into this prospectus, including the sections entitled "Prospectus Summary," "Risk Factors," "Use of Proceeds," "Management's Discussion and Analysis of Financial Condition and Results of Operations," and "Business," contain forward-looking statements. Forward-looking statements include all statements that are not historical facts and can be identified by the words "believe," "may," "will," "potentially," "estimate," "continue," "anticipate," "intend," "could," "would," "project," "plan," "expect," and similar expressions that convey uncertainty of future events or outcomes.

These forward-looking statements are subject to a number of risks, uncertainties, and assumptions, including those described in and incorporated by reference into "Risk Factors" and elsewhere in this prospectus. Moreover, we operate in a very competitive and rapidly changing environment, and new risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties, and assumptions, the forward-looking events and circumstances discussed in this prospectus may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements.

You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances reflected in the forward-looking statements will be achieved or occur. We undertake no obligation to update publicly any forward-looking statements for any reason after the date of this prospectus to conform these statements to actual results or to changes in our expectations, except as required by law.

You should read this prospectus, the documents incorporated by reference into this prospectus and the documents that we reference in this prospectus and have filed with the SEC as exhibits to the registration statement of which this prospectus is a part, with the understanding that our actual future results, levels of activity, performance and events and circumstances may be materially different from what we expect.

INDUSTRY AND MARKET DATA

Unless otherwise indicated, information contained in or incorporated by reference into this prospectus concerning our industry and the markets in which we operate is based on information from various sources, including independent industry publications. In presenting this information, we have also made assumptions based on such data and other similar sources, and on our knowledge of, and our experience to date in, the potential markets for our product candidates. The industry in which we operate is subject to a high degree of uncertainty and risk due to a variety of factors, including those described in and incorporated by reference into the section entitled "Risk Factors" and in the documents incorporated by reference into this prospectus. These and other factors could cause results to differ materially from those expressed in the estimates made by the independent parties and by us.

USE OF PROCEEDS

We estimate that the net proceeds from our sale of 5,200,000 shares of our common stock in this offering at the public offering price of $14.50 per share, after deducting the underwriting discounts and commissions and estimated offering expenses, will be approximately $70.4 million. If the underwriters' option to purchase additional shares is exercised in full, we estimate that we will receive additional net proceeds of $10.6 million.

We currently intend to use the net proceeds from this offering to advance AT132 for the treatment of XLMTM through the interim six month results from the planned ASPIRO trial; to advance AT342 for the treatment of Crigler-Najjar through the interim six month results from the planned VALENS trial; to advance development of AT982 for the treatment of Pompe disease through preliminary results from a clinical proof-of-concept study of AT982 delivered via intra-muscular injection (being conducted by our collaborating institution, the University of Florida) and through the submission of an IND and initiation of a Phase 1/2 clinical trial for the systemic administration of AT982; to advance preclinical development of AT307 for the treatment of CASQ2-CPVT through submission of an IND and initiation of a Phase 1/2 clinical trial; to improve our internal manufacturing capabilities; and for working capital and other general corporate purposes.

We estimate that our current cash, cash equivalents, short-term investments and the net proceeds from this offering will be sufficient for us to fund our operating expenses and capital expenditure requirements through late 2019.

The expected use of the net proceeds from this offering represents our intentions based upon our current plans and business conditions. As of the date of this prospectus, we cannot predict with any certainty all of the particular uses for the net proceeds or the amounts that we will actually spend on the uses set forth above. We may use a portion of the net proceeds for the acquisition of, or investment in, technologies, intellectual property or businesses that complement our business, although we have no present commitments or agreements to this effect.

The amounts and timing of our future expenditures and the extent of product candidate development may vary significantly depending on numerous factors, including the status, results and timing of our current preclinical studies and clinical trials we may commence in the future, product approval process with the FDA and other regulatory agencies, our current collaborations and any new collaborations we may enter into with third parties and any unforeseen cash needs. As a result, our management will retain broad discretion over the allocation of the net proceeds from this offering.

The expected net proceeds of this offering will not be sufficient for us to fund any of our product candidates through regulatory approval, and we will need to raise substantial additional capital to complete the development and commercialization of our product candidates.

Pending their use as described above, we intend to invest the net proceeds from this offering in marketable securities that may include investment-grade interest-bearing securities, money market accounts, certificates of deposit, commercial paper and guaranteed obligations of the U.S. government.

CAPITALIZATION

The following table sets forth our cash, cash equivalents and short-term investments and total capitalization as of December 31, 2016 on:

- an actual basis; and
- an as adjusted basis to reflect the sale and issuance of 5,200,000 shares of our common stock in this offering, at the public offering price of $14.50 per share, after deducting the underwriting discounts and commissions and estimated offering expenses.

You should read this table together with the section entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and related notes incorporated by reference into this prospectus.

	As of December 31, 2016	
	Actual	As Adjusted
	(in thousands, except share and per share amounts) (unaudited)	
Cash, cash equivalents and short-term investments	$ 104,883	$ 175,239
Stockholders' equity:		
Preferred stock, $0.00001 par value: 10,000,000 shares authorized, no shares issued and outstanding, actual; 10,000,000 shares authorized, no shares issued and outstanding, as adjusted	$ —	$ —
Common stock, $0.00001 par value: 300,000,000 shares authorized, 21,731,259 shares issued and outstanding, actual; 300,000,000 shares authorized, 26,931,259 shares issued and outstanding, as adjusted	—	—
Additional paid-in capital	219,811	290,167
Accumulated deficit	(100,411)	(100,411)
Accumulated other comprehensive loss	(29)	(29)
Total stockholders' equity	119,371	189,727
Total capitalization	$ 119,371	$ 189,727

The table above excludes the following shares:

- 2,534,622 shares of our common stock issuable upon the exercise of outstanding options as of December 31, 2016, with a weighted-average exercise price of approximately $5.60 per share;
- 1,150,750 shares of our common stock issuable upon the exercise of outstanding options granted after December 31, 2016, with a weighted-average exercise price of $15.79 per share;
- 9,914 shares of our common stock issuance upon the exercise of an outstanding warrant granted after December 31, 2016, with an exercise price of $15.13 per share; and
- 950,342 shares of common stock reserved for future issuance under our stock-based compensation plans as of December 31, 2016, consisting of (i) 740,342 shares of common stock reserved for future issuance under our 2016 Equity Incentive Plan as of December 31, 2016 (consisting of 1,891,092 shares reserved as of December 31, 2016, reduced by 1,150,750 shares underlying stock options granted after December 31, 2016) and (ii) 210,000 shares of common stock reserved for future issuance under our 2016 Employee Stock Purchase Plan.

DILUTION

If you invest in our common stock, your ownership interest will be diluted to the extent of the difference between the public offering price per share of our common stock and the as adjusted net tangible book value per share of our common stock immediately after this offering.

As of December 31, 2016, our net tangible book value was approximately $107.6 million, or $4.95 per share of common stock. Net tangible book value per share represents the amount of our tangible assets less our liabilities divided by the total number of shares of our common stock outstanding as of December 31, 2016.

After giving effect to the sale and issuance of 5,200,000 shares of our common stock at the public offering price of $14.50 per share, and after deducting underwriting discounts and commissions and estimated offering expenses, our as adjusted net tangible book value as of December 31, 2016 would have been approximately $178.0 million, or $6.61 per share of our common stock. This represents an immediate increase in as adjusted net tangible book value of $1.66 per share to our existing stockholders and an immediate dilution of $7.89 per share to investors purchasing shares in this offering, as follows:

Public offering price per share		$14.50
Net tangible book value per share as of December 31, 2016	$4.95	
Increase in net tangible book value per share attributable to new investors in this offering	1.66	
As adjusted net tangible book value per share after this offering		6.61
Dilution in net tangible book value per share to investors in this offering		$ 7.89

If the underwriters exercise their option to purchase additional shares in full, our as adjusted net tangible book value per share after this offering would be $6.81 per share, and the dilution in net tangible book value per share to new investors in this offering would be $7.69 per share.

The number of shares of our common stock to be outstanding after this offering excludes:

- 2,534,622 shares of our common stock issuable upon the exercise of outstanding options as of December 31, 2016, with a weighted-average exercise price of approximately $5.60 per share;
- 1,150,750 shares of our common stock issuable upon the exercise of outstanding options granted after December 31, 2016, with a weighted-average exercise price of $15.79 per share;
- 9,914 shares of our common stock issuance upon the exercise of an outstanding warrant granted after December 31, 2016, with an exercise price of $15.13 per share; and
- 950,342 shares of common stock reserved for future issuance under our stock-based compensation plans as of December 31, 2016, consisting of (i) 740,342 shares of common stock reserved for future issuance under our 2016 Equity Incentive Plan as of December 31, 2016 (consisting of 1,891,092 shares reserved as of December 31, 2016, reduced by 1,150,750 shares underlying stock options granted after December 31, 2016) and (ii) 210,000 shares of common stock reserved for future issuance under our 2016 Employee Stock Purchase Plan.

MANAGEMENT

The following table provides information regarding our executive officers and directors as of December 31, 2016:

Name	Age	Position
Executive Officers:		
Matthew Patterson	45	President, Chief Executive Officer and Director
Natalie Holles	44	Senior Vice President, Chief Operating Officer
Thomas Soloway	49	Senior Vice President, Chief Financial Officer
Suyash Prasad, M.B.B.S., F.F.P.M.	47	Senior Vice President and Chief Medical Officer
Mary Newman	58	Senior Vice President, Regulatory Affairs
David Nagler	64	Senior Vice President, Human Resources and Corporate Affairs
John Gray, Ph.D.	53	Senior Vice President, Research and Development
Non-Employee Directors:		
Jonathan Silverstein(1)	49	Chairman of Board of Directors
Louis Lange, M.D., Ph.D.	68	Director
Scott Morrison(2)	59	Director
Kush Parmar, M.D., Ph.D.(1)(3)	36	Director
Thomas Schuetz, M.D., Ph.D.(2)	56	Director
Julie Smith	46	Director
Stephen Squinto, Ph.D.(3)	60	Director
Thomas Woiwode, Ph.D.(2)(3)	45	Director

(1) Member of the Nominating and Corporate Governance Committee
(2) Member of the Audit Committee
(3) Member of the Compensation Committee

Executive Officers

Matthew Patterson is one of our co-founders and has served as our President and Chief Executive Officer and a member of our board of directors since our inception in November 2012. Mr. Patterson also served as our Chief Financial Officer and Secretary from December 2012 to September 2015. Previously, Mr. Patterson was the Entrepreneur-In-Residence at OrbiMed Advisors LLC, an investment firm and one of our principal stockholders, from November 2011 to December 2012. Prior to OrbiMed, from December 2004 to August 2011, Mr. Patterson worked for Amicus Therapeutics, Inc., a rare disease biotechnology company, most recently serving as President and Acting Chief Executive Officer. Prior to Amicus, Mr. Patterson worked at BioMarin Pharmaceutical Inc. from 1998 to 2004 and at Genzyme Corporation from 1993 to 1998. Mr. Patterson is a member of the Board of Directors of Gilda's Club of New York City, which provides social and emotional support for people living with cancer. Mr. Patterson holds a B.A. from Bowdoin College. Our board of directors believes that Mr. Patterson should serve as a director due to the perspective he brings as our founder and his expertise in the fields of business, biotechnology and drug development.

Natalie Holles has served as our Senior Vice President, Chief Operating Officer since August 2015. Previously, Ms. Holles served as Senior Vice President, Corporate Development at Hyperion Therapeutics, Inc., a rare disease pharmaceutical company, from June 2013 through its acquisition by Horizon Pharma, plc in May 2015. From August 2012 until June 2013, Ms. Holles served as the Executive Vice President, Corporate Development at Immune Design, Inc., an immunotherapy company, and from December 2010 to June 2013, Ms. Holles served as an independent life sciences corporate development consultant. Earlier in her career, Ms. Holles served as the Vice President, Business Development at KAI Pharmaceuticals, Inc. and previously held corporate development and commercial roles at InterMune, Inc. and Genentech, Inc. Ms. Holles holds an A.B. from Stanford University and an M.A. from the University of Colorado, Boulder.

Thomas Soloway has served as our Senior Vice President, Chief Financial Officer since September 2015. Prior to joining us, Mr. Soloway served as the Senior Vice President, Chief Financial Officer of Ascendis Pharma A/S, a Danish biopharmaceutical company, from January 2014 until September 2015. Prior to Ascendis, Mr. Soloway co-founded Transcept Pharmaceuticals, Inc., a biotechnology company, in 2002. At Transcept, Mr. Soloway held various positions, including Chief Financial Officer and Executive Vice President, Chief Operating Officer. Prior to joining Transcept, Mr. Soloway financed and advised early stage healthcare and life sciences companies as a Principal at Montreux Equity Partners. Mr. Soloway holds a B.S. from the University of Southern California and an M.B.A. from Georgetown University.

Suyash Prasad, M.B.B.S., F.F.P.M., has served as our Senior Vice President and Chief Medical Officer since February 2014. Prior to joining us, Dr. Prasad served as Senior Group Medical Director, Development Sciences at BioMarin Pharmaceutical, Inc., a rare genetic disease biotechnology company, from December 2010 to February 2014. Prior to joining BioMarin, Dr. Prasad served as the Director Global Medical Affairs, Personalized Genetic Health at Genzyme Corporation, a genetic disease biotechnology company, from January 2009 to December 2010 and in a country Medical Director role at Genzyme prior to that. He has also served as a senior clinical research physician at Eli Lilly. Prior to these roles, Dr. Prasad worked as a Pediatrician at Pediatric centers of excellence in the UK and Australia. Dr. Prasad is also an elected Fellow to the Faculty of Pharmaceutical Medicine of the Royal College of Physicians, UK. Dr. Prasad holds a degree from the University of Newcastle-upon-Tyne, United Kingdom and a Diploma from the Faculty of Pharmaceutical Medicine of the Royal Colleges of Physicians of the United Kingdom. Dr. Prasad is a United Kingdom board certified physician and is a member of the Royal College of Physicians and the Royal College of Paediatrics and Child Health.

Mary Newman has served as our Senior Vice President, Regulatory Affairs since October 2014. Prior to joining us, Ms. Newman held various positions at SARcode Biotherapeutics Inc., a biotechnology company, from July 2007 to April 2013, including as the Senior Vice President, Regulatory Affairs and Quality. She has also served in various management roles at BioMarin Pharmaceutical, Inc., Berlex Inc. (now Bayer HealthCare Pharmaceuticals Inc.) and Sequus Pharmaceuticals, Inc. (now Johnson and Johnson). Ms. Newman holds a B.S. from Oregon State University.

David Nagler has served as our Senior Vice President, Human Resources and Corporate Affairs since February 2015. Prior to joining us, he served as a human resources and corporate development consultant from April 2013 to February 2015. From July 2003 to March 2013, Mr. Nagler served as the Vice President Corporate Affairs at ARYx Therapeutics, Inc., a biotechnology company. He has also served as the Vice President Human Resources at Genentech, Inc. Mr. Nagler has served on the board of directors of U.C. Davis CONNECT, as well as the boards of the Northern California Chapter of the American Liver Foundation and the John Vasconcellos Legacy Project. Mr. Nagler studied at the University of California, Berkeley.

John Gray, Ph.D., has served as our Senior Vice President, Research and Development since December 2015, and as our Vice President, Research and Development from July 2014 to December 2015. Prior to joining us, Dr. Gray served as the Director of Vector Production and Development at St. Jude Children's Research Hospital from June 2003 to June 2014. Prior to St. Jude Children's Research Hospital, Dr. Gray served as the Assistant Director of the Harvard Gene Therapy Initiative and as a researcher at Pfizer Animal Health. Dr. Gray holds a B.A. from the University of California, Berkeley and a Ph.D. from the University of Colorado, Boulder.

Non-Employee Directors

Jonathan Silverstein has served as the chairman of our board of directors since December 2012. Mr. Silverstein is currently a general partner at OrbiMed, a healthcare investment firm, where he has worked since December 1998. Previously, Mr. Silverstein was a director of life sciences in the investment banking department at Sumitomo Bank. Mr. Silverstein serves on the board of directors of Intercept Pharmaceuticals, Inc., Roka Biosciences Inc., Glaukos Corp and Ascendis Pharma A/S. Mr. Silverstein also serves on the boards of directors of several private companies. Mr. Silverstein holds a B.A. from Denison University and a J.D. and

M.B.A. from the University of San Diego. Our board of directors believes that Mr. Silverstein's strategic development and capital markets experience qualifies him to serve on our board of directors.

Louis Lange, M.D., Ph.D. has served as a member of our board of directors since August 2015. Dr. Lange is currently a general partner at Asset Management Ventures, an investment firm, where he has worked since June 2009. Dr. Lange was the co-founder and served as the President and Chief Executive Officer of Cardiogen Sciences, Inc., a biotechnology company, from April 2014 until it was acquired by us in August 2015. Dr. Lange also co-founded CV Therapeutics, Inc. in 1990 and served as the Chairman, Chief Executive Officer and Chief Scientific Officer until it was acquired by Gilead Sciences, Inc. in 2009. Dr. Lange has also served as the Chief of Cardiology and Professor of Medicine at Jewish Hospital at Washington University. Dr. Lange served on the board of directors of Maxygen, Inc. from December 2005 to August 2013, CymaBay Therapeutics, Inc. from November 2003 to October 2015, and Esperion Therapeutics, Inc. from February 2010 to May 2014. Dr. Lange also serves as a member of the Board of Trustees at the University of Rochester, The Gladstone Foundation, is a senior advisor to Gilead and was on the board of directors of BIO (the trade organization of biotech companies) from 1998 to 2009, as well as other private companies. Dr. Lange holds a B.A. from the University of Rochester, an M.D. from Harvard Medical School and a Ph.D. from Harvard University. Our board of directors believes that Dr. Lange's deep experience in molecular cardiology and biotechnology business development qualifies him to serve on our board of directors.

Scott Morrison has served as a member of our board of directors since December 2015. From 1996 to December 2015, Mr. Morrison was a partner with Ernst & Young LLP, a public accounting firm, where he also served as U.S. Life Sciences Leader from 2002 to December 2015. Mr. Morrison serves on the board and chairs the audit committees of Global Blood Therapeutics Inc. and Corvus Pharmaceuticals, Inc. Mr. Morrison has held roles on the boards of directors of numerous life sciences industry organizations, including the Biotechnology Institute, the Life Sciences Foundation, the Bay Area Biosciences Association and the Emerging Companies Section of the Biotechnology Innovation Organization. He holds a B.S. from the University of California-Berkeley and is a certified public accountant (inactive). Our board of directors believes that Mr. Morrison's extensive experience in public accounting and the life sciences industry qualifies him to serve on our board of directors.

Kush Parmar, M.D., Ph.D., has served as a member of our board of directors since July 2013. Dr. Parmar is currently a managing partner at 5AM Ventures, a venture capital firm, where he has worked since June 2010. Previously, Dr. Parmar was a National Institute of Health Physician Scientist Fellow at Harvard Medical School, completed clinical clerkships at the Massachusetts General & Brigham and Women's Hospitals and consulted for an oncology startup. Dr. Parmar currently serves as on the board of directors of several private companies. He is also a Fellow of the Society of Kauffman Fellows. He holds an A.B. from Princeton University, a Ph.D. from Harvard University and an M.D. from Harvard Medical School. Our board of directors believes that Dr. Parmar's significant experience in advising biotechnology companies qualifies him to serve on our board of directors.

Thomas Schuetz, M.D., Ph.D., is our co-founder and has served as a member of our board of directors since July 2013. Dr. Schuetz is currently the Chief Executive Officer of Compass Therapeutics, LLC, a biotechnology company, where he has worked since July 2014. Previously, Dr. Schuetz was a consultant in the biotechnology industry from May 2012 to June 2014, including a consultant for us from July 2012 to June 2013. Prior to consulting, Dr. Schuetz was a venture partner at OrbiMed, a healthcare investment firm, where he worked from November 2007 to May 2012. Dr. Schuetz has also served as the Chief Medical Officer of Therion Biologics Corporation and the Vice President of Clinical Affairs at Transkaryotic Therapies, Inc. (now Shire Pharmaceuticals, Inc.). Dr. Schuetz has served as the Chief Medical Resident at Massachusetts General Hospital and completed a medical oncology fellowship at the Dana-Farber Cancer Institute. Dr. Schuetz also serves on the board of directors of a private company and previously served on the board of directors of Relypsa, Inc. Dr. Schuetz holds a B.S. from Xavier University, an M.D. from Harvard Medical School and a Ph.D. from Harvard University. Dr. Schuetz is Board Certified in Medical Oncology. Our board of directors believes that Dr. Schuetz's clinical and executive experience and medical background qualify him to serve on our board of directors.

Julie Smith has served as a member of our board of directors since December 2016. Most recently, Ms. Smith served as the Chief Executive Officer at Raptor Pharmaceutical Corp., a biopharmaceutical company she joined in September 2012. Prior to joining Raptor, Ms. Smith served as the Chief Commercial Officer at Enobia Pharma Corp. from July 2008 to May 2012. Earlier in her career, Ms. Smith served as Vice President, Commercial at Jazz Pharmaceuticals PLC, and held corporate commercial and policy roles at Genzyme General, Novazyme Pharmaceuticals Inc. and Bristol-Myers Squibb. Ms. Smith holds a B.S. from Cornell University. Our board of directors believes that Ms. Smith's extensive executive level experience at biotechnology companies qualify her to serve on our board of directors.

Stephen Squinto, Ph.D., has served as a member of our board of directors since April 2015. Dr. Squinto is currently a venture partner at OrbiMed, a healthcare investment firm, where he has worked since January 2015. Previously, Dr. Squinto co-founded Alexion Pharmaceuticals Inc., a rare disease biotechnology company, and served in various roles from April 1992 to December 2014, including as its Executive Vice President and Chief Global Operations Officer. Dr. Squinto has also held various positions at Regeneron Pharmaceuticals, Inc. and a joint academic position at both the Tulane University and Louisiana State University Medical Schools. Dr. Squinto holds a B.A. and a Ph.D. from Loyola University of Chicago. Our board of directors believes that Dr. Squinto's experience with rare disease research and development qualifies him to serve on our board of directors.

Thomas Woiwode, Ph.D., has served as a member of our board of directors since July 2013. Dr. Woiwode has been with Versant Ventures since 2002 in various capacities, serving as a venture partner from June 2011 to July 2014 and as a managing director since July 2014. He has served in a number of operating roles over this time, most recently as the Chief Operating Officer of Okairos. Dr. Woiwode also co-founded EuroVentures, a wholly owned biotech incubator within Versant Ventures, and in this role, served as the founding Chief Business Officer for three biotech companies created within Versant. Dr. Woiwode also served as a research scientist at XenoPort, Inc. prior to joining Versant Ventures. Dr. Woiwode serves on the board of directors of CRISPR Therapeutics AG and Adverum Biotechnologies, Inc. Dr. Woiwode also serves on the board of directors of several private companies. Dr. Woiwode holds a B.A. and a B.S. from the University of California, Berkeley and a Ph.D. from Stanford University. Our board of directors believes that Dr. Woiwode's experience with biotechnology company development and strategic planning qualifies him to serve on our board of directors.

Election of Officers

Our executive officers are elected by, and serve at the discretion of, our board of directors. There are no family relationships among any of our directors or executive officers.

Board of Directors

Our board of directors may establish the authorized number of directors from time to time by resolution. Our board of directors currently consists of nine members.

Dr. Lange was the President and Chief Executive Officer of Cardiogen Sciences, Inc., or Cardiogen, and was elected to our board of directors in connection with our acquisition of Cardiogen in August 2015. Messrs. Morrison, Patterson and Silverstein and Drs. Parmar, Schuetz, Squinto and Woiwode were elected pursuant to the terms of our previous certificate of incorporation and a voting agreement that terminated in connection with our initial public offering. There are currently no contractual obligations regarding the election of our directors.

Classified Board of Directors

Our restated certificate of incorporation and restated bylaws provide for a classified board of directors consisting of three classes of directors, each serving staggered three-year terms. As a result, one class of directors

is elected at each annual meeting of our stockholders, with the other classes continuing for the remainder of their respective three-year terms. Our directors are divided among the three classes as follows.

- the Class I directors are Messrs. Silverstein, Woiwode and Schuetz, and their terms will expire at the annual meeting of stockholders to be held in 2017;
- the Class II directors are Drs. Parmar, Squinto and Lange, and their terms will expire at the second annual meeting of stockholders to be held in 2018; and
- the Class III directors are Messrs. Morrison and Patterson and Ms. Smith, and their terms will expire at the third annual meeting of stockholders to be held in 2019.

Each director's term continues until the election and qualification of his or her successor, or his or her earlier death, resignation or removal. Our restated certificate of incorporation and restated bylaws authorize only our board of directors to fill vacancies on our board of directors. Any increase or decrease in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one-third of the directors.

The classification of our board of directors may have the effect of delaying or preventing changes in control of our company.

Director Independence

Our common stock is listed on The NASDAQ Global Market, or NASDAQ. Under NASDAQ rules, independent directors must comprise a majority of a listed company's board of directors. In addition, NASDAQ rules require that, subject to specified exceptions, each member of a listed company's audit, compensation and nominating and corporate governance committees be independent. Under NASDAQ rules, a director will only qualify as an "independent director" if, in the opinion of that company's board of directors, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director.

Audit committee members must also satisfy the independence criteria set forth in Rule 10A-3 under the Securities Exchange Act of 1934, as amended. In order to be considered independent for purposes of Rule 10A-3, a member of an audit committee of a listed company may not, other than in his or her capacity as a member of the audit committee, the board of directors or any other board committee: (i) accept, directly or indirectly, any consulting, advisory or other compensatory fee from the listed company or any of its subsidiaries; or (ii) be an affiliated person of the listed company or any of its subsidiaries.

Our board of directors has undertaken a review of the independence of each director and considered whether each director has a material relationship with us that could compromise his ability to exercise independent judgment in carrying out his responsibilities. As a result of this review, our board of directors determined that Messrs. Morrison and Silverstein, Ms. Smith and Drs. Lange, Parmar, Schuetz, Squinto and Woiwode, representing eight of our nine directors, are "independent directors" as defined under the applicable rules and regulations of the Securities and Exchange Commission, or the SEC, and the listing requirements and rules of NASDAQ. In making these determinations, our board of directors reviewed and discussed information provided by the directors and us with regard to each director's business and personal activities and relationships as they may relate to us and our management, including the beneficial ownership of our capital stock by each non-employee director and the transactions involving them described in the section entitled "Certain Relationships and Related-Party Transactions."

Committees of Our Board of Directors

Our board of directors has an audit committee, a compensation committee and a nominating and corporate governance committee, each of which has the composition and responsibilities described below.

Members serve on these committees until their resignation or until otherwise determined by our board of directors. Each committee operates under a charter approved by our board of directors. Copies of each committee's charter are posted on the investor relations section of our website at www.audentestx.com.

Audit Committee

Our audit committee is composed of Messrs. Morrison, Schuetz and Woiwode. Mr. Morrison is the chairperson of our audit committee. Messrs. Morrison, Schuetz and Woiwode each meet the requirements for independence under the current NASDAQ listing standards and SEC rules and regulations. Each member of our audit committee is financially literate. In addition, our board of directors has determined that each of the audit committee members is an "audit committee financial expert" as defined in Item 407(d)(5)(ii) of Regulation S-K promulgated under the Securities Act. This designation does not impose any duties, obligations or liabilities that are greater than are generally imposed on members of our audit committee and our board of directors. Our audit committee is responsible for, among other things:

- our accounting and financial reporting processes, including our financial statement audits and the integrity of our financial statements;
- our compliance with legal and regulatory requirements;
- reviewing and approving related person transactions;
- selecting and hiring our registered independent public accounting firm;
- the qualifications, independence and performance of our independent auditors; and
- the preparation of the audit committee report to be included in our annual proxy statement.

Compensation Committee

Our compensation committee is composed of Messrs. Squinto, Parmar and Woiwode. Mr. Squinto is the chairperson of our compensation committee. The composition of our compensation committee meets the requirements for independence under the current NASDAQ listing standards and SEC rules and regulations. Each member of this committee is (i) an outside director, as defined pursuant to Section 162(m) of the Internal Revenue Code of 1986, as amended, or the Code, and (ii) a non-employee director, as defined in Rule 16b-3 promulgated under the Exchange Act. Our compensation committee is responsible for, among other things:

- evaluating, recommending, approving and reviewing executive officer and director compensation arrangements, plans, policies and programs;
- administering our cash-based and equity-based compensation plans; and
- making recommendations to our board of directors regarding any other board of director responsibilities relating to executive compensation.

Nominating and Corporate Governance Committee

Our nominating and corporate governance committee is composed of Messrs. Silverstein and Parmar. Mr. Silverstein is the chairperson of our nominating and corporate governance committee. The composition of our nominating and corporate governance committee meets the requirements for independence under the current

NASDAQ listing standards and SEC rules and regulations. Our nominating and corporate governance committee is responsible for, among other things:

- identifying, considering and recommending candidates for membership on our board of directors;
- overseeing the process of evaluating the performance of our board of directors; and
- advising our board of directors on other corporate governance matters.

Compensation Committee Interlocks and Insider Participation

None of our executive officers has served as a member of the board of directors, or as a member of the compensation or similar committee, of any entity that has one or more executive officers who served on our board of directors or compensation committee during the year ended December 31, 2016.

Codes of Business Conduct and Ethics

Our board of directors has adopted a code of business conduct and ethics that applies to all of our employees, officers and directors, including our Chief Executive Officer, Chief Financial Officer and other executive and senior financial officers. The full text of our code of conduct is posted on the investor relations section of our website at www.audentestx.com. The reference to our website address in this prospectus does not include or incorporate by reference the information on our website into this prospectus. We intend to disclose future amendments to certain provisions of our code of conduct, or waivers of these provisions, on our website or in public filings to the extent required by the applicable rules and exchange requirements.

Non-Employee Director Compensation

The following table presents the total compensation for each person who served as a non-employee member of our board of directors in the year ended December 31, 2016. Mr. Patterson, our Chief Executive Officer, received no compensation for his service as a director in the year ended December 31, 2016.

Name(1)	Fees Earned or Paid in Cash	Option Awards(2)	Total
Jonathan Silverstein	$ 15,050(3)	$163,357	$178,407
Louis Lange	12,394	163,357	175,751
Jonathan Leff(4)	—	—	—
Scott Morrison	39,630	80,972	120,602
Kush Parmar	15,493	163,357	178,850
Thomas Schuetz	36,432	80,972	117,404
Julie Smith	—	—	—
Stephen Squinto	37,317	80,972	118,289
Thomas Woiwode	16,820(5)	163,357	180,177

(1) As of December 31, 2016, each of Mr. Silverstein, Dr. Lange, Dr. Parmar and Dr. Woiwode held outstanding options to purchase 18,000 shares of common stock with an exercise price of $15.03 per share, Mr. Morrison held outstanding options to purchase 42,635 shares of common stock with a weighted-average exercise price of $10.67 per share, Dr. Schuetz held outstanding options to purchase 32,691 shares of common stock with a weighted-average exercise price of $4.95 per share, and Dr. Squinto held outstanding options to purchase 23,949 shares of common stock with a weighted-average exercise price of $7.02 per share. Ms. Smith and Mr. Leff did not hold any outstanding options as of December 31, 2016.

(2) The amounts reported in the Option Awards column represent the grant date fair value of the stock options granted to the directors during the year ended December 31, 2016 as computed in accordance with Financial

Accounting Standards Board Accounting Standards Codification Topic 718. The assumptions used in calculating the grant date fair value of the stock options reported in the Option Awards column are set forth in Note 8 to our audited consolidated financial statements incorporated by reference into this prospectus. Note that the amounts reported in this column reflect the accounting cost for these stock options, and do not correspond to the actual economic value that may be received by our directors from the options.

(3) These fees were paid to OrbiMed, where Mr. Silverstein is a general partner.

(4) Mr. Leff resigned from our board of directors in July 2016.

(5) These fees were paid to Versant Ventures, where Dr. Woiwode is a managing director.

In August 2016, our board of directors approved non-employee director compensation that will provide each of our non-employee directors with an annual retainer of $35,000. Additionally, the chairpersons of our audit, compensation and nominating and corporate governance committees will receive an additional annual payment of $15,000, $10,000 and $7,500, respectively; and the other members of our audit, compensation and nominating and corporate governance committees will receive an additional annual payment of $7,500, $5,000 and $3,750, respectively.

Each of our non-employee directors will also receive an annual stock option grant to purchase 9,000 shares of common stock, which stock option will vest in full on the earlier of next annual meeting of stockholders or the one-year anniversary of the grant date, subject to the director's continued service. Additionally, new non-employee directors will receive a stock option to purchase 18,000 shares of common stock, which stock option will vest in equal monthly installments over three years, subject to the director's continued service. In 2016, because Mr. Silverstein and Drs. Lange, Parmar and Woiwode had not previously received an equity award, they were each awarded a stock option to purchase 18,000 shares of common stock. Mr. Morrison and Drs. Schuetz and Squinto had previously received equity awards, and therefore were each awarded a stock option to purchase 9,000 shares of common stock.

EXECUTIVE COMPENSATION

The following tables and accompanying narrative disclosure set forth information about the compensation provided to certain of our executive officers during the years ended December 31, 2015 and 2016. These executive officers, who include our principal executive officer and the two most highly-compensated executive officers (other than our principal executive officer) who were serving as executive officers as of December 31, 2016, the end of our last completed fiscal year, were:

- Matthew Patterson, President, Chief Executive Officer and Director;
- Thomas Soloway, Senior Vice President and Chief Financial Officer; and
- Natalie Holles, Senior Vice President, Chief Operating Officer.

We refer to these individuals in this section as our "Named Executive Officers."

Summary Compensation Table

The following table presents summary information regarding the total compensation that was awarded to, earned by or paid to our Named Executive Officers for services rendered during the years ended December 31, 2015 and 2016.

Name and Principal Position	Year	Salary	Option Award(1)	Non-Equity Incentive Plan Compensation(2)	Total
Matthew Patterson	2016	$441,760(3)	$ —	$ 207,000	$ 648,760
President, Chief Executive Officer and Director	2015	416,000	1,322,178	101,920	1,840,098
Tom Soloway(4)	2016	360,500	—	108,150	468,650
Senior Vice President and Chief Financial Officer					
Natalie Holles(4)	2016	360,500	—	102,743	463,243
Senior Vice President, Chief Operating Officer					

(1) The amounts reported in the Option Awards column represent the grant date fair value of the stock options granted to the Named Executive Officers during the year ended December 31, 2016 as computed in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718. The assumptions used in calculating the grant date fair value of the stock options reported in the Option Awards column are set forth in Note 8 to our audited consolidated financial statements incorporated by reference into this prospectus. Note that the amounts reported in this column reflect the accounting cost for these stock options, and do not correspond to the actual economic value that may be received by our Named Executive Officers from the options. Our Named Executive Officers did not receive any option awards in 2016.

(2) For additional information regarding the non-equity incentive plan compensation, see "—2016 Non-Equity Incentive Plan Awards."

(3) In August 2016, Mr. Patterson's base salary increased from $416,000 to $460,000.

(4) Mr. Soloway and Ms. Holles became Named Executive Officers for the first time in 2016, and therefore their 2015 compensation is not reported.

2016 Non-Equity Incentive Plan Awards

Annual bonuses for our executive officers are based on the achievement of corporate performance objectives, which in 2016 included the achievement of preclinical and business development milestones, as well as individual performance as determined by our Chief Executive Officer (except with respect to his own bonus). In January 2017, our compensation committee determined that approximately 90% of our 2016 corporate

performance objectives were achieved, and therefore determined that at least 90% of each executive officer's target bonus should be awarded. Additionally, our compensation committee delegated authority to our Chief Executive Officer to modify up to 10% of such bonuses based on each executive officer's individual performance (except with respect to his own bonus).

For 2016, Mr. Patterson's target bonus was equal to 50% of his annual base salary of $460,000, Mr. Soloway's target bonus was equal to 30% of his annual base salary of $360,500 and Ms. Holles' target bonus was equal to 30% of her annual base salary of $360,500. Based on individual performance, our Chief Executive Officer increased Mr. Soloway's bonus by 10% such that he earned 100% of his target bonus and increased Ms. Holles' bonus by 5% such that she earned 95% of her target bonus. Mr. Patterson earned 90% of his target bonus. Accordingly, Mr. Patterson, Mr. Soloway and Ms. Holles were awarded the 2016 annual bonuses reflected in the table above.

Outstanding Equity Awards at Fiscal Year-End Table

The following table presents, for each of the Named Executive Officers, information regarding outstanding stock options held as of December 31, 2016.

	Option Awards(1)			
Name	Number of Securities Underlying Unexercised Options Exercisable	Number of Securities Underlying Unexercised Options Unexercisable	Option Exercise Price	Option Expiration Date
Mr. Patterson	201,813(2)	17,938	$ 0.79	9/25/2023
	61,817(3)	79,480	2.19	2/04/2025
	47,456(4)	142,363	9.50	12/18/2025
Mr. Soloway	47,455(2)	142,364	2.77	11/6/2025
	1,564(4)	4,699	9.50	12/18/2025
Ms. Holles	59,319(2)	130,500	2.77	11/6/2025
	1,564(4)	4,699	9.50	12/18/2025

(1) The outstanding option awards granted prior to our initial public offering were granted under our 2012 Equity Incentive Plan; after July 18, 2016, outstanding option awards were granted under our 2016 Equity Incentive Plan.

(2) Vests with respect to 25% of the shares underlying the option on the one year anniversary of the vesting commencement date and the remaining 75% of the shares underlying the option vest in 12 equal quarterly installments thereafter. If the Named Executive Officer is terminated without cause or resigns for good reason during the period beginning 90 days prior to and ending on the first anniversary of a change in control of our company, 100% of the then-unvested shares underlying the option will vest.

(3) Vests with respect to 25% of the shares underlying the option on the one year anniversary of the vesting commencement date and the remaining 75% of the shares underlying the option vest in 12 equal quarterly installments thereafter.

(4) Vests in equal quarterly installments over four years. If the Named Executive Officer is terminated without cause or resigns for good reason during the period beginning 90 days prior to and ending on the first anniversary of a change in control of our company, 100% of the then-unvested shares underlying the option will vest.

Employment Agreements

We have entered into employment agreements or offer letter agreements with our Named Executive Officers that provide for at-will employment and include each Named Executive Officer's base salary, a discretionary annual incentive bonus opportunity and standard employee benefit plan participation. These

agreements also provide for severance benefits upon termination of employment or a change in control of our company.

If a Named Executive Officer is terminated for "cause" or in the event of a Named Executive Officer's death, "disability" or voluntary separation from service at any time and for any reason, such Named Executive Officer will be entitled to receive (i) any earned but unpaid base salary, (ii) other unpaid vested amounts or benefits under the compensation, incentive and benefits plans we have in which such Named Executive Officers participates and (iii) reimbursement for all reasonable and necessary expenses incurred in connection with such Named Executive Officer's performance of services on our behalf in accordance with our applicable policies and guidelines, in each case as of the effective date of such separation from service. The compensation referred to in (i)-(iii) above is collectively referred to as Accrued Compensation.

If a Named Executive Officers is terminated without cause or resigns for "good reason," and such Named Executive Officer delivers to us a signed general release of claims, such Named Executive Officer will be entitled to receive (i) the Accrued Compensation, (ii) a lump sum cash payment in an amount equal to six months of such Named Executive Officer's base salary and (iii) reimbursement for any monthly COBRA premium payments for 12 months, subject to certain limitations.

If a Named Executive Officer is terminated without cause or resigns for good reason, in each case during the period of time commencing 90 days prior to the execution of a definitive agreement providing for the consummation of a change in control and ending on the first anniversary of the consummation of such change in control, and provided that such Named Executive Officer delivers to us a signed general release of claims, such Named Executive Officer will be entitled to receive (i) the Accrued Compensation, (ii) a lump sum cash payment in an amount equal to six months of his base salary, (iii) reimbursement for any monthly COBRA premium payments for the 12 months, subject to certain limitations, (iv) accelerated vesting of 100% of the unvested stock or equity awards granted to such Named Executive Officer pursuant to the terms of the employment or offer letter agreement, if any, and (v) accelerated vesting of 100% of the unvested portion of any equity awards granted to such Named Executive Officer after the effective date of the employment or offer letter agreement.

Under the employment agreements, "cause" generally means (i) failure to satisfactorily perform duties after there has been delivered a written demand for performance which describes the specific deficiencies in performance and the specific manner in which performance must be improved, and which provides 30 business days from the date of notice to remedy such performance deficiencies; (ii) conviction of or plea of nolo contendere to a felony or a crime involving moral turpitude which our board of directors believes has had or will have a detrimental effect on our reputation or business, (iii) engaging in an act of gross negligence or willful misconduct in the performance of employment obligations and duties, (iv) committing an act of fraud against, material misconduct or willful misappropriation of property belonging to us; (v) engaging in any other misconduct that has had or will have a material adverse effect on our reputation or business; or (vi) breach of the Employee Invention Assignment and Confidentiality Agreement or other unauthorized misuse of the our trade secrets or proprietary information.

Under the employment agreements, "change in control" means (i) a sale, conveyance, exchange or transfer (excluding any venture-backed or similar investments) in which any person or entity, other than persons or entities who as of immediately prior to such sale, conveyance, exchange or transfer own securities, either directly or indirectly, becomes the beneficial owner, directly or indirectly, of securities representing more than 50% of the total voting power of all its then outstanding voting securities; (ii) our merger or consolidation in which our voting securities immediately prior to the merger or consolidation do not represent, or are not converted into securities that represent, a majority of the voting power of all voting securities of the surviving entity immediately after the merger or consolidation; or (iii) a sale of substantially all of our assets or our liquidation or dissolution.

Under the employment agreements, "disability" has the meaning set forth in Section 22(e)(3) of the Code.

Under the employment agreements, "good reason" means any of the following taken without the Named Executive Officer's written consent and provided (i) we receive, within 30 days following the occurrence of any of the events set forth in clauses (a) through (d) below, written notice from the Named Executive Officer specifying the specific basis for the Named Executive Officer's belief that the Named Executive Officer is entitled to terminate employment for Good Reason, (ii) we fail to cure the event constituting Good Reason within 30 days after receipt of such written notice of the event, and (iii) the Named Executive Officer terminates employment within the earlier of 10 days following expiration of such cure period or receipt from us that such deficiencies will not be cured: (a) a material change, adverse to the Named Executive Officer, in the Named Executive Officer's position, titles, offices or duties; (b) an assignment of any significant duties to the Named Executive Officer that are inconsistent with the Named Executive Officer's positions or offices held; (c) a decrease in base salary by more than 10% (other than in connection with a general decrease in the base salary of all other executive officers); or (d) relocation to a facility or a location more than 50 miles from the then-current location.

Employee Benefit and Stock Compensation Plans

2012 Equity Incentive Plan

Our board of directors adopted the 2012 Equity Incentive Plan, or the 2012 Plan, in December 2012 and our stockholders subsequently approved it in December 2012. We subsequently amended the 2012 Plan in July 2013, September 2014 and November 2014.

We ceased issuing awards under the 2012 Plan and the 2012 Plan terminated upon the effectiveness of the 2016 Equity Incentive Plan, or the 2016 Plan, on July 18, 2016. As a result, we will not grant any additional options under the 2012 Plan. However, any outstanding options granted under the 2012 Plan will remain outstanding, subject to the terms of the 2012 Plan and stock option agreements, until such outstanding options are exercised or until they terminate or expire by their terms. Options granted under the 2012 Plan have terms similar to those described below with respect to options to be granted under the 2016 Plan.

In the event of an acquisition (as defined in the 2012 Plan), the 2012 Plan provides that, unless the applicable option agreement provides otherwise or our board of directors or compensation committee takes certain actions, such as accelerating the vesting of the awards or providing for the assumption, conversion or replacement of the option by an acquirer, awards held by current employees, directors and consultants will terminate if not vested or exercised prior to the effective time of the acquisition.

2016 Equity Incentive Plan

We adopted the 2016 Plan, which became effective on July 18, 2016 and serves as the successor to the 2012 Plan. We reserved 1,500,000 shares of our common stock to be issued under the 2016 Plan. The number of shares reserved for issuance under the 2016 Plan will increase automatically on January 1 of each calendar, year continuing through the tenth calendar year during the term of the 2016 Plan by the number of shares equal to 5% of the total outstanding shares of our common stock as of the immediately preceding December 31. However, our board of directors may reduce the amount of the increase in any particular year. In addition, the following shares of our common stock will be available for grant and issuance under the 2016 Plan:

- shares subject to options or SARs granted under the 2016 Plan that cease to be subject to the option or SAR for any reason other than exercise of the option or SAR;
- shares subject to awards granted under the 2016 Plan that are subsequently forfeited or repurchased by us at the original issue price;
- shares subject to awards granted under the 2016 Plan that otherwise terminate without shares being issued;

- shares surrendered, cancelled, or exchanged for cash or a different award (or combination thereof);
- shares subject to awards under the 2016 Plan that are used to pay the exercise price of an award or withheld to satisfy the tax withholding obligations related to any award;
- shares reserved but not issued or subject to outstanding awards under the 2012 Plan on the date of this prospectus;
- shares issuable upon the exercise of options or subject to other awards under the 2012 Plan prior to the date of this prospectus that cease to be subject to such options or other awards by forfeiture or otherwise after the date of this prospectus;
- shares issued under the 2012 Plan that are repurchased by us at the original issuance price or forfeited after the date of this prospectus; and
- shares subject to awards under the 2012 Plan that are used to pay the exercise price of an option or withheld to satisfy the tax withholding obligations related to any award.

The 2016 Plan authorizes the award of stock options, RSAs, SARs, RSUs, performance awards and stock bonuses. No person is eligible to receive more than 1,000,000 shares in any calendar year under the 2016 Plan other than a new employee of ours, who will be eligible to receive no more than 2,000,000 shares under the plan in the calendar year in which the employee commences employment. No participant is eligible to receive more than $5.0 million in performance awards in any calendar year. No more than 10,000,000 shares may be issued pursuant to the exercise of incentive stock options. The aggregate number of shares of our common stock that may be subject to awards granted to any one non-employee director pursuant to the 2016 Plan in any calendar year shall not exceed 150,000.

The 2016 Plan is administered by our compensation committee, all of the members of which are outside directors as defined under applicable federal tax laws, or by our board of directors acting in place of our compensation committee. The compensation committee has the authority to construe and interpret the 2016 Plan, grant awards and make all other determinations necessary or advisable for the administration of the plan.

The 2016 Plan provides for the grant of awards to our employees, directors, consultants, independent contractors and advisors, provided the consultants, independent contractors, directors and advisors render services not in connection with the offer and sale of securities in a capital-raising transaction. The exercise price of stock options must be at least equal to the fair market value of our common stock on the date of grant. The compensation committee has the authority to reprice any outstanding stock option or SAR (by reducing the exercise price of any outstanding option or SAR, canceling an option or SAR in exchange for cash or another equity award) under the 2016 Plan without the approval of our stockholders.

We anticipate that, in general, options will vest over a four-year period. Options may vest based on time or achievement of performance conditions. Our compensation committee may provide for options to be exercised only as they vest or to be immediately exercisable with any shares issued on exercise being subject to our right of repurchase that lapses as the shares vest. The maximum term of options granted under the 2016 Plan is 10 years, except that the maximum permitted term of incentive stock options granted to 10% stockholders is five years.

An RSA is an offer by us to sell shares of our common stock subject to restrictions, which may vest based on time or achievement of performance conditions. The price, if any, of an RSA will be determined by the compensation committee. Unless otherwise determined by the compensation committee at the time of award, vesting will cease on the date the holder no longer provides services to us and unvested shares will be forfeited to or repurchased by us.

SARs provide for a payment, or payments, in cash or shares of our common stock, to the holder based upon the difference between the fair market value of our common stock on the date of exercise and the stated exercise price at grant up to a maximum amount of cash or number of shares. SARs may vest based on time or achievement of performance conditions.

RSUs represent the right to receive shares of our common stock at a specified date in the future, subject to forfeiture of that right because of termination of employment or failure to achieve certain performance conditions. If an RSU has not been forfeited, then on the date specified in the RSU agreement, we will deliver to the holder of the RSU shares of our common stock (which may be subject to additional restrictions), cash or a combination of our common stock and cash. We anticipate that, in general, RSUs will vest over a four-year period.

Performance awards cover a number of shares of our common stock that may be settled upon achievement of the pre-established performance conditions as provided in the 2016 Plan in cash or by issuance of the underlying shares. These awards are subject to forfeiture prior to settlement due to termination of employment or failure to achieve the performance conditions.

Stock bonuses may be granted as additional compensation for past or future service or performance, and therefore, no payment will be required for any shares awarded under a stock bonus. Unless otherwise determined by the compensation committee at the time of award, vesting will cease on the date the holder no longer provides services to us and unvested shares (if any) will be forfeited to us.

The 2016 Plan permits the grant of performance-based stock and cash awards that may qualify as performance-based compensation that is not subject to the $1.0 million limitation on income tax deductibility imposed by Section 162(m) of the Code. Our compensation committee may structure awards so that the stock or cash will be issued or paid only following the achievement of certain pre-established performance goals during a designated performance period.

Awards granted under the 2016 Plan may not be transferred in any manner other than by will or by the laws of descent and distribution or as determined by our compensation committee. Unless otherwise permitted by our compensation committee, stock options may be exercised during the lifetime of the optionee only by the optionee or the optionee's guardian or legal representative. Options granted under the 2016 Plan generally may be exercised for a period of three months after the termination of the optionee's service to us, for a period of 12 months in the case of death or disability, or such shorter period (not less than six months) or longer period as our compensation committee may provide. Options generally terminate immediately upon termination of employment for cause.

If we are party to a merger or consolidation, sale of all or substantially all assets or similar change in control transaction, outstanding awards, including any vesting provisions, may be continued, assumed or substituted by the successor company. In the alternative, outstanding awards may be cancelled in exchange for a payment in cash or securities of the successor entity or acquirer. Outstanding awards may also be cancelled in exchange for no consideration. Outstanding awards that are not converted, assumed, substituted or cashed out will accelerate in full and expire upon the closing of the transaction. Awards held by non-employee directors will immediately vest as to all or any portion of the shares subject to the stock award and will become exercisable at such times and on such conditions as the compensation committee determines.

The 2016 Plan will terminate ten years from the date our board of directors approved it, unless it is terminated earlier by our board of directors. Our board of directors may amend or terminate the 2016 Plan at any time. If our board of directors amends the 2016 Plan, it does not need to ask for stockholder approval of the amendment unless required by applicable law.

2016 Employee Stock Purchase Plan

We adopted a 2016 Employee Stock Purchase Plan, or the 2016 ESPP, in order to enable eligible employees to purchase shares of our common stock at a discount. The 2016 ESPP became effective immediately prior to our initial public offering, but our compensation committee has not commenced any offerings under the 2016 ESPP. Purchases will be accomplished through participation in discrete offering periods. The 2016 ESPP is intended to qualify as an employee stock purchase plan under Section 423 of the Code. As of December 31, 2016, we had reserved 210,000 shares of our common stock for issuance under the 2016 ESPP. The number of shares reserved for issuance under the 2016 ESPP will increase automatically on January 1 of each calendar year beginning after the first offering date and continuing through the first ten calendar years by the number of shares equal to 1% of the total outstanding shares of our common stock as of the immediately preceding December 31. However, our board of directors or compensation committee may reduce the amount of the increase in any particular year. The aggregate number of shares issued over the term of the 2016 ESPP will not exceed 2,100,000 shares of our common stock.

Our compensation committee administers the 2016 ESPP. Our employees generally are eligible to participate in the 2016 ESPP. Our compensation committee may in its discretion elect to exclude employees who do not meet certain eligibility requirements under applicable law. Employees who are 5% stockholders, or would become 5% stockholders as a result of their participation in the 2016 ESPP, are ineligible to participate in the 2016 ESPP. We may impose additional restrictions on eligibility. Under the 2016 ESPP, eligible employees will be able to acquire shares of our common stock by accumulating funds through payroll deductions. Our eligible employees will be able to select a rate of payroll deduction between 1% and 15% of their eligible cash compensation. We will also have the right to amend or terminate the 2016 ESPP at any time. The 2016 ESPP will terminate on the tenth anniversary of the first purchase date under the 2016 ESPP unless it is terminated earlier by our board of directors.

The 2016 ESPP is implemented through a series of offering periods under which our employees who meet the eligibility requirements for participation in that offering period will automatically be granted a nontransferable option to purchase shares in that offering period. For subsequent offering periods, new participants will be required to enroll in a timely manner. Once an employee is enrolled, participation will be automatic in subsequent offering periods. The time and duration of the offering periods and the purchase periods will be determined by the compensation committee, provided that an offering period will in no event be longer than 27 months, except as otherwise provided by an applicable subplan. Offering periods may be consecutive or overlapping; purchase periods will be consecutive. Each offering period may consist of one or more purchase periods. The compensation committee will determine the duration and commencement date of each offering period and purchase period, provided that a purchase period will not end later than the close of the offering period in which it begins. An employee's participation automatically ends upon termination of employment for any reason.

No participant will have the right to purchase shares of our common stock in an amount, when aggregated with purchase rights under all our employee stock purchase plans that are also in effect in the same calendar year, that have a fair market value of more than $25,000, determined as of the first day of the applicable purchase period, for each calendar year in which that right is outstanding. In addition, no participant will be permitted to purchase more than 2,100 shares during any one purchase period or a lesser amount determined by our compensation committee. The purchase price for shares of our common stock purchased under the 2016 ESPP will be 85% of the lesser of the fair market value of our common stock on (i) the first trading day of the applicable offering period and (ii) the last trading day of each purchase period in the applicable offering period. The fair market value of our common stock for purposes of our first offering period under the 2016 ESPP will depend on the date on which the compensation committee first implements the 2016 ESPP.

If we experience a change in control transaction, any offering period that commenced prior to the closing of the proposed change in control transaction will be shortened and terminated on a new purchase date.

The new purchase date will occur prior to the closing of the proposed change in control transaction and the 2016 ESPP will then terminate on the closing of the proposed change in control.

401(k) Plan

We sponsor a retirement plan intended to qualify for favorable tax treatment under Section 401(a) of the Code, containing a cash or deferred feature that is intended to meet the requirements of Section 401(k) of the Code. U.S. employees who have attained at least 21 years of age are generally eligible to participate in the plan concurrent with, or any time following their second payroll following the employees' date of hire, subject to certain eligibility requirements. Participants may make pre-tax contributions to the plan from their eligible earnings up to the statutorily prescribed annual limit on pre-tax contributions under the Code. Participants who are 50 years of age or older may contribute additional amounts based on the statutory limits for catch-up contributions. Pre-tax contributions by participants and the income earned on those contributions are generally not taxable to participants until withdrawn. Participant contributions are held in trust as required by law. No minimum benefit is provided under the plan. An employee's interest in his or her pre-tax deferrals is 100% vested when contributed. Although the plan provides for a discretionary employer matching contribution, to date we have not made such a contribution on behalf of employees. The Plan permits all eligible Plan participants to contribute between 1% and 100% of eligible compensation, on a pre-tax basis, into their accounts.

Limitations on Liability and Indemnification Matters

Our restated certificate of incorporation contains provisions that limit the liability of our directors for monetary damages to the fullest extent permitted by the Delaware General Corporation Law, or DGCL. Consequently, our directors are not personally liable to us or our stockholders for monetary damages for any breach of fiduciary duties as directors, except liability for:

- any breach of the director's duty of loyalty to us or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payments of dividends or unlawful stock repurchases or redemptions as provided in Section 174 of the DGCL; or
- any transaction from which the director derived an improper personal benefit.

Our restated certificate of incorporation and our restated bylaws require us to indemnify our directors and officers to the maximum extent not prohibited by the DGCL and allow us to indemnify other employees and agents as set forth in the DGCL. Subject to certain limitations, our restated bylaws also require us to advance expenses incurred by our directors and officers for the defense of any action for which indemnification is required or permitted.

We have entered, and intend to continue to enter, into separate indemnification agreements with our directors, officers and certain of our key employees, in addition to the indemnification provided for in our restated certificate of incorporation and restated bylaws. These agreements, among other things, require us to indemnify our directors, officers and key employees for certain expenses, including attorneys' fees, judgments, penalties, fines and settlement amounts actually incurred by these individuals in any action or proceeding arising out of their service to us or any of our subsidiaries or any other company or enterprise to which these individuals provide services at our request. Subject to certain limitations, our indemnification agreements also require us to advance expenses incurred by our directors, officers and key employees for the defense of any action for which indemnification is required or permitted.

We believe that provisions of our restated certificate of incorporation, bylaws and indemnification agreements are necessary to attract and retain qualified directors, officers and key employees. We also maintain directors' and officers' liability insurance.

The limitation of liability and indemnification provisions in our restated certificate of incorporation and restated bylaws may discourage stockholders from bringing a lawsuit against our directors and officers for breach of their fiduciary duty. They may also reduce the likelihood of derivative litigation against our directors and officers, even though an action, if successful, might benefit us and other stockholders. Further, a stockholder's investment may be adversely affected to the extent that we pay the costs of settlement and damage awards against directors and officers as required by these indemnification provisions.

At present, there is no pending litigation or proceeding involving any of our directors or executive officers as to which indemnification is required or permitted, and we are not aware of any threatened litigation or proceeding that may result in a claim for indemnification.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, executive officers or persons controlling us, we have been informed that, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

CERTAIN RELATIONSHIPS AND RELATED-PARTY TRANSACTIONS

In addition to the executive officer and director compensation arrangements discussed above under "Management—Non-Employee Director Compensation" and "Executive Compensation," below we describe transactions since January 1, 2014 to which we have been or will be a participant, in which the amount involved in the transaction exceeds or will exceed $120,000 and in which any of our directors, executive officers or beneficial holders of more than 5% of any class of our capital stock, or any immediate family member of, or person sharing the household with, any of these individuals, had or will have a direct or indirect material interest.

Equity Financings

Series A Convertible Preferred Stock Financing

In three closings in July 2013, December 2013 and November 2014, we sold an aggregate of 5,022,876 shares of our Series A convertible preferred stock at a purchase price of $5.9727 per share for an aggregate purchase price of approximately $30.0 million. Each share of our Series A convertible preferred stock converted automatically into one share of our common stock immediately prior to the completion of our initial public offering in July 2016.

The following table summarizes the Series A convertible preferred stock purchased by our directors, executive officers and beneficial holders of more than 5% of our capital stock. The terms of these purchases were the same for all purchasers of our Series A convertible preferred stock.

Name of Stockholder	Shares of Series A Convertible Preferred Stock	Total Purchase Price
OrbiMed Private Investments IV, LP(1)	2,511,441	$ 14,999,997
Entities affiliated with 5AM Ventures(2)	1,423,147	8,499,993
Entities affiliated with Versant Ventures(3)	1,088,288	6,499,998

(1) Jonathan Silverstein, a member of our board of directors, is a general partner at OrbiMed, and Stephen Squinto, a member of our board of directors, is a venture partner at OrbiMed.

(2) Consists of shares held by 5AM Ventures III, L.P. and 5AM Co-Investors III, L.P. Kush M. Parmar, a member of our board of directors, is a partner of 5AM Ventures.

(3) Consists of shares held by Versant Venture Capital IV, L.P. and Versant Side Fund IV, L.P. Thomas F. Woiwode, a member of our board of directors, is a managing director of Versant Ventures.

Series B Convertible Preferred Stock Financing

In November 2014, we sold an aggregate of 3,796,635 shares of our Series B convertible preferred stock at a purchase price of $11.1942 per share for an aggregate purchase price of approximately $42.5 million. Each share of our Series B convertible preferred stock converted automatically into one share of our common stock immediately prior to the completion of our initial public offering in July 2016.

The following table summarizes the Series B convertible preferred stock purchased by our directors, executive officers and beneficial holders of more than 5% of our capital stock. The terms of these purchases were the same for all purchasers of our Series B convertible preferred stock.

Name of Stockholder	Shares of Series B Convertible Preferred Stock	Total Purchase Price
OrbiMed Private Investments IV, LP(1)	1,071,992	$ 12,000,003
Entities affiliated with Deerfield Management(2)	803,993	9,000,002
Entities affiliated with 5AM Ventures(3)	632,772	7,083,332
Entities affiliated with Versant Ventures(4)	483,885	5,416,668
Sofinnova Venture Partners IX, L.P.	446,663	4,999,998

(1) Jonathan Silverstein, a member of our board of directors, is a general partner at OrbiMed, and Stephen Squinto, a member of our board of directors, is a venture partner at OrbiMed.
(2) Consists of shares held by Deerfield Special Situations Fund, L.P. and Deerfield Private Design Fund III, L.P. Jonathan Leff, a former member of our board of directors, is a partner of Deerfield Management.
(3) Consists of shares held by 5AM Ventures III, L.P. and 5AM Co-Investors III, L.P. Kush Parmar, a member of our board of directors, is a partner of 5AM Ventures.
(4) Consists of shares held by Versant Venture Capital IV, L.P. and Versant Side Fund IV, L.P. Thomas Woiwode, a member of our board of directors, is a managing director of Versant Ventures.

Series C Convertible Preferred Stock Financing

In October 2015, we sold an aggregate of 4,325,954 shares of our Series C convertible preferred stock at a purchase price of $15.0256 per share for an aggregate purchase price of approximately $65.0 million. Each share of our Series C convertible preferred stock converted automatically into one share of our common stock immediately prior to the completion of our initial public offering in July 2016.

The following table summarizes the Series C convertible preferred stock purchased by our directors, executive officers and beneficial holders of more than 5% of our capital stock. The terms of these purchases were the same for all purchasers of our Series C convertible preferred stock.

Name of Stockholder	Shares of Series C Convertible Preferred Stock	Total Purchase Price
OrbiMed Private Investments IV, LP(1)	332,766	$ 4,999,994
Entities affiliated with Deerfield Management(2)	199,660	2,999,998
Entities affiliated with 5AM Ventures(3)	266,212	3,999,999
Entities affiliated with Versant Ventures(4)	199,659	2,999,998
Sofinnova Venture Partners IX, L.P.	798,640	11,999,998

(1) Jonathan Silverstein, a member of our board of directors, is a general partner at OrbiMed, and Stephen Squinto, a member of our board of directors, is a venture partner at OrbiMed.
(2) Consists of shares held by Deerfield Special Situations Fund, L.P. and Deerfield Private Design Fund III, L.P. Jonathan Leff, a former member of our board of directors, is a partner of Deerfield Management.
(3) Consists of shares held by 5AM Ventures III, L.P. and 5AM Co-Investors III, L.P. Kush Parmar, a member of our board of directors, is a partner of 5AM Ventures.
(4) Consists of shares held by Versant Venture Capital IV, L.P. and Versant Side Fund IV, L.P. Thomas Woiwode, a member of our board of directors, is a managing director of Versant Ventures.

Cardiogen Acquisition

In August 2015, we acquired Cardiogen Sciences, Inc., and in consideration issued an aggregate of 46,969 shares of our Series B convertible preferred stock, 1,293,058 shares of our common stock and the opportunity to receive additional cash or shares of our common stock upon achievement of a certain milestone. Each share of our Series B convertible preferred stock converted automatically into one share of our common stock immediately prior to the completion of our initial public offering in July 2016.

The following table summarizes the Series B convertible preferred stock acquired in connection with the Cardiogen acquisition by our directors, executive officers and beneficial holders of more than 5% of our capital stock. The same terms applied to all acquisitions of shares of Series B convertible preferred stock in the Cardiogen acquisition.

Name of Stockholder	Shares of Common Stock	Shares of Series B Convertible Preferred Stock
Entities affiliated with Louis Lange(1)	587,300	24,633

(1) Consists of shares held by Louis G. Lange, Amygdala Lange Trust, Lange Minors' Trust, Asset Management Ventures Fund, L.P. and Camp Lowell, LLC.

Insider Participation in our Initial Public Offering

Certain of our principal stockholders and their affiliated entities, including stockholders affiliated with our directors, purchased an aggregate of 673,334 shares of our common stock in our initial public offering at $15.00 per share, which is the same public offering price at which shares were sold to all investors in the initial public offering. The following table summarizes common stock purchased by entities who held more than 5% of our outstanding capital stock at the time of the purchase.

Name	Number of Shares Purchased	Aggregate Purchase Price
Entities affiliated with Deerfield Management(1)	400,000	$ 6,000,000
Sofinnova Venture Partners IX, L.P.	135,000	2,025,000
Entities affiliated with 5AM Ventures(2)	70,000	1,050,000
Entities affiliated with Versant Ventures(3)	35,000	525,000
OrbiMed Private Investments IV, LP(4)	33,334	500,010

(1) Consists of shares held by Deerfield Special Situations Fund, L.P. and Deerfield Private Design Fund III, L.P. Jonathan Leff, a former member of our board of directors, is a partner of Deerfield Management.
(2) Consists of shares held by 5AM Ventures III, L.P. and 5AM Co-Investors III, L.P. Kush Parmar, a member of our board of directors, is a partner of 5AM Ventures.
(3) Consists of shares held by Versant Venture Capital IV, L.P. and Versant Side Fund IV, L.P. Thomas Woiwode, a member of our board of directors, is a managing director of Versant Ventures.
(4) Jonathan Silverstein, a member of our board of directors, is a general partner at OrbiMed, and Stephen Squinto, a member of our board of directors, is a venture partner at OrbiMed.

Amended and Restated Investors' Rights Agreement

We have entered into an amended and restated investors' rights agreement with certain of our stockholders, including entities with which certain of our directors are affiliated. These stockholders are entitled to rights with respect to the registration of their shares.

Equity Grants to Executive Officers and Directors

We have granted stock options to our executive officers and certain directors, as more fully described in the sections entitled "Executive Compensation" and "Management—Non-Employee Director Compensation," respectively.

Indemnification Agreements

We have entered into indemnification agreements with each of our directors and executive officers. The indemnification agreements, our restated certificate of incorporation and our restated bylaws require us to indemnify our directors to the fullest extent not prohibited by Delaware law. Subject to certain limitations, our restated bylaws also require us to advance expenses incurred by our directors and officers. For more information regarding these agreements, see "Executive Compensation—Limitations on Liability and Indemnification Matters."

Review, Approval or Ratification of Transactions with Related-Parties

We have adopted a written related-person transactions policy that provides that our executive officers, directors, nominees for election as a director, beneficial owners of more than 5% of our common stock, and any members of the immediate family of the foregoing persons, are not permitted to enter into a material related-person transaction with us without the review and approval of our audit committee, or a committee composed solely of independent directors in the event it is inappropriate for our audit committee to review such transaction due to a conflict of interest. The policy provides that any request for us to enter into a transaction with an executive officer, director, nominee for election as a director, beneficial owner of more than 5% of our common stock or with any of their immediate family members or affiliates, in which the amount involved exceeds $120,000 will be presented to our audit committee for review, consideration and approval. In approving or rejecting any such proposal, we expect that our audit committee will consider the relevant facts and circumstances available and deemed relevant to the audit committee, including, but not limited to, whether the transaction is on terms no less favorable than terms generally available to an unaffiliated third party under the same or similar circumstances and the extent of the related person's interest in the transaction.

PRINCIPAL STOCKHOLDERS

The following table sets forth certain information with respect to the beneficial ownership of our common stock as of March 15, 2017, and as adjusted to reflect the sale of common stock by us in this offering, for:

- each of our directors;
- each of our named executive officers;
- all of our directors and executive officers as a group; and
- each person, or group of affiliated persons, known by us to be the beneficial owner of more than 5% of our common stock.

We have determined beneficial ownership in accordance with the rules of the SEC, and the information is not necessarily indicative of beneficial ownership for any other purpose. Except as indicated by the footnotes below, we believe, based on information furnished to us, that the persons and entities named in the table below have sole voting and sole investment power with respect to all shares of common stock that they beneficially owned, subject to applicable community property laws.

Applicable percentage ownership is based on 21,890,275 shares of common stock issued and outstanding as of March 15, 2017. For purposes of computing the applicable percentage of shares beneficially owned by a person or entity after this offering in the table below, we have given effect to the issuance of 5,200,000 shares of common stock in this offering. We have not given effect to any purchases in the offering by the persons or entities identified in the table below. In computing the number of shares of common stock beneficially owned by a person and the percentage ownership of that person, we deemed to be outstanding all shares of common stock subject to options held by that person or entity that are currently exercisable or that will become exercisable within 60 days of March 15, 2017. We did not deem these shares outstanding, however, for the purpose of computing the percentage ownership of any other person. Unless otherwise indicated, the address of each beneficial owner listed in the table on the following page is c/o Audentes Therapeutics, Inc., 600 California Street, 17th Floor, San Francisco, California 94108.

	Shares Beneficially Owned Prior to this Offering		Shares Beneficially Owned After this Offering	
Name of Beneficial Owner	Number	Percentage	Number	Percentage
5% Stockholders:				
OrbiMed Private Investments IV, LP(1)	4,801,638	21.9%	4,801,638	17.7%
Entities affiliated with 5AM Ventures(2)	2,392,131	10.9	2,392,131	8.8
Entities affiliated with Versant Ventures(3)	1,806,832	8.3	1,806,732	6.7
Entities affiliated with Deerfield Management(4)	1,403,654	6.4	1,403,654	5.2
Directors and Named Executive Officers:				
Matthew Patterson(5)	572,864	2.6	572,864	2.1
Tom Soloway(6)	78,138	*	78,138	*
Natalie Holles(7)	80,325	*	80,325	*
Louis Lange(8)	615,933	2.8	615,933	2.3
Scott Morrison(9)	14,015	*	14,015	*
Kush Parmar(10)	2,396,131	10.9	2,396,131	8.8
Thomas Schuetz(11)	111,050	*	111,050	*
Jonathan Silverstein(12)	4,805,638	21.9	4,805,638	17.7
Julie Smith(13)	2,500	*	2,500	*
Stephen Squinto(14)	14,951	*	14,951	*
Thomas Woiwode(15)	1,810,832	8.3	1,810,832	6.7
All executive officers and directors as a group (15 persons)(16)	10,771,154	47.3	10,771,154	38.5

* Represents beneficial ownership of less than one percent.

(1) Based on the Schedule 13G filed by OrbiMed on February 13, 2017. Represents shares of common stock held by OrbiMed Private Investments IV, LP, or OPI IV. OrbiMed Capital GP IV LLC, or GP IV, is the sole general partner of OPI IV. OrbiMed Advisors LLC, or OrbiMed, is the managing member of GP IV. Samuel D. Isaly is the managing member of OrbiMed. By virtue of such relationships, GP IV, OrbiMed, and Mr. Isaly may be deemed to have voting and investment power with respect to the shares held by OPI IV. Jonathan T. Silverstein, a member of OrbiMed, is a member of our board of directors. The address of OPI IV is c/o OrbiMed Advisors LLC, 601 Lexington Avenue, 54th floor, New York, New York 10022.

(2) Based on the Schedule 13G filed by 5AM Ventures on February 14, 2017. Represents (i) 2,332,031 shares held by 5AM Ventures III, L.P., or 5AM Ventures, and (ii) 60,100 shares held by 5AM Co-Investors III, L.P., or 5AM Co-Investors. 5AM Partners III, LLC, or 5AM Partners, is the general partner of each of 5AM Ventures and 5AM Co-Investors, and may be deemed to have sole voting and investment power over the shares held by each of 5AM Ventures and 5AM Co-Investors. Andrew Schwab, John Diekman and Scott Rocklage are the managing members of 5AM Partners. Kush Parmar, a member of our board of directors, is a managing partner at 5AM Venture Management, LLC, which is an affiliate of 5AM Partners. The address of 5AM Ventures is 2200 Sand Hill Road, Suite 110, Menlo Park, California 94025.

(3) Based on the Schedule 13G filed by Versant Ventures on February 14, 2017. Represents (i) 1,795,524 shares held by Versant Venture Capital IV, L.P., or VVC IV, and (ii) 11,308 shares held by Versant Side Fund IV, L.P., or VSF IV. Versant Ventures IV, LLC, or VV IV, is the sole general partner of each of VVC IV and VSF IV. Thomas Woiwode, a member of our board of directors, together with Brian Atwood, Bradley Bolzon, Samuel Colella, Ross Jaffe, William Link, Kirk Nielsen, Robin Praeger, Rebecca Robertson and Charles Warden, are the managing directors of VV IV and may be deemed to share voting and investment power over the shares held by each of the VVC IV and VSF IV. The address of Versant Ventures is One Sansome Street, Suite 3630, San Francisco, California 94104.

(4) Based on the Schedule 13G filed by Deerfield on February 14, 2017. Represents (i) 514,424 shares held by Deerfield Special Situations Fund, L.P., or Deerfield Fund, and (ii) 889,230 shares held by Deerfield Private Design Fund III, L.P., or Deerfield Fund III. Deerfield Mgmt, L.P. is the general partner of Deerfield Fund, and Deerfield Mgmt III, L.P. is the general partner of Deerfield Fund III. Deerfield Management Company, L.P. is the investment manager of Deerfield Fund and Deerfield Fund III. James Flynn is the sole member of the general partner of each of Deerfield Mgmt III, L.P., Deerfield Mgmt, L.P. and Deerfield Management Company, L.P. and may be deemed to have voting and investment power over the shares held by Deerfield Fund and Deerfield Fund III. The address of Deerfield Management Company, L.P. is 780 Third Avenue, 37th Floor, New York, New York 10017.

(5) Represents (i) 201,814 shares of common stock held by the Matthew R. Patterson Revocable Trust, of which Mr. Patterson is Trustee and (ii) 371,050 shares underlying options to purchase common stock that are exercisable within 60 days of March 15, 2017.

(6) Represents 78,138 shares underlying options to purchase common stock that are exercisable within 60 days of March 15, 2017.

(7) Represents 80,325shares of common stock underlying options to purchase common stock that are exercisable within 60 days of March 15, 2017.

(8) Represents (i) 475,799 shares held by Mr. Lange, (ii) 25,678 shares held by Amygdala Lange Trust, of which Mr. Lange's domestic partner is a trustee, (iii) 8,558 shares held by Lange Minors' Trust, of which Mr. Lange's domestic partner is a trustee, (iv) 87,343 shares held by Asset Management Ventures Fund, L.P., of which Mr. Lange is a general partner, and (v) 14,555 shares held by Camp Lowell, LLC, of which Mr. Lange is president, and (vi) 4,000 shares underlying options to purchase common stock that are exercisable within 60 days of March 15, 2017.

(9) Represents 14,015 shares underlying options to purchase common stock that are exercisable with 60 days of March 15, 2017.

(10) Represents (i) 4,000 shares underlying options to purchase common stock that are exercisable within 60 days of March 15, 2017 and (ii)(a) 2,332,031 shares held by 5AM Ventures and (b) 60,100 shares held by 5AM Co-Investors. 5 AM Partners is the general partner of each of 5AM Ventures and 5AM Co-Investors,

and may be deemed to have sole voting and investment power over the shares held by each of 5AM Ventures and 5AM Co-Investors. Andrew Schwab, John Diekman and Scott Rocklage are the managing members of 5AM Partners. Mr. Parmar is a managing partner at 5AM Venture Management, LLC, which is an affiliate of 5AM Partners.

(11) Represents (i) 89,695 shares of common stock and (ii) 21,355 shares underlying options to purchase common stock that are exercisable within 60 days of March 15, 2017.

(12) Represents (i) 4,000 shares underlying options to purchase common stock that are exercisable within 60 days of March 15, 2017 and (ii) 4,801,638 shares of common stock held by OPI IV. GP IV is the sole general partner of OPI IV. OrbiMed is the managing member of GP IV. Samuel D. Isaly is the managing member of OrbiMed. By virtue of such relationships, GP IV, OrbiMed, and Mr. Isaly may be deemed to have voting and investment power with respect to the shares held by OPI IV.

(13) Represents 2,500 shares underlying options to purchase common stock that are exercisable within 60 days of March 15, 2017.

(14) Represents (i) 7,474 shares of common stock and (ii) 7,477 shares underlying options to purchase common stock that are exercisable within 60 days of March 15, 2017.

(15) Represents (i) 4,000 shares underlying options to purchase common stock that are exercisable within 60 days of March 15, 2017 and (ii)(a) 1,795,524 shares held by VVC IV and (b) 11,308 shares held by VSF IV. VV IV is the sole general partner of each of VVC IV and VSF IV. Mr. Woiwode, together with Brian Atwood, Bradley Bolzon, Samuel Colella, Ross Jaffe, William Link, Kirk Nielsen, Robin Praeger, Rebecca Robertson and Charles Warden, are the managing directors of VV IV and may be deemed to share voting and investment power over the shares held by each of the VVC IV and VSF IV.

(16) Represents (i) 9,911,157 shares of common stock and (ii) 859,637 shares underlying options to purchase common stock that are exercisable within 60 days of March 15, 2017.

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR NON-U.S. HOLDERS OF COMMON STOCK

This section summarizes the material U.S. federal income tax considerations relating to the acquisition, ownership and disposition of our common stock by "non-U.S. holders" (as defined below) pursuant to this offering. This summary does not provide a complete analysis of all potential U.S. federal income tax considerations relating thereto. The information provided below is based upon provisions of the Internal Revenue Code of 1986, as amended, or Code, Treasury regulations promulgated thereunder, administrative rulings and judicial decisions currently in effect. These authorities may change at any time, possibly retroactively, or the Internal Revenue Service, or IRS, might interpret the existing authorities differently. In either case, the tax considerations of owning or disposing of our common stock could differ from those described below. As a result, we cannot assure you that the tax consequences described in this discussion will not be challenged by the IRS or will be sustained by a court if challenged by the IRS.

This summary does not address the tax considerations arising under the laws of any non-U.S., state or local jurisdiction, or under U.S. federal gift and estate tax laws, except to the limited extent provided below. In addition, this discussion does not address tax considerations applicable to an investor's particular circumstances or to investors that may be subject to special tax rules, including, without limitation:

- banks, insurance companies or other financial institutions;
- partnerships or entities or arrangements treated as partnerships or other pass-through entities for U.S. federal tax purposes (or investors in such entities);
- corporations that accumulate earnings to avoid U.S. federal income tax;
- persons subject to the alternative minimum tax or medicare contribution tax;
- tax-exempt organizations or tax-qualified retirement plans;
- controlled foreign corporations or passive foreign investment companies;
- persons who acquired our common stock as compensation for services;
- dealers in securities or currencies;
- traders in securities that elect to use a mark-to-market method of accounting for their securities holdings;
- persons that own, or are deemed to own, more than 5% of our capital stock (except to the extent specifically set forth below);
- certain former citizens or long-term residents of the United States;
- persons who hold our common stock as a position in a hedging transaction, "straddle," "conversion transaction" or other risk reduction transaction;
- persons who do not hold our common stock as a capital asset within the meaning of Section 1221 of the Code (generally, for investment purposes); or
- persons deemed to sell our common stock under the constructive sale provisions of the Code.

In addition, if a partnership or entity classified as a partnership for U.S. federal income tax purposes is a beneficial owner of our common stock, the tax treatment of a partner in the partnership or an owner of the entity will depend upon the status of the partner or other owner and the activities of the partnership or other entity.

Accordingly, this summary does not address tax considerations applicable to partnerships that hold our common stock, and partners in such partnerships should consult their tax advisors.

INVESTORS CONSIDERING THE PURCHASE OF OUR COMMON STOCK SHOULD CONSULT THEIR OWN TAX ADVISORS REGARDING THE APPLICATION OF THE U.S. FEDERAL INCOME AND ESTATE TAX LAWS TO THEIR PARTICULAR SITUATIONS AND THE CONSEQUENCES OF FOREIGN, STATE OR LOCAL LAWS, AND TAX TREATIES

Non-U.S. Holder Defined

For purposes of this summary, a "non-U.S. holder" is any holder of our common stock, other than a partnership, that is not:

- an individual who is a citizen or resident of the United States;
- a corporation, or other entity taxable as a corporation for U.S. federal income tax purposes, created or organized under the laws of the United States, any state therein or the District of Columbia;
- a trust if it (1) is subject to the primary supervision of a U.S. court and one of more U.S. persons have authority to control all substantial decisions of the trust or (2) has a valid election in effect under applicable U.S. Treasury regulations to be treated as a U.S. person; or
- an estate whose income is subject to U.S. income tax regardless of source.

If you are a non-U.S. citizen who is an individual, you may, in many cases, be deemed to be a resident alien, as opposed to a nonresident alien, by virtue of being present in the United States for at least 31 days in the calendar year and for an aggregate of at least 183 days during a three- year period ending in the current calendar year. For these purposes, all the days present in the current year, one-third of the days present in the immediately preceding year, and one-sixth of the days present in the second preceding year are counted. Resident aliens are subject to U.S. federal income tax as if they were U.S. citizens. Such an individual is urged to consult his or her own tax advisor regarding the U.S. federal income tax consequences of the ownership or disposition of our common stock.

Dividends

We do not expect to declare or make any distributions on our common stock in the foreseeable future and the terms of our credit facility currently restrict our ability to pay dividends. If we do pay dividends on shares of our common stock, however, such distributions will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. Distributions in excess of our current and accumulated earnings and profits will constitute a return of capital that is applied against and reduces, but not below zero, a non-U.S. holder's adjusted tax basis in shares of our common stock. Any remaining excess will be treated as gain realized on the sale or other disposition of our common stock. See "—Sale of Common Stock."

Any dividend paid to a non-U.S. holder on our common stock that is not effectively connected with a non-U.S. holder's conduct of a trade or business in the United States will generally be subject to U.S. withholding tax at a 30% rate. The withholding tax might apply at a reduced rate under the terms of an applicable income tax treaty between the United States and the non-U.S. holder's country of residence subject to the

discussion below regarding the Foreign Account Tax Compliance Act. You should consult your tax advisors regarding your entitlement to benefits under a relevant income tax treaty. Generally, in order for us or our paying agent to withhold tax at a lower treaty rate, a non-U.S. holder must certify its entitlement to treaty benefits. A non-U.S. holder generally can meet this certification requirement by providing a Form W-8BEN or Form W-8BEN-E (or any successor form) or appropriate substitute form to us or our paying agent. If the non-U.S. holder holds the stock through a financial institution or other agent acting on the holder's behalf, the holder will be required to provide appropriate documentation to the agent. The holder's agent will then be required to provide certification to us or our paying agent, either directly or through other intermediaries. If you are eligible for a reduced rate of U.S. federal withholding tax under an income tax treaty, you may obtain a refund or credit of any excess amounts withheld by filing an appropriate claim for a refund with the IRS in a timely manner.

Dividends received by a non-U.S. holder that are effectively connected with a U.S. trade or business conducted by the non-U.S. holder, and if required by an applicable income tax treaty between the United States and the non-U.S. holder's country of residence, are attributable to a permanent establishment maintained by the non-U.S. holder in the United States, are not subject to U.S. withholding tax. To obtain this exemption, a non-U.S. holder must provide us or our paying agent with an IRS Form W-8ECI properly certifying such exemption. Such effectively connected dividends, although not subject to withholding tax, are taxed at the same graduated rates applicable to U.S. persons, net of certain deductions and credits. In addition to being taxed at graduated tax rates, dividends received by corporate non-U.S. holders that are effectively connected with a U.S. trade or business of the corporate non-U.S. holder may also be subject to a branch profits tax at a rate of 30% or such lower rate as may be specified by an applicable tax treaty.

Sale of Common Stock

Subject to the discussion below regarding Backup Withholding and Information Reporting and the Foreign Account Tax Compliance Act, non-U.S. holders will generally not be subject to U.S. federal income tax on any gains realized on the sale, exchange or other disposition of our common stock unless:

- the gain (i) is effectively connected with the conduct by the non-U.S. holder of a U.S. trade or business and (ii) if required by an applicable income tax treaty between the United States and the non-U.S. holder's country of residence, is attributable to a permanent establishment maintained by the non-U.S. holder in the United States (in which case the special rules described below apply);

- the non-U.S. holder is an individual who is present in the United States for 183 days or more in the taxable year of the sale, exchange or other disposition of our common stock, and certain other requirements are met (in which case the gain would be subject to a flat 30% tax, or such reduced rate as may be specified by an applicable income tax treaty, which may be offset by U.S. source capital losses, even though the individual is not considered a resident of the United States); or

- the rules of the Foreign Investment in Real Property Tax Act, or FIRPTA, treat the gain as effectively connected with a U.S. trade or business.

The FIRPTA rules may apply to a sale, exchange or other disposition of our common stock if we are, or were within the shorter of the five-year period preceding the disposition and the non-U.S. holder's holding period, a "U.S. real property holding corporation," or USRPHC. In general, we would be a USRPHC if interests in U.S. real estate comprised at least half of the value of our business assets. We do not believe that we are a USRPHC and we do not anticipate becoming one in the future. Even if we become a USRPHC, as long as our common stock is regularly traded on an established securities market, such common stock will be treated as U.S. real property interests only if beneficially owned by a non-U.S. holder that actually or constructively owned more than 5% of our outstanding common stock at some time within the five-year period preceding the disposition.

If any gain from the sale, exchange or other disposition of our common stock, (i) is effectively connected with a U.S. trade or business conducted by a non-U.S. holder and (ii) if required by an applicable

income tax treaty between the United States and the non-U.S. holder's country of residence, is attributable to a permanent establishment maintained by such non-U.S. holder in the United States, then the gain generally will be subject to U.S. federal income tax at the same graduated rates applicable to U.S. persons, net of certain deductions and credits. If the non-U.S. holder is a corporation, under certain circumstances, that portion of its earnings and profits that is effectively connected with its U.S. trade or business, subject to certain adjustments, generally would be subject also to a "branch profits tax." The branch profits tax rate is 30%, although an applicable income tax treaty between the United States and the non-U.S. holder's country of residence might provide for a lower rate.

U.S. Federal Estate Tax

The estates of nonresident alien individuals generally are subject to U.S. federal estate tax on property with a U.S. situs. Because we are a U.S. corporation, our common stock will be U.S. situs property and therefore will be included in the taxable estate of a nonresident alien decedent, unless an applicable estate tax treaty between the United States and the decedent's country of residence provides otherwise.

Backup Withholding and Information Reporting

The Code and the Treasury regulations require those who make specified payments to report the payments to the IRS. Among the specified payments are dividends and proceeds paid by brokers to their customers. The required information returns enable the IRS to determine whether the recipient properly included the payments in income. This reporting regime is reinforced by "backup withholding" rules. These rules require the payors to withhold tax from payments subject to information reporting if the recipient fails to cooperate with the reporting regime by failing to provide his taxpayer identification number to the payor, furnishing an incorrect identification number, or failing to report interest or dividends on his returns. The backup withholding tax rate is currently 28%. The backup withholding rules do not apply to payments to corporations, whether domestic or foreign, provided they establish such exemption.

Payments to non-U.S. holders of dividends on common stock generally will not be subject to backup withholding, and payments of proceeds made to non-U.S. holders by a broker upon a sale of common stock will not be subject to information reporting or backup withholding, in each case so long as the non-U.S. holder certifies its nonresident status (and we or our paying agent do not have actual knowledge or reason to know the holder is a U.S. person or that the conditions of any other exemption are not, in fact, satisfied) or otherwise establishes an exemption. The certification procedures to claim treaty benefits described under "—Dividends" will generally satisfy the certification requirements necessary to avoid the backup withholding tax. We must report annually to the IRS any dividends paid to each non-U.S. holder and the tax withheld, if any, with respect to these dividends. Copies of these reports may be made available to tax authorities in the country where the non-U.S. holder resides.

Under the Treasury regulations, the payment of proceeds from the disposition of shares of our common stock by a non-U.S. holder made to or through a U.S. office of a broker generally will be subject to information reporting and backup withholding unless the beneficial owner certifies, under penalties of perjury, among other things, its status as a non-U.S. holder (and the broker does not have actual knowledge or reason to know the holder is a U.S. person) or otherwise establishes an exemption. The payment of proceeds from the disposition of shares of our common stock by a non-U.S. holder made to or through a non-U.S. office of a broker generally will not be subject to backup withholding and information reporting, except as noted below. Information reporting, but not backup withholding, will apply to a payment of proceeds, even if that payment is made outside of the United States, if you sell our common stock through a non-U.S. office of a broker that is:

- a U.S. person (including a foreign branch or office of such person);
- a "controlled foreign corporation" for U.S. federal income tax purposes;

- a foreign person 50% or more of whose gross income from certain periods is effectively connected with a U.S. trade or business; or

- a foreign partnership if at any time during its tax year (i) one or more of its partners are U.S. persons who, in the aggregate, hold more than 50% of the income or capital interests of the partnership or (ii) the foreign partnership is engaged in a U.S. trade or business;

unless the broker has documentary evidence that the beneficial owner is a non-U.S. holder and certain other conditions are satisfied, or the beneficial owner otherwise establishes an exemption (and the broker has no actual knowledge or reason to know to the contrary).

Backup withholding is not an additional tax. Any amounts withheld from a payment to a holder of common stock under the backup withholding rules can be credited against any U.S. federal income tax liability of the holder and may entitle the holder to a refund, provided that the required information is furnished to the IRS in a timely manner.

Foreign Account Tax Compliance Act (FATCA)

A U.S. federal withholding tax of 30% may apply to dividends and the gross proceeds of a disposition of our common stock paid to a foreign financial institution (as specifically defined by the applicable rules) unless such institution enters into an agreement with the U.S. government to withhold on certain payments and to collect and provide to the U.S. tax authorities substantial information regarding U.S. account holders of such institution (which includes certain equity holders of such institution, as well as certain account holders that are foreign entities with U.S. owners). Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing FATCA may be subject to different rules. This U.S. federal withholding tax of 30% will also apply to dividends and the gross proceeds of a disposition of our common stock paid to a non-financial foreign entity unless such entity provides the withholding agent with either a certification that it does not have any substantial direct or indirect U.S. owners or provides information regarding direct and indirect U.S. owners of the entity. The 30% federal withholding tax described in this paragraph cannot be reduced under an income tax treaty with the United States or by providing an IRS Form W-8BEN or similar documentation. The withholding tax described above will not apply if the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from the rules. Under certain circumstances, a non-U.S. holder might be eligible for refunds or credits of such taxes. Holders should consult with their own tax advisors regarding the possible implications of the withholding described herein.

The withholding provisions described above generally will apply to proceeds from a sale or other disposition of common stock if such sale or other disposition occurs on or after January 1, 2019 and apply currently to payments of dividends on our common stock.

THE PRECEDING DISCUSSION OF U.S. FEDERAL TAX CONSIDERATIONS IS FOR GENERAL INFORMATION ONLY. IT IS NOT TAX ADVICE TO ANY NON-U.S. HOLDER IN ITS PARTICULAR CIRCUMSTANCES. EACH PROSPECTIVE INVESTOR SHOULD CONSULT ITS OWN TAX ADVISOR REGARDING THE PARTICULAR U.S. FEDERAL, STATE, LOCAL AND FOREIGN TAX CONSEQUENCES OF PURCHASING, HOLDING AND DISPOSING OF OUR COMMON STOCK, INCLUDING THE CONSEQUENCES OF ANY PROPOSED CHANGE IN APPLICABLE LAWS.

UNDERWRITING

Merrill Lynch, Pierce, Fenner & Smith Incorporated, Cowen and Company, LLC and Piper Jaffray & Co. are acting as representatives of each of the underwriters named below. Subject to the terms and conditions set forth in an underwriting agreement among us and the underwriters, we have agreed to sell to the underwriters, and each of the underwriters has agreed, severally and not jointly, to purchase from us, the number of shares of common stock set forth opposite its name below.

Underwriter	Number of Shares
Merrill Lynch, Pierce, Fenner & Smith Incorporated	2,080,000
Cowen and Company, LLC	1,560,000
Piper Jaffray & Co.	1,144,000
Wedbush Securities Inc.	416,000
Total	5,200,000

Subject to the terms and conditions set forth in the underwriting agreement, the underwriters have agreed, severally and not jointly, to purchase all of the shares sold under the underwriting agreement if any of these shares are purchased. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the nondefaulting underwriters may be increased or the underwriting agreement may be terminated.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments the underwriters may be required to make in respect of those liabilities.

The underwriters are offering the shares, subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel, including the validity of the shares, and other conditions contained in the underwriting agreement, such as the receipt by the underwriters of officer's certificates and legal opinions. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Commissions and Discounts

The representatives have advised us that the underwriters propose initially to offer the shares to the public at the public offering price set forth on the cover page of this prospectus and to dealers at that price less a concession not in excess of $0.52 per share. After the initial offering, the public offering price, concession or any other term of the offering may be changed.

The following table shows the public offering price, underwriting discount and proceeds before expenses to us. The information assumes either no exercise or full exercise by the underwriters of their option to purchase additional shares.

	Per Share	Without Option	With Option
Public offering price	$14.50	$75,400,000	$86,710,000
Underwriting discounts and commissions	$.87	$4,524,000	$5,202,600
Proceeds, before expenses, to us	$13.63	$70,876,000	$81,507,400

The expenses of the offering, not including the underwriting discount, are estimated to be approximately $0.5 million. We have also agreed to reimburse the underwriters for up to $30,000 for their Financial Industry Regulatory Authority, Inc., or FINRA, counsel fee. In accordance with FINRA Rule 5110, this reimbursement is deemed underwriting compensation for this offering.

Option to Purchase Additional Shares

We have granted an option to the underwriters, exercisable for 30 days after the date of this prospectus, to purchase up to 780,000 additional shares at the public offering price, less the underwriting discount. If the underwriters exercise this option, each will be obligated, subject to conditions contained in the underwriting agreement, to purchase a number of additional shares proportionate to that underwriter's initial amount reflected in the above table.

No Sales of Similar Securities

We, our executive officers and directors, and certain of our existing security holders have agreed not to sell or transfer any common stock or securities convertible into, exchangeable for, exercisable for, or repayable with common stock, for 90 days after the date of this prospectus without first obtaining the written consent of Merrill Lynch, Pierce, Fenner & Smith Incorporated and Cowen and Company, LLC. Specifically, we and these other persons have agreed, with certain limited exceptions, not to directly or indirectly:

- offer, pledge, sell or contract to sell any common stock,
- sell any option or contract to purchase any common stock,
- purchase any option or contract to sell any common stock,
- grant any option, right or warrant for the sale of any common stock,
- lend or otherwise dispose of or transfer any common stock,
- request or demand that we file a registration statement related to the common stock, or
- enter into any swap or other agreement that transfers, in whole or in part, the economic consequence of ownership of any common stock whether any such swap or transaction is to be settled by delivery of shares or other securities, in cash or otherwise.

This lock-up provision applies to common stock and to securities convertible into or exchangeable or exercisable for or repayable with common stock. It also applies to common stock owned now or acquired later by the person executing the agreement or for which the person executing the agreement later acquires the power of disposition.

NASDAQ Global Market Listing

Our common stock is listed on The NASDAQ Global Market under the symbol "BOLD."

Price Stabilization, Short Positions and Penalty Bids

Until the distribution of the shares is completed, SEC rules may limit underwriters and selling group members from bidding for and purchasing our common stock. However, the representatives may engage in transactions that stabilize the price of the common stock, such as bids or purchases to peg, fix or maintain that price.

In connection with the offering, the underwriters may purchase and sell our common stock in the open market. These transactions may include short sales, purchases on the open market to cover positions created by short sales and stabilizing transactions. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in the offering. "Covered" short sales are sales made in an amount not

greater than the underwriters' option to purchase additional shares described above. The underwriters may close out any covered short position by either exercising their option to purchase additional shares or purchasing shares in the open market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the option granted to them. "Naked" short sales are sales in excess of such option. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of our common stock in the open market after pricing that could adversely affect investors who purchase in the offering. Stabilizing transactions consist of various bids for or purchases of shares of common stock made by the underwriters in the open market prior to the completion of the offering.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the representatives have repurchased shares sold by or for the account of such underwriter in stabilizing or short covering transactions.

Similar to other purchase transactions, the underwriters' purchases to cover the syndicate short sales may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. The underwriters may conduct these transactions on the NASDAQ Global Market, in the over-the-counter market or otherwise.

Neither we nor any of the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, neither we nor any of the underwriters make any representation that the representatives will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

Electronic Distribution

In connection with the offering, certain of the underwriters or securities dealers may distribute prospectuses by electronic means, such as e-mail.

Other Relationships

Some of the underwriters and their affiliates have engaged in, and may in the future engage in, investment banking and other commercial dealings in the ordinary course of business with us or our affiliates. They have received, or may in the future receive, customary fees and commissions for these transactions. An affiliate of Cowen and Company, LLC served as the placement agent for our Series C convertible preferred stock financing in October 2015, and all of the underwriters in this offering also served as underwriters in our initial public offering in July 2016.

In addition, in the ordinary course of their business activities, the underwriters and their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

Notice to Prospective Investors in the European Economic Area

In relation to each member state of the European Economic Area, no offer of ordinary shares which are the subject of the offering has been, or will be made to the public in that Member State, other than under the following exemptions under the Prospectus Directive:

(i) to any legal entity which is a qualified investor as defined in the Prospectus Directive;

(ii) to fewer than 150 natural or legal persons (other than qualified investors as defined in the Prospectus Directive), subject to obtaining the prior consent of the Representatives for any such offer; or

(iii) in any other circumstances falling within Article 3(2) of the Prospectus Directive,

provided that no such offer of ordinary shares referred to in (a) to (c) above shall result in a requirement for the company or any representative to publish a prospectus pursuant to Article 3 of the Prospectus Directive, or supplement a prospectus pursuant to Article 16 of the Prospectus Directive.

Each person located in a Member State to whom any offer of ordinary shares is made or who receives any communication in respect of an offer of ordinary shares, or who initially acquires any ordinary shares will be deemed to have represented, warranted, acknowledged and agreed to and with each representative and the company that (i) it is a "qualified investor" within the meaning of the law in that Member State implementing Article 2(1)(e) of the Prospectus Directive; and (ii) in the case of any ordinary shares acquired by it as a financial intermediary as that term is used in Article 3(2) of the Prospectus Directive, the ordinary shares acquired by it in the offer have not been acquired on behalf of, nor have they been acquired with a view to their offer or resale to, persons in any Member State other than qualified investors, as that term is defined in the Prospectus Directive, or in circumstances in which the prior consent of the Representatives has been given to the offer or resale; or where ordinary shares have been acquired by it on behalf of persons in any Member State other than qualified investors, the offer of those ordinary shares to it is not treated under the Prospectus Directive as having been made to such persons.

The company, the representatives and their respective affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgments and agreements.

This prospectus has been prepared on the basis that any offer of shares in any Member State will be made pursuant to an exemption under the Prospectus Directive from the requirement to publish a prospectus for offers of shares. Accordingly any person making or intending to make an offer in that Member State of shares which are the subject of the offering contemplated in this prospectus may only do so in circumstances in which no obligation arises for the company or any of the representatives to publish a prospectus pursuant to Article 3 of the Prospectus Directive in relation to such offer. Neither the company nor the representatives have authorized, nor do they authorize, the making of any offer of shares in circumstances in which an obligation arises for the company or the representatives to publish a prospectus for such offer.

For the purposes of this provision, the expression an "offer of ordinary shares to the public" in relation to any ordinary shares in any Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the ordinary shares to be offered so as to enable an investor to decide to purchase or subscribe the ordinary shares, as the same may be varied in that Member State by any measure implementing the Prospectus Directive in that Member State, the expression "Prospectus Directive" means Directive 2003/71/EC (as amended) and includes any relevant implementing measure in each Member State.

The above selling restriction is in addition to any other selling restrictions set out below.

Notice to Prospective Investors in the United Kingdom

In addition, in the United Kingdom, this document is being distributed only to, and is directed only at, and any offer subsequently made may only be directed at persons who are "qualified investors" (as defined in the Prospectus Directive) (i) who have professional experience in matters relating to investments falling within Article 19 (5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the "Order") and/or (ii) who are high net worth companies (or persons to whom it may otherwise be lawfully communicated) falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as "relevant persons"). This document must not be acted on or relied on in the United Kingdom by persons who are not relevant persons. In the United Kingdom, any investment or investment activity to which this document relates is only available to, and will be engaged in with, relevant persons.

Notice to Prospective Investors in Switzerland

The shares may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange, or SIX, or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the shares or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, the company or the shares have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA, or FINMA, and the offer of shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes, or CISA. The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of shares.

Notice to Prospective Investors in the Dubai International Financial Centre

This prospectus relates to an Exempt Offer in accordance with the Offered Securities Rules of the Dubai Financial Services Authority, or DFSA. This prospectus is intended for distribution only to persons of a type specified in the Offered Securities Rules of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with Exempt Offers. The DFSA has not approved this prospectus nor taken steps to verify the information set forth herein and has no responsibility for the prospectus. The shares to which this prospectus relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the shares offered should conduct their own due diligence on the shares. If you do not understand the contents of this prospectus you should consult an authorized financial advisor.

Notice to Prospective Investors in Australia

No placement document, prospectus, product disclosure statement or other disclosure document has been lodged with the Australian Securities and Investments Commission, or ASIC, in relation to the offering. This prospectus does not constitute a prospectus, product disclosure statement or other disclosure document under the Corporations Act 2001, or Corporations Act, and does not purport to include the information required for a prospectus, product disclosure statement or other disclosure document under the Corporations Act.

Any offer in Australia of the shares may only be made to persons, or Exempt Investors, who are "sophisticated investors" (within the meaning of section 708(8) of the Corporations Act), "professional investors" (within the meaning of section 708(11) of the Corporations Act) or otherwise pursuant to one or more exemptions contained in section 708 of the Corporations Act so that it is lawful to offer the shares without disclosure to investors under Chapter 6D of the Corporations Act.

The shares applied for by Exempt Investors in Australia must not be offered for sale in Australia in the period of 12 months after the date of allotment under the offering, except in circumstances where disclosure to investors under Chapter 6D of the Corporations Act would not be required pursuant to an exemption under section 708 of the Corporations Act or otherwise or where the offer is pursuant to a disclosure document which complies with Chapter 6D of the Corporations Act. Any person acquiring shares must observe such Australian on-sale restrictions.

This prospectus contains general information only and does not take account of the investment objectives, financial situation or particular needs of any particular person. It does not contain any securities recommendations or financial product advice. Before making an investment decision, investors need to consider whether the information in this prospectus is appropriate to their needs, objectives and circumstances, and, if necessary, seek expert advice on those matters.

Notice to Prospective Investors in Hong Kong

The shares have not been offered or sold and will not be offered or sold in Hong Kong, by means of any document, other than (a) to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong and any rules made under that Ordinance; or (b) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies Ordinance (Cap. 32) of Hong Kong or which do not constitute an offer to the public within the meaning of that Ordinance. No advertisement, invitation or document relating to the shares has been or may be issued or has been or may be in the possession of any person for the purposes of issue, whether in Hong Kong or elsewhere, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to shares which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the Securities and Futures Ordinance and any rules made under that Ordinance.

Notice to Prospective Investors in Japan

The shares have not been and will not be registered under the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948, as amended) and, accordingly, will not be offered or sold, directly or indirectly, in Japan, or for the benefit of any Japanese Person or to others for re-offering or resale, directly or indirectly, in Japan or to any Japanese Person, except in compliance with all applicable laws, regulations and ministerial guidelines promulgated by relevant Japanese governmental or regulatory authorities in effect at the relevant time. For the purposes of this paragraph, "Japanese Person" shall mean any person resident in Japan, including any corporation or other entity organized under the laws of Japan.

Notice to Prospective Investors in Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares may not be circulated or distributed, nor may the shares be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore, or SFA, (ii) to a relevant person pursuant to Section 275(1), or any person pursuant to Section 275(1A), and in accordance with the conditions specified in Section 275, of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

(i) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or

(ii) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

securities (as defined in Section 239(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the shares pursuant to an offer made under Section 275 of the SFA except:

(i) to an institutional investor or to a relevant person defined in Section 275(2) of the SFA, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;

(ii) where no consideration is or will be given for the transfer;

(iii) where the transfer is by operation of law;

(iv) as specified in Section 276(7) of the SFA; or

(v) as specified in Regulation 32 of the Securities and Futures (Offers of Investments) (Shares and Debentures) Regulations 2005 of Singapore.

Notice to Prospective Investors in Canada

The shares may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 *Prospectus Exemptions* or subsection 73.3(1) of the *Securities Act* (Ontario), and are permitted clients, as defined in National Instrument 31-103 *Registration Requirements*, *Exemptions and Ongoing Registrant Obligations*. Any resale of the shares must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 (or, in the case of securities issued or guaranteed by the government of a non- Canadian jurisdiction, section 3A.4) of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

LEGAL MATTERS

The validity of the shares of common stock offered by this prospectus will be passed upon for us by Fenwick & West LLP, San Francisco, California. Certain legal matters relating to this offering will be passed upon for the underwriters by Cooley LLP, San Francisco, California.

EXPERTS

The consolidated financial statements of Audentes Therapeutics, Inc. as of December 31, 2016 and 2015, and for each of the years in the three-year period ended December 31, 2016, have been incorporated by reference herein in reliance upon the report of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We have filed with the Securities and Exchange Commission, or the SEC, a registration statement on Form S-1 under the Securities Act with respect to the shares of common stock offered hereby. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement, the exhibits filed therewith or the documents incorporated by reference therein. For further information about us and the common stock offered hereby, reference is made to the registration statement, the exhibits filed therewith and the documents incorporated by reference therein. Statements contained in this prospectus regarding the contents of any contract or any other document that is filed as an exhibit to the registration statement are not necessarily complete, and in each instance we refer you to the copy of such contract or other document filed as an exhibit to the registration statement. A copy of the registration statement and the exhibits filed therewith may be inspected without charge at the public reference room maintained by the SEC, located at 100 F Street, NE, Washington, DC 20549, and copies of all or any part of the registration statement may be obtained from that office. Please call the SEC at 1-800-SEC-0330 for further information about the public reference room. The SEC also maintains a website that contains reports, proxy and information statements and other information regarding registrants that file electronically with the SEC. The address of the website is www.sec.gov.

We are subject to the information and reporting requirements of the Exchange Act, and, in accordance with this law, file periodic reports and other information with the SEC. These periodic reports and other information are available for inspection and copying at the SEC's public reference facilities and the website of the SEC referred to above. We also maintain a website at www.audentestx.com. You may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information contained on our website is not a part of this prospectus and the inclusion of our website address in this prospectus is an inactive textual reference only.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" information from other documents that we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus. Information in this prospectus supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus.

We incorporate by reference into this prospectus and the registration statement of which this prospectus is a part the information or documents listed below that we have filed with the SEC (Commission File No. 001-37833).

- our Annual Report on Form 10-K for the year ended December 31, 2016, filed with the SEC on March 13, 2017; and

- the description of capital stock included in our registration statement on Form 8-A, filed with the SEC on July 13, 2016, and any amendments or reports filed for the purpose of updating such description.

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference, including exhibits to these documents. You should direct any requests for documents to 600 California Street, 17th Floor, San Francisco, California 94108, telephone (415) 818-1001. Copies of the above reports may also be accessed from our website at www.audentestx.com. We do not incorporate the information from our website into this prospectus or any supplement to this prospectus and you should not consider any information on, or that can be accessed through, our website as part of this prospectus or any supplement to this prospectus (other than those filings with the SEC that we specifically incorporate by reference into this prospectus or any supplement to this prospectus).

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus will be deemed modified, superseded or replaced for purposes of this prospectus to the extent that a statement contained in this prospectus modifies, supersedes or replaces such statement.

5,200,000 Shares

Common Stock

PROSPECTUS

BofA Merrill Lynch

Cowen and Company

Piper Jaffray

Wedbush PacGrow

April 18, 2017