

Achaogen, Inc.
Form 424B5
February 19, 2019
Table of Contents

Filed Pursuant to Rule 424(b)(5)
Registration No. 333-217787

Prospectus Supplement

(To Prospectus dated April 25, 2018)

15,000,000 Shares of Common Stock

Series A Warrants to Purchase up to 15,000,000 Shares of Common Stock

Series B Warrants to Purchase up to 15,000,000 Shares of Common Stock

We are offering up to 15,000,000 shares of our common stock, Series A warrants to purchase up to 15,000,000 shares of common stock and Series B warrants to purchase up to 15,000,000 shares of common stock (and the shares of common stock issuable from time to time upon exercise of the offered warrants). The Series A warrants and Series B warrants are collectively referred to as the warrants. The shares of common stock and warrants will be sold in fixed combinations, with each share of common stock that we sell in this offering being accompanied by one Series A warrant to purchase one share of common stock and one Series B warrant to purchase one share of common stock. The combined offering price per share of common stock and accompanying warrants is \$1.00, representing an offering price of \$0.99 per share of common stock, with the accompanying warrants offered at a purchase price of \$0.01 per warrant combination. Each Series A warrant will have an exercise price of \$1.00 per share of common stock, will be immediately exercisable from and after the date of its issuance and expire on the first anniversary of such date. Each Series B warrant will have an exercise price of \$1.15 per share of common stock, will be immediately exercisable from and after the date of its issuance and expire on the fifth anniversary of such date. The shares of common stock and warrants are immediately separable and will be issued separately, but can only be purchased together in this offering.

Our common stock is listed on The Nasdaq Global Market under the symbol AKAO. The last reported sale price of our common stock on February 15, 2019 was \$0.92 per share. There is no established trading market for any of the warrants and we do not expect a market to develop. We do not intend to apply for a listing for any of the warrants on any national securities exchange.

Investing in our common stock involves a high degree of risk. Before making an investment decision, please read the information under the heading Risk Factors beginning on page S-16 of this prospectus supplement and in the documents incorporated by reference into this prospectus supplement.

	Per Share and Accompanying Warrants	Total
Public offering price	\$ 1.00	\$ 15,000,000
Underwriting discounts and commissions(1)	\$ 0.06	\$ 900,000
Proceeds, before expenses, to us(2)	\$ 0.94	\$ 14,100,000

(1) See Underwriting for additional disclosure regarding underwriting compensation and estimated offering expenses.

(2) The amount of the offering proceeds to us presented in this table does not give effect to any exercise of the warrants being issued in this offering.

We have granted the underwriter an option for a period of 30 days to purchase up to 2,250,000 additional shares of our common stock and/or Series A and Series B warrants together to purchase an aggregate of up to 4,500,000 shares of our common stock, in any combinations thereof, from us at the public offering price per security less the underwriting discounts and commissions.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement or the prospectus to which it relates. Any representation to the contrary is a criminal offense.

The shares of common stock and warrants are expected to be delivered to the purchasers on or about February 20, 2019.

H.C. Wainwright & Co.

February 15, 2019

Table of Contents

TABLE OF CONTENTS

Prospectus Supplement

<u>ABOUT THIS PROSPECTUS SUPPLEMENT</u>	S-1
<u>FORWARD-LOOKING STATEMENTS</u>	S-2
<u>PROSPECTUS SUPPLEMENT SUMMARY</u>	S-4
<u>THE OFFERING</u>	S-12
<u>SUMMARY CONSOLIDATED FINANCIAL DATA</u>	S-14
<u>RISK FACTORS</u>	S-16
<u>USE OF PROCEEDS</u>	S-20
<u>CAPITALIZATION</u>	S-21
<u>DILUTION</u>	S-23
<u>DIVIDEND POLICY</u>	S-25
<u>DESCRIPTION OF SECURITIES WE ARE OFFERING</u>	S-26
<u>MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES TO NON-U.S. HOLDERS</u>	S-28
<u>UNDERWRITING</u>	S-35
<u>LEGAL MATTERS</u>	S-41
<u>EXPERTS</u>	S-41
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	S-42

Prospectus

<u>ABOUT THIS PROSPECTUS</u>	Page 1
<u>WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE</u>	2
<u>ABOUT ACHAOPEN</u>	4
<u>RISK FACTORS</u>	5
<u>USE OF PROCEEDS</u>	6
<u>RATIO OF EARNINGS TO FIXED CHARGES AND PREFERENCE DIVIDENDS</u>	7
<u>DESCRIPTION OF CAPITAL STOCK</u>	8
<u>DESCRIPTION OF DEBT SECURITIES</u>	12
<u>DESCRIPTION OF WARRANTS</u>	20
<u>DESCRIPTION OF UNITS</u>	22
<u>GLOBAL SECURITIES</u>	23
<u>PLAN OF DISTRIBUTION</u>	27
<u>LEGAL MATTERS</u>	29
<u>EXPERTS</u>	29

Table of Contents

ABOUT THIS PROSPECTUS SUPPLEMENT

We provide information to you about this offering of securities in two separate documents that are bound together: (1) this prospectus supplement, which describes the specific details regarding this offering; and (2) the accompanying base prospectus, which provides general information, some of which may not apply to this offering. Generally, when we refer to this prospectus, we are referring to both documents combined. If information in this prospectus supplement is inconsistent with the accompanying base prospectus, you should rely on this prospectus supplement. However, if any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference in this prospectus supplement—the statement in the document having the later date modifies or supersedes the earlier statement as our business, financial condition, results of operations and prospects may have changed since the earlier dates.

We have not authorized anyone to provide you with any information or to make any representation, other than those contained or incorporated by reference in this prospectus supplement or in any free writing prospectus we have prepared. We take no responsibility for, and provide no assurance as to the reliability of, any other information that others may give you. Neither we nor the underwriters are making an offer to sell or soliciting an offer to buy our securities in any jurisdiction where an offer or solicitation is not authorized or in which the person making that offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make an offer or solicitation. You should assume that the information appearing in this prospectus supplement, the accompanying base prospectus, the documents incorporated by reference into this prospectus, and in any free writing prospectus that we may authorize for use in connection with this offering, is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus supplement, the accompanying base prospectus, the documents incorporated by reference into this prospectus, and any free writing prospectus that we may authorize for use in connection with this offering, in their entirety before making an investment decision. You should also read and consider the information in the documents to which we have referred you in the section of this prospectus supplement entitled “Where You Can Find More Information.”

We are offering to sell, and seeking offers to buy, securities only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement and the accompanying base prospectus and the offering of the common stock in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement and the accompanying base prospectus must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this prospectus supplement and the accompanying base prospectus outside the United States. This prospectus supplement and the accompanying base prospectus do not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement and accompanying base prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

When we refer to Achaogen, we, our, us and the Company in this prospectus supplement, we mean Achaogen, Inc. and our consolidated subsidiaries unless otherwise specified. When we refer to you, we mean prospective investors in the Company.

AchaogenTM, ZEMDRI[®], and our logo are some of our trademarks used in this prospectus supplement. This prospectus supplement also includes trademarks, tradenames and service marks that are the property of other organizations. Solely for convenience, our trademarks and tradenames referred to in this prospectus supplement appear without the [®] and [™] symbol, 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.

S-1

Table of Contents

FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying base prospectus, including the documents incorporated by reference herein and therein, and any free writing prospectus that we have authorized for use in connection with this offering contain forward-looking statements concerning our business, operations and financial performance and condition, as well as our plans, objectives and expectations for our business operations and financial performance and condition. Any statements contained herein that are not statements of historical facts may be deemed to be forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as aim, anticipate, assume, believe, contemplate, continue, could, due, estimate, expect, goal, intend, may, object, potential, positioned, seek, should, target, will, would, and other similar expressions that are predictions of future events and future trends, or the negative of these terms or other comparable terminology. These forward-looking statements include, but are not limited to, statements about:

our previously announced search for strategic alternatives to maximize shareholder value;

our future cash runway, expenses, revenues and capital requirements;

our ability to obtain additional financing;

the commercial and clinical potential of ZEMDRI and C-Scape;

the receipt of approvals to market ZEMDRI outside the United States and approvals to market C-Scape;

our ability to obtain approval for additional indications for ZEMDRI from the FDA;

the timing of initiation of clinical trials for C-Scape and our ability to successfully complete such clinical trials;

our ability to validate, develop, and obtain approval outside the United States for an *in vitro* assay to measure plazomicin levels;

our ability to discover and develop additional product candidates and advance such product candidates through preclinical and clinical studies and regulatory approval;

our business model, strategic plans, products, product candidates and technology;

the scope of protection we are able to establish and maintain for intellectual property rights covering ZEMDRI, C-Scape, other product candidates and our technology;

our ability to establish and maintain collaborations with government sources of funding and to obtain additional funding from government sources of funding;

the number of antibacterial infections and the need for new antibiotics to treat multidrug resistant bacterial infections;

our financial performance, including our fourth quarter unaudited preliminary financial results contained herein;

our use of proceeds from this offering; and

our competitors and our industry.

These forward-looking statements are based on management's current expectations, estimates, forecasts, and projections about our business and the industry in which we operate and involve known and unknown risks, uncertainties, and other factors that are in some cases beyond our control. As a result, any or all of our forward-looking statements in this prospectus may turn out to be inaccurate. Factors that may cause actual results to differ materially from current expectations include, among other things, those listed under "Risk Factors" and elsewhere in this prospectus. Potential investors are urged to consider these factors carefully in evaluating the

Table of Contents

forward-looking statements. These forward-looking statements speak only as of the date hereof and as of the dates indicated in these statements. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future. Given these risks and uncertainties, you are cautioned not to rely on such forward-looking statements as predictions of future events. You should, however, review the factors and risks we describe in the reports we will file from time to time with the Securities and Exchange Commission (SEC) after the date of this prospectus. See [Where You Can Find More Information](#).

S-3

Table of Contents

PROSPECTUS SUPPLEMENT SUMMARY

*This summary provides a general overview of selected information and does not contain all of the information you should consider before buying our common stock. Therefore, you should read the entire prospectus supplement, accompanying base prospectus and any free writing prospectus that we have authorized for use in connection with this offering carefully, including the information incorporated by reference, before deciding to invest in our common stock. Investors should carefully consider the information set forth under **Risk Factors** beginning on page S-16 and incorporated by reference to our annual report on Form 10-K and our quarterly reports on Form 10-Q.*

Overview

We are a biopharmaceutical company passionately committed to discovering, developing and commercializing innovative antibacterial agents for multi-drug resistant (MDR) gram-negative infections. On June 25, 2018, the U.S. Food and Drug Administration (FDA) approved our first commercial product ZEMDRI® (plazomicin) for adults with complicated urinary tract infections (cUTI), including pyelonephritis, caused by certain Enterobacteriaceae in adult patients with limited or no alternative treatment options. ZEMDRI is an intravenous (IV) infusion, administered once daily over a 30-minute IV. The approval of ZEMDRI was supported by data from the EPIC (Evaluating Plazomicin in cUTI) clinical trial, which evaluated the safety and efficacy of plazomicin in patients with serious infections caused by gram-negative pathogens. ZEMDRI became commercially available in July 2018. In December 2018, Achaogen also filed a Formal Dispute Resolution Request with the FDA regarding a bloodstream infection (BSI) indication for plazomicin, for which the FDA issued a Complete Response Letter (CRL) in June 2018. We have global commercialization rights to ZEMDRI, which has patent protection in the United States estimated until 2031 or 2032. On October 17, 2018, we announced the submission of a Marketing Authorization Application (MAA) to the European Medicines Agency (EMA) for plazomicin. ZEMDRI was funded in part by a \$124.4 million contract with the Biomedical Advanced Research and Development Authority (BARDA).

We are also currently developing C-Scape, which is in early-stage clinical development, as a product candidate, an orally administered antibiotic to address a serious unmet need for an effective oral treatment for patients with cUTI, including pyelonephritis, caused by extended spectrum beta-lactamases (ESBL)-producing Enterobacteriaceae. Our C-Scape program is also supported by BARDA.

ZEMDRI (plazomicin)

ZEMDRI is an aminoglycoside with once-daily dosing that has activity against certain Enterobacteriaceae, including carbapenem-resistant Enterobacteriaceae (CRE) and ESBL-producing Enterobacteriaceae. ZEMDRI was designed by our scientists to overcome the most common aminoglycoside resistance mechanisms, the aminoglycoside modifying enzymes (AMEs). We developed ZEMDRI by chemically modifying an existing aminoglycoside, sisomicin, a natural product isolated from bacteria, to shield the regions of the molecule that are targeted by the enzymes responsible for aminoglycoside resistance. As a result of these modifications, ZEMDRI has the potential to remain active against MDR organisms where most other major drug classes, including commercially available aminoglycosides, such as gentamicin and amikacin, have limited activity. Based on this profile, we developed ZEMDRI as an IV therapy for the treatment of serious bacterial infections due to MDR Enterobacteriaceae.

We consider the following to be key attributes that support the clinical utility and ultimate commercial value of ZEMDRI:

Met the objective of non-inferiority compared to meropenem in the Phase 3 EPIC trial in patients with cUTI and pyelonephritis for the FDA-specified primary efficacy endpoint, and achieved superiority for

S-4

Table of Contents

the EMA-specified primary efficacy endpoint. ZEMDRI was well tolerated with no new safety concerns identified in this trial.

Convenient administration as once daily, 30-minute IV therapy.

Potential to reduce the healthcare costs associated with the treatment of serious infections.

Potential to improve dosing strategy compared to existing aminoglycosides and alternative therapeutic options, and individualized patient dosing using an *in vitro* assay.

Potential to be used in combination with other antibiotics for the treatment of serious infections due to CRE.

Potent *in vitro* activity against MDR Enterobacteriaceae, including ESBL- producers and CRE.

Based on these key attributes above, we believe that ZEMDRI has the potential to become a new standard of care for the treatment of multi-drug resistant recurrent cUTI infections and as an important part of the treatment algorithm for serious infections due to CRE.

The need for new antibiotics to treat ESBL-producing Enterobacteriaceae is high, as these bacteria have become widespread globally in both healthcare-associated and community-onset infections and the use of carbapenems to treat infections caused by these organisms is felt to be contributing to the rise in CRE. In 2013, the CDC indicated that ESBL-producing Enterobacteriaceae pose a serious concern to public health threat requiring prompt and sustained action. Similar to CRE, these bacteria are commonly MDR, exhibiting resistance not only to extended spectrum cephalosporins but also to fluoroquinolones, and currently-marketed aminoglycosides. In many cases the remaining treatment option is a carbapenem and use of carbapenems to treat these infections is thought to be contributing to increased carbapenem resistance. We estimate that there are over one million cases of recurrent and/or multi-drug resistant hospital treated complicated urinary tract infections caused by ESBL-producing Enterobacteriaceae in the United States today.

The need for new antibiotics to treat CRE is particularly acute, as CRE is one of the top global threats in infectious disease. In 2013, the CDC labeled CRE as a nightmare bacteria and indicated that CRE poses a public health threat requiring urgent and aggressive action. These bacteria are commonly MDR, exhibiting resistance not only to carbapenems, but also to most antibiotics commonly used to treat gram-negative infections, including cephalosporins, b-lactam/b-lactamase inhibitor combinations, fluoroquinolones, and currently-marketed aminoglycosides. We estimate that there were approximately 180,000 cases of CRE infections in the United States and the EU5 in 2016, of which 70,000 to 80,000 were in the United States. We believe that CRE incidence will continue to increase in the future.

Commercial Strategy for ZEMDRI

Given the lack of effective therapeutic options and the increasing rates of gram-negative infections such as CRE and those caused by ESBL-producing bacteria, we believe the commercial opportunity for ZEMDRI is significant. Our overall goal is to establish ZEMDRI as the standard of care for the treatment of multi-drug resistant recurrent cUTI infections and as an important part of the treatment algorithm for serious infections due to CRE. Our strategy is intended to support ZEMDRI's differentiated profile from both approved and development-stage antibacterials. We

expect ZEMDRI to be used in the recurrent and/or multi-drug resistant cUTI population, with a duration of treatment of 4-7 days per the label. We estimate over one million patients suffer from these types of cUTI infections each year. Our commercialization of ZEMDRI is focused on this combined population and we are seeing the majority of our initial use in outpatient sites of care. Physicians are looking for additional treatment options for these patients as many have failed oral and/or IV antibiotics, often recurring after treatment with IV carbapenems. We are using a targeted U.S. sales force to promote ZEMDRI to

S-5

Table of Contents

hospital-based and outpatient-based healthcare professionals where MDR infections are concentrated. In key markets outside of the United States, including Europe, Asia, and Latin America, we currently believe we can expand the value of ZEMDRI through collaborating with one or more global or regional commercialization partners who have local market expertise.

Given ZEMDRI's product profile, it can be used across treatment settings, which is important when treating cUTI patients. Although there are some patients who need to remain in the hospital because of comorbidities, there are also patients who are hospitalized solely because they are receiving multiple antibiotic infusions per day. ZEMDRI allows physicians and patients the option to start in the hospital and then transition to an outpatient or homecare setting which benefits both hospitals and patients from a cost-saving and quality of care perspective. In addition, some patients treated with ZEMDRI are also avoiding hospitalization altogether.

Our key commercial focus is building a foundation to support use in both the inpatient and outpatient settings. This foundation is important as routine use is dependent on new products being incorporated into established systems and processes. We continue to work on educating key stakeholders on ZEMDRI's clinical profile and value proposition, establishing antibiotic susceptibility testing (AST) capabilities, and establishing therapeutic drug management (TDM) capabilities. In addition, in the hospital setting we are focused on supporting formulary reviews and then being incorporated in the electronic health record systems. In August 2018, we received the New Technology Add-on Payment (NTAP) designation from CMS. This designation provides up to 50% of our drug cost (~\$2,700) in additional reimbursement to hospitals for Medicare patients who receive ZEMDRI in the inpatient setting. We continue to educate about this designation as it provides helpful reimbursement as hospitals evaluate the economic impact of treating patients with ZEMDI and as they assess ZEMDRI for addition to their formularies. In the outpatient setting, we are also focused on educating office and reimbursement managers on billing and coding and building reimbursement confidence.

Phase 3 EPIC Trial of Plazomicin for the Treatment of cUTI (Supported FDA Approval)

In the EPIC trial, plazomicin successfully met or exceeded the objective of non-inferiority compared to meropenem for the FDA-specified primary efficacy endpoints, and achieved superiority for the primary efficacy endpoints specified by the EMA. Results for the FDA pre-specified composite endpoint of clinical cure and microbiological eradication in the microbiological modified intent-to-treat (mMITT) population at Day 5 achieved statistical non-inferiority, and Test-of-Cure (Day ~17) achieved statistical superiority. Results for EMA-specified endpoints of microbiological eradication at the test-of-cure visit achieved statistical superiority in both the mMITT and microbiologically evaluable (ME) populations.

Plazomicin was well tolerated with no new safety concerns identified in the EPIC trial. Total treatment emergent adverse events (TEAEs) related to renal function were reported in 3.6% and 1.3% of patients in the plazomicin and meropenem groups, respectively. TEAEs related to cochlear or vestibular function were reported in a single patient in each of the plazomicin and meropenem treatment groups. Both events were considered mild and resolved completely.

Phase 3 CARE Trial of Plazomicin (Did Not Support FDA Approval)

The second study, our Phase 3 CARE (Combating Antibiotic Resistant Enterobacteriaceae) clinical trial, was a resistant pathogen trial designed to evaluate the efficacy and safety of plazomicin in patients with serious bacterial infections due to CRE. We closed enrollment in the CARE study in August 2016 with 69 patients, comprised of 39 patients enrolled in Cohort 1, comparing plazomicin to colistin-based therapy in patients with bloodstream infections or pneumonia due to CRE, and 30 patients in Cohort 2, a single arm cohort of plazomicin treatment in patients with serious infections due to CRE. In Cohort 1 of the CARE trial, a lower rate of mortality or serious disease-related

complications was observed for plazomicin compared with colistin therapy.

S-6

Table of Contents

The safety profile of plazomicin was favorable to that of colistin in critically ill patients in the CARE trial. As previously disclosed, study drug-related TEAEs related to renal function were reported in 16.7% and 38.1% of patients in the plazomicin and colistin groups, respectively. No TEAEs related to cochlear or vestibular function were reported in either group. However, due to the clinical status of patients enrolled in the trial who were frequently ventilated and unconscious, planned assessments of hearing and tinnitus were not possible for many of the patients.

The FDA issued a CRL for the bloodstream infection (BSI) indication, supported by the CARE trial, in June 2018. In December 2018, Achaogen filed a Formal Dispute Resolution Request with the FDA regarding the BSI indication for plazomicin. We believe that the data submitted in the NDA for plazomicin provides substantial evidence of efficacy in treating BSI and that plazomicin should be approved for the proposed BSI indication. As part of this process, we have received questions from, and submitted responses to, the FDA. We now await a first-round response from the FDA.

C-Scape Development Program

We are developing C-Scape, an orally administered antibiotic to address a serious unmet need for an effective oral treatment for patients with cUTI, including pyelonephritis, caused by ESBL-producing Enterobacteriaceae. C-Scape is a b-lactam/b-lactamase inhibitor combination comprised of ceftibuten, an approved third generation cephalosporin, and clavulanate, an approved b-lactamase inhibitor. The FDA awarded Qualified Infectious Disease Product (QIDP) status to C-Scape for the treatment of cUTI in 2017. QIDP status provides incentives for the development of new antibiotics, including priority review and an extension by an additional five years of any existing non-patent market exclusivity the product may be awarded upon approval. Our C-Scape program is funded in part by a contract with BARDA for up to \$18.0 million, of which \$12.0 million is committed.

We believe that C-Scape has the potential to rapidly address a serious unmet need for an effective oral treatment for patients with cUTI, including pyelonephritis, caused by ESBL-producing Enterobacteriaceae. Both ceftibuten and clavulanate have been previously approved by the FDA, therefore we expect C-Scape to qualify for the 505(b)(2) NDA regulatory pathway for the combination product, which would permit the application to rely in part on the FDA's findings of safety and effectiveness for each compound alone, and FDA's guidance for Antibacterial Therapies for Patients with Unmet Medical Need for the Treatment of Serious Bacterial Diseases.

On January 2, 2018, we announced positive Phase 1 top-line results for C-Scape. The Phase 1 top-line results demonstrated that, in healthy subjects, C-Scape was well tolerated across all doses studied, with no drug-drug interactions observed between the previously approved compounds when dosed in combination. We recently completed *in vitro* and *in vivo* experiments with a revised drug product and, based on these results, are starting a Phase 1 clinical pharmacology study with the revised drug product in 2019. We believe that these data may also potentially support extended intellectual property protection of C-Scape beyond the eight years of regulatory exclusivity granted from QIDP status. Pending positive results from our Phase 1 clinical pharmacology study, we anticipate starting a Phase 3 clinical trial of C-Scape for the treatment of cUTI.

Our Strategy

Our strategy is to discover, develop, and commercialize innovative antibacterial agents for multi-drug resistant (MDR) gram-negative infections. Our efforts are currently focused on:

Reviewing strategic alternatives to maximize stockholder value;

Commercializing ZEMDRI in the United States;

Obtaining regulatory approval of plazomicin in the European Union;

S-7

Table of Contents

Advancing development of C-Scape; and

Seeking additional non-dilutive funding opportunities.

Recent Developments

Fourth Quarter Preliminary Unaudited Financial Results

We have not finalized our financial statements for the quarter ended December 31, 2018. Based upon our current preliminary estimates and information available to us as of the date of this prospectus supplement, we expect to report that we generated net product sales of ZEMDRI of approximately \$450,000 to \$500,000 for the quarter ended December 31, 2018. This estimate does not include contract revenues. In addition, we expect to report that, as of December 31, 2018, we had unrestricted cash and cash equivalents of approximately \$31.0 million and restricted cash of approximately \$25.5 million, for a total expected cash and cash equivalents of \$56.5 million as of December 31, 2018.

The estimates of our net product sales for the quarter ended December 31, 2018 and our unrestricted cash and cash equivalents as of December 31, 2018 are unaudited and preliminary; actual amounts that we report will be subject to our financial closing procedures and any final adjustments that may be made prior to the time that our financial results for the quarter ended December 31, 2018 are finalized and filed with the SEC. The preliminary unaudited financial information included herein has been prepared by, and is the responsibility of, our management. Our independent accounting firm, Ernst & Young LLP, has not audited, reviewed, compiled, or applied agreed-upon procedures with respect to the preliminary financial information and does not express an opinion or any other form of assurance with respect thereto. As we complete our financial closing procedures and finalize our financial results for the quarter ended December 31, 2018, we will be required to make significant judgments in a number of areas. While we are currently unaware of any items that would require us to make adjustments to the financial information set forth above, it is possible that we may identify such items and that any resulting changes could be material. Accordingly, undue reliance should not be placed on these preliminary estimates. These preliminary estimates are not necessarily indicative of any future period and should be read together with Risk Factors, Forward-Looking Statements, and Management's Discussion and Analysis of Financial Condition and Results of Operations and our financial statements and related notes included elsewhere or incorporated by reference in this prospectus supplement and the accompanying prospectus.

ZEMDRI Launch Update

Overall, we believe that positive progress is being made with the launch of ZEMDRI:

Product Use: The proportion of ZEMDRI sales to the outpatient setting continues to increase and accounts for 75% of our sales to date. We expect to see continued progress in outpatient treatment given the advantages of ZEMDRI's once-daily 30 minute infusion. The Company continued to establish contracts with physician-owned infusion centers, 200 of which have requested or are under contract for ZEMDRI.

Formulary Approvals: We currently have 153 hospital formulary approvals for ZEMDRI, including approval at six major hospital systems. The formulary approval rate is 98% to date. Given recent formulary approvals and the receipt of a permanent C-code in January 2019, we believe that both hospitals and hospital outpatient

departments have improved access to, and reimbursement for, ZEMDRI.

Testing: The Thermo Scientific QMS Plazomicin Immunoassay became commercially available in the quarter ended December 31, 2018, enabling assay validation in hospital labs. We expect this assay to also be available through reference labs in the second quarter of 2019. New accounts also continue to adopt ZEMDRI antibiotic susceptibility testing (AST) in their microbiology laboratories to support appropriate patient selection.

S-8

Table of Contents

BSI Dispute Resolution

In December 2018, we filed a Formal Dispute Resolution Request with the FDA regarding the indication for plazomicin for the treatment of bloodstream infections (BSI), for which the FDA issued a Complete Response Letter in June 2018. We believe that the data submitted in the New Drug Application for plazomicin provides substantial evidence of efficacy in treating BSI and believe that plazomicin should be approved for the proposed BSI indication. As part of this process, we have received questions from, and submitted responses to, the FDA. We await a first-round response from the FDA.

European Marketing Authorization Application (MAA) for Plazomicin

We filed a MAA for plazomicin with the European Medicines Agency (EMA) in the fourth quarter of 2018. We expect to receive the Day 120 questions by the end of the first quarter of 2019, after which we will continue to advance the regulatory process with the rapporteurs and the EMA.

Strategic Review

On November 5, 2018, we announced the beginning of a review of strategic alternatives to maximize stockholder value, including but not limited to the potential sale or merger of us or our assets. The strategic review process continues alongside our continued focus on the commercialization of ZEMDRI and other corporate initiatives. We may be unable to identify strategic alternatives to maximize stockholder value, and even if executed, such strategic alternatives may not enhance stockholder value or our financial position.

Silicon Valley Bank Loan and Security Agreement

In December 2018, our secured lender Silicon Valley Bank (SVB) collateralized \$25.0 million of the \$50.0 million we previously borrowed under our loan and security agreement with SVB. Collateralization of this \$25.0 million means that these funds are restricted and no longer available for our use until our cash on deposit at SVB exceeds the Minimum Account Threshold for thirty consecutive days, which is the greater of (a) \$48.0 million and (b) the Monthly Cash Burn, which is defined as the difference of (1)(i) net loss plus (ii) unfinanced capital expenditures minus (2)(i) depreciation and amortization expenses, (ii) non-cash stock compensation expense and (iii) other non-cash expenses as approved by SVB.

Peer-Reviewed Publication of Phase 3 Data

A prestigious medical journal has accepted for publication the data from both the EPIC and CARE Phase 3 clinical studies of plazomicin. We expect these publications to become available shortly.

Project BioShield RFI

We recently responded to a Request for Information (RFI) regarding antibacterial products with the potential to treat resistant biothreat pathogens. The RFI was solicited by the Assistant Secretary for Preparedness and Response and BARDA under Project BioShield. The RFI specifically requested information on availabilities and capabilities for procuring, stockpiling and investing in the ongoing development of antibiotic products for commercial use for treatment of multiple biodefense indications, including pneumonic plague and tularemia, for which plazomicin has demonstrated preclinical efficacy.

Risks Related to Our Business

Our business is subject to numerous risks, as more fully described in the section entitled "Risk Factors" and discussed under the section captioned "Risk Factors" contained in our annual report for the year ended

S-9

Table of Contents

December 31, 2017 and in our quarterly report for the quarterly period ended September 30, 2018. These risks include, among others:

We need substantial additional funding to fund our operations, and we will not be able to continue as a going concern if we are unable to do so. Without substantial additional funding, we could be forced to delay, reduce or terminate the commercialization of ZEMDRI, our efforts to obtain regulatory approval for plazomicin in Europe, the development of C-Scape and other operations and could be forced to default under our loan and security agreement with SVB or file for relief under Chapter 11 of the U.S. Bankruptcy Code. We estimate that our current ongoing cash operating expenses are approximately \$25 million per quarter and we have a continued focus on expense reductions. Based on our expected available cash resources, we believe that we have sufficient funds to support current planned operations through approximately the end of the first quarter of 2019. We may further reduce our expenses going forward, which may impact the current operations of the organization.

Our review of strategic alternatives to maximize stockholder value, including but not limited to the potential sale or merger of the Company or its assets, may not be successful. We may be unable to identify strategic alternatives to maximize stockholder value, and even if executed, such strategic alternatives may not enhance stockholder value or our financial position.

We have a limited operating history, have incurred net losses in each year since our inception and anticipate that we will continue to incur significant losses for the foreseeable future. Our recurring losses from operations and negative cash flows have raised substantial doubt regarding our ability to continue as a going concern.

We are substantially dependent on market acceptance and the success of our only commercial product, ZEMDRI.

Failure to obtain regulatory approvals in foreign jurisdictions, including the regulatory approval for plazomicin in Europe, will prevent us from marketing our product candidates internationally.

Clinical drug development involves a lengthy and expensive process with uncertain outcomes that may lead to delayed timelines and increased cost, and may prevent us from being able to complete clinical trials.

Our workforce has contributed to our success, and our inability to retain our workforce due to financial or other considerations could adversely affect our business. We executed two significant reductions to our workforce in 2018. This has impacted our ability to retain remaining employees. If we do not retain key employees, either due to our financial situation or the competitive hiring environment, our business could suffer.

Limitation of access to a ZEMDRI IVD assay could harm our commercialization strategy for ZEMDRI.

If the FDA does not conclude that our product candidate, C-Scape, satisfies the requirements for the 505(b)(2) regulatory approval pathway, or if the requirements for approval under Section 505(b)(2) are not as we expect, the approval pathway for C-Scape will likely take significantly longer, cost significantly more and encounter significantly greater complications and risks than anticipated, and in any case may not be successful.

Serious adverse events or other safety, efficacy (including but not limited to development of resistance by bacteria), or tolerability properties of ZEMDRI, C-Scape or any other product candidate may be identified during development or after approval, which could affect the potential for such products.

Even if a product or product candidate does obtain regulatory approval it may never achieve market acceptance by physicians, patients, hospitals, third-party payors and others in the medical community necessary for commercial success and the market opportunity may be smaller than we estimate.

S-10

Table of Contents

The availability of adequate third-party coverage and reimbursement for approved products is uncertain, and failure to obtain adequate coverage and reimbursement from government and other third-party payors could impede our ability to market any future products we may develop and could limit our ability to generate revenue.

We rely on third-party contract manufacturing organizations to manufacture and supply ZEMDRI, C-Scape, and other product candidates for us, as well as certain raw materials and other ingredients used in the production thereof. If one of our suppliers or manufacturers fails to perform adequately we may be required to incur significant delays and costs to find new suppliers or manufacturers.

We face substantial competition and our competitors may discover, develop or commercialize products faster or more successfully than us.

We currently intend to form one or more collaborations relating to the commercialization of ZEMDRI outside the United States and we may also attempt to form other collaborations in the future with respect to our technology and product candidates, but we may not be able to do so, which may cause us to alter our development and commercialization plans.

If we are unable to obtain, maintain and extend sufficient intellectual property protection for our products and product candidates, or if the scope of the intellectual property protection is not sufficiently broad, our competitors could develop and commercialize products similar or identical to ours, and our ability to successfully commercialize our product candidates may be adversely affected.

We are subject to healthcare laws, regulatory obligations and review and compliance with such requirements may result in significant additional expense. In addition, our failure to comply with those laws could adversely affect our business, operations and financial condition.

Corporate Information

We were incorporated in Delaware in 2002 and commenced operations in 2004. Our principal executive offices are located at 1 Tower Place, Suite 400, South San Francisco, California 94080, and our telephone number is (650) 800-3636. Our website address is <http://www.achaogen.com>. The information contained in, or that can be accessed through, our website is not part of this prospectus.

Table of Contents

THE OFFERING

Issuer	Achaogen, Inc.
Common stock offered by us	15,000,000 shares (and the shares of common stock issuable upon the exercise of the warrants offered in this offering)
Common stock to be outstanding after the offering	63,206,227 shares (65,456,227 shares if the underwriter exercises its option to purchase additional securities in full, but assuming no exercise of warrants to purchase shares of common stock)
Warrants offered	<p>Series A warrants to purchase up to 15,000,000 shares of common stock (with a Series A warrant to purchase one share of common stock being issued in connection with each share of common stock issued in this offering). Each Series A warrant will have an exercise price of \$1.00 per share of common stock, will be immediately exercisable and will expire on the first anniversary of its date of issuance.</p> <p>Series B warrants to purchase up to 15,000,000 shares of common stock (with a Series B warrant to purchase one share of common stock being issued in connection with each share of common stock issued in this offering). Each Series B warrant will have an exercise price of \$1.15 per share of common stock, will be immediately exercisable and will expire on the fifth anniversary of its date of issuance.</p> <p>This prospectus supplement also relates to the offering of the shares of common stock issuable upon exercise of the warrants.</p>
Underwriter's option to purchase additional securities	We have granted the underwriter a 30-day option to purchase up to an additional 2,250,000 shares of our common stock and/or Series A and Series B warrants together to purchase an aggregate of up to 4,500,000 shares of common stock, in any combinations thereof, from us at the public offering price per security less the underwriting discounts and commissions, on the same terms as set forth in this prospectus.
Use of proceeds	We currently expect to use the net proceeds from this offering to fund commercialization of ZEMDRI in the United States, the regulatory approval process for plazomicin in Europe and the development of C-Scape, and any remaining proceeds for working capital and general

corporate purposes, including our review of strategic alternatives and search for additional non-dilutive funding opportunities.

Risk factors

See **Risk Factors** and other information included or incorporated by reference in this prospectus supplement and the accompanying base prospectus for a discussion of factors that you should consider carefully before deciding to invest in our common stock.

S-12

Table of Contents

Symbol on The Nasdaq Global Market AKAO

The number of shares of common stock to be outstanding after this offering is based on 48,206,227 shares of common stock outstanding as of December 31, 2018, and excludes the following, in each case as of December 31, 2018:

4,847,046 shares of common stock issuable upon exercise of stock options outstanding as of December 31, 2018 at a weighted-average exercise price of \$10.82 per share;

1,699,184 shares of common stock issuable upon vesting of restricted stock units outstanding as of December 31, 2018;

788,235 shares of common stock reserved for issuance pursuant to future awards under our 2014 Equity Incentive Award Plan, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under this plan;

324,799 shares of common stock reserved for future issuance under our Employee Stock Purchase Plan, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under this plan;

467,327 shares of common stock reserved for issuance pursuant to future awards under our 2014 Employment Commencement Incentive Plan;

1,196,296 shares of common stock issuable upon the exercise of warrants outstanding as of December 31, 2018 at a weighted-average exercise price of \$3.78 per share;

The number of shares of common stock outstanding after this offering also excludes the following:

15,000,000 shares issuable upon the exercise of the Series A warrants issued to investors in this offering accompanying the shares of common stock sold in this offering, with an exercise price of \$1.00 per whole share of common stock; and

15,000,000 shares issuable upon the exercise of the Series B warrants issued to investors in this offering accompanying the shares of common stock sold in this offering, with an exercise price of \$1.15 per whole share of common stock.

Unless otherwise indicated, the numbers of shares of our common stock described above are preliminary and unaudited and assume no exercise of the underwriter's option to purchase additional securities.

S-13

Table of Contents**SUMMARY CONSOLIDATED FINANCIAL DATA**

We derived the summary consolidated financial data for the three years ended December 31, 2015, 2016 and 2017 from our audited financial statements incorporated by reference in this prospectus from our Annual Report on Form 10-K for the year ended December 31, 2017, or our 2017 Annual Report. Our consolidated statements of operations data for the nine months ended September 30, 2017 and 2018 and our consolidated balance sheet data as of September 30, 2018 are derived from our unaudited condensed consolidated financial statements incorporated by reference in this prospectus from our Quarterly Report on Form 10-Q for the quarter ended September 30, 2018, or our September 2018 Quarterly Report. In the opinion of our management, our unaudited condensed consolidated financial statements include all adjustments, consisting only of normal recurring adjustments, considered necessary for a fair presentation of the financial information. Operating results for the nine months ended September 30, 2018 are not necessarily indicative of the results that may be expected for the year ended December 31, 2018 or any future period. The following information should be read in conjunction with our consolidated financial statements and related notes contained in our 2017 Annual Report and our unaudited condensed consolidated financial statements and related notes contained in our September 2018 Quarterly Report, as well as the information under the caption

Management's Discussion and Analysis of Financial Condition and Results of Operations appearing in our 2017 Annual Report and September 2018 Quarterly Report, which are incorporated by reference herein. For more details on how you can obtain our SEC reports and other information, you should read the section of this prospectus supplement and the accompanying base prospectus entitled Where You Can Find More Information.

	Year Ended December 31,			Nine Months Ended	
	2015	2016	2017	2017	2018
	(In thousands, except share and per share data)				
Consolidated Statement of Operations Data:					
Product revenue, net	\$	\$	\$	\$	\$ 291
Contract revenue	26,061	41,773	11,175	9,306	6,412
Total Revenue	26,061	41,773	11,175	9,306	\$ 6,703
Operating expenses:					
Cost of sales					11
Research and development	40,228	73,999	95,598	66,113	89,572
Selling, general and administrative	12,406	17,122	41,903	27,415	54,484
Restructuring charges					7,944
Total operating expenses	52,634	91,121	137,501	93,528	152,011
Loss from operations	(26,573)	(49,348)	(126,326)	(84,222)	(145,308)
Interest expense	(699)	(2,320)	(2,855)	(2,170)	(1,335)
Change in warrant and derivative liabilities	(19)	(19,859)	1,928	(3,957)	6,909
Loss on debt extinguishment					(819)
Other income, net	198	300	1,635	1,114	1,563

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Net loss	\$	(27,093)	\$	(71,227)	\$	(125,618)	\$	(89,235)	\$	(138,990)
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Net loss per common share(1)

Basic	\$	(1.49)	\$	(3.00)	\$	(3.17)	\$	(2.31)	\$	(3.10)
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Diluted	\$	(1.49)	\$	(3.00)	\$	(3.17)	\$	(2.31)	\$	(3.21)
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Weighted-average common
shares used to compute net
loss per common share(1)

Basic	18,147,986	23,707,063	39,645,635	38,709,811	44,854,279
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Diluted	18,147,986	23,707,063	39,645,635	38,709,811	45,595,838
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S-14

Table of Contents

The table below presents our balance sheet data as of September 30, 2018:

on an actual basis; and

on an as adjusted basis to give effect to the issuance and sale by us of 15,000,000 shares of common stock, Series A warrants to purchase up to 15,000,000 shares of common stock and Series B warrants to purchase up to 15,000,000 shares of common stock in this offering at the combined public offering price per share of common stock and accompanying warrants of \$1.00, assuming no exercise of the warrants issued in this offering and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

	As of September 30, 2018	
	Actual	As adjusted
	(unaudited)	
	(in thousands)	
Consolidated Balance Sheet Data:		
Cash, cash equivalents and short-term investments	\$ 58,224	\$ 71,789
Working capital	40,965	54,530
Total assets	97,301	110,866
Loan payable	24,773	24,773
Other long-term liabilities	11,188	11,188
Accumulated deficit	(511,828)	(511,828)
Total stockholders' equity	24,787	38,352

- (1) See (a) Note 2 to our audited consolidated financial statements included in our 2017 Annual Report incorporated by reference herein and (b) Note 2 to our unaudited condensed consolidated financial statements included in our September 2018 Quarterly Report incorporated by reference herein for an explanation of the calculations of our basic and diluted net loss per common share.

Table of Contents

RISK FACTORS

*Investing in our common stock involves a high degree of risk. You should consider carefully the risks described below and discussed under the section captioned **Risk Factors** contained in our annual report for the year ended December 31, 2017 and in our quarterly report for the quarterly period ended September 30, 2018, as updated by our subsequent filings under the Securities Exchange Act of 1934, as amended, or the Exchange Act, each of which is incorporated by reference in this prospectus in their entirety, together with other information in this prospectus, and the information and documents incorporated by reference in this prospectus, and any free writing prospectus that we have authorized for use in connection with this offering before you make a decision to invest in our common stock. If any of the following events actually occur, our business, operating results, prospects or financial condition could be materially and adversely affected. This could cause the trading price of our common stock to decline and you may lose all or part of your investment. The risks described below are not the only ones that we face. Additional risks not presently known to us or that we currently deem immaterial may also affect our business operations.*

Risks Relating to this Offering

Our management team may invest or spend the proceeds of this offering in ways with which you may not agree or in ways which may not yield a significant return.

Our management will have broad discretion over the use of proceeds from this offering. We currently expect to use our existing cash and cash equivalents and the net proceeds from this offering to fund commercialization of ZEMDRI in the United States, the regulatory approval process for plazomicin in Europe and the development of C-Scape. However, our management will have considerable discretion in the application of the net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. The net proceeds may be used for corporate purposes that do not increase our operating results or enhance the value of our common stock.

If you purchase securities in this offering, you will incur immediate and substantial dilution in the book value of your shares. You will experience further dilution if we issue additional equity securities in the future or upon the issuance of common stock if the warrants issued in this offering are exercised or converted.

You will incur immediate and substantial dilution as a result of this offering. The combined public offering price per share of common stock and accompanying warrants of \$1.00 is substantially higher than the as-adjusted book value per share of our tangible assets after subtracting our liabilities. As a result, investors purchasing securities in this offering will incur immediate dilution of \$0.37 per share, based on the combined public offering price per share of common stock and accompanying warrants of \$1.00, and our as adjusted net tangible book value as of September 30, 2018 after giving effect to this offering of approximately \$38.4 million.

As a result of the dilution to investors purchasing shares in this offering, investors may receive significantly less than the purchase price paid in this offering, if anything, in the event of our liquidation.

In addition, as of December 31, 2018, we had an aggregate of approximately 9,322,887 million shares of common stock (i) issuable upon exercise of stock options outstanding, (ii) issuable upon vesting of restricted stock units, (iii) reserved for issuance pursuant to future awards under our 2014 Equity Incentive Award Plan, (iv) reserved for future issuance under our Employee Stock Purchase Plan, (v) reserved for issuance pursuant to future awards under our 2014 Employment Commencement Incentive Plan, and (vi) issuable upon the exercise of warrants, all of which would result in additional dilution. We may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that

additional capital is raised through the sale of equity or convertible debt securities, including under our ATM offering program, the issuance of these securities could result in further dilution to our stockholders or result in downward pressure on the price of our common stock.

S-16

Table of Contents

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

If our existing stockholders sell, or indicate an intention to sell, substantial amounts of our common stock in the public market, the market price of our common stock could decline. Based upon the number of shares of common stock outstanding as of December 31, 2018, upon the closing of this offering we will have outstanding a total of approximately 63,206,227 shares of common stock (assuming no exercise of the underwriter's option to purchase additional shares). Other than any shares held by our directors, officers and certain existing investors, all of these are currently freely tradable, and the shares to be sold in this offering, plus any shares sold upon exercise of the underwriter's option to purchase additional shares, will be freely tradable, without restriction, in the public market immediately following this offering. H.C. Wainwright & Co., LLC, however, may, in its sole discretion, permit our officers and directors who are subject to lock-up agreements to sell shares prior to the expiration of the lock-up agreements. Exceptions to the lock-up restrictions are described in more detail in this prospectus supplement under the caption "Underwriting."

On February 27, 2018, we entered into a Common Stock Sales Agreement with Cowen and Company, LLC (the "ATM Sales Agreement"), under which we may offer and sell our common stock having aggregate sales proceeds of up to \$50.0 million from time to time through our sales agent. As of December 31, 2018, we had sold 3,089,358 shares of our common stock for net proceeds of approximately \$7.4 million pursuant to this ATM offering program. In connection with this offering, we have agreed not to utilize the ATM Sales Agreement from the date of this prospectus supplement continuing through and including the date that is 45 days after the date of this prospectus supplement. Following the expiration of the 45-day period, we may offer and sell our common stock under the ATM Sales Agreement and such sales could cause our stock price to fall.

Certain holders of shares of our common stock are entitled to rights with respect to the registration of their shares under the Securities Act. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act, except for shares purchased by affiliates. Any sales of securities by these stockholders could have a material adverse effect on the trading price of our common stock.

The price of our common stock may be volatile and our stockholders may not be able to resell shares of our common stock at or above the price they paid.

The trading price of our common stock is highly volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control. Factors that could cause volatility in the market price of our common stock include, but are not limited to:

announcements relating to commercialization of ZEMDRI and development of C-Scape;

results from, or any delays in, clinical trial programs relating to our product candidates;

delays in obtaining regulatory approval for our product candidates;

any need to suspend or discontinue clinical trials due to side effects or other safety risks, or any need to conduct studies on the long-term effects associated with the use of ZEMDRI or our product candidates;

capital fundraising or other financing activities that contain onerous or unfavorable terms;

manufacturing issues related to ZEMDRI and our product candidates for clinical trials or future products for commercialization;

commercial success and market acceptance of ZEMDRI and our product candidates following regulatory approval;

undesirable side effects caused by ZEMDRI and our product candidates after they have entered the market;

S-17

Table of Contents

spread of bacterial resistance to ZEMDRI and our product candidates;

ability to discover, develop and commercialize additional product candidates;

announcements relating to collaborations that we may enter into with respect to the development or commercialization of ZEMDRI and our product candidates, or the timing of payments we may make or receive under these arrangements;

announcements relating to the receipt, modification or termination of government contracts or grants, or the timing of payments we may receive under these arrangements;

success of our competitors in discovering, developing or commercializing products;

strategic transactions undertaken by us;

additions or departures of key personnel;

product liability claims related to our clinical trials, ZEMDRI or product candidates;

prevailing economic conditions;

business disruptions caused by earthquakes or other natural disasters;

disputes concerning our intellectual property or other proprietary rights;

litigation or the threat of litigation;

FDA or other U.S. or foreign regulatory actions affecting us or our industry;

healthcare reform measures in the United States or other countries;

sales of our common stock by our officers, directors or significant stockholders;

future sales or issuances of equity or debt securities by us;

fluctuations in our quarterly operating results; and

the issuance of new or changed securities analysts' reports or recommendations regarding us.

In addition, the stock markets in general, and the markets for pharmaceutical, biopharmaceutical and biotechnology stocks in particular, have experienced extreme volatility that has been often unrelated to the operating performance of the issuer. These broad market fluctuations may adversely affect the trading price or liquidity of our common stock. In the past, when the market price of a stock has been volatile, holders of that stock have sometimes instituted securities class action litigation against the issuer. If any of our stockholders were to bring such a lawsuit against us, we could incur substantial costs defending the lawsuit and the attention of our management would be diverted from the operation of our business, which could seriously harm our financial position. Any adverse determination in litigation could also subject us to significant liabilities.

There is no public market for the warrants to purchase common stock being offered in this offering.

There is no established public trading market for the warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to apply for listing of the warrants on any securities exchange. Without an active market, the liquidity of the warrants will be limited.

Holders of our warrants will have no rights as a common stockholder until such holders exercise their warrants and acquire our common stock.

Until holders of warrants acquire shares of our common stock upon exercise of the warrants, holders of warrants will have no rights with respect to the shares of our common stock underlying such warrants. Upon exercise of the warrants, the holders thereof will be entitled to exercise the rights of a common stockholder only as to matters for which the record date occurs after the exercise date.

Table of Contents

Our ability to utilize our net operating loss carryforwards and certain other tax attributes may be limited.

We have a limited operating history, have incurred net losses in each year since our inception and anticipate that we will continue to incur significant losses for the foreseeable future. Under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, if a corporation undergoes an ownership change (generally defined as a greater than 50 percentage points change (by value) in the ownership of its equity by certain significant stockholders over a rolling three-year period), the corporation's ability to use its pre-change net operating loss carryforwards and certain other pre-change tax attributes to offset its post-change income and taxes may be limited. We may have experienced such ownership changes in the past, and we may experience ownership changes in the future as a result of this offering and/or subsequent shifts in our stock ownership, some of which may be outside our control. Similar provisions of state tax law may also apply. If our ability to use our net operating losses and other tax attributes is limited by ownership changes, we may be unable to utilize a material portion of our net operating losses and other tax attributes.

S-19

Table of Contents

USE OF PROCEEDS

We estimate that the net proceeds from the sale of 15,000,000 shares of common stock, Series A warrants to purchase up to 15,000,000 shares of common stock and Series B warrants to purchase up to 15,000,000 shares of common stock in this offering will be approximately \$13.6 million, assuming no exercise of the warrants issued in this offering and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. If the underwriter exercises its option to purchase additional securities in full, we estimate that net proceeds will be approximately \$15.7 million, assuming no exercise of the warrants issued in this offering and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. If the warrants to purchase common stock sold in this offering are exercised in full, net proceeds will increase to \$3.05 (or \$3.06 if the underwriter's option to purchase additional securities is exercised in full) per combined public offering of one share of common stock and accompanying warrants, or \$45.8 million (or \$52.8 million if the underwriter's option to purchase additional securities is exercised in full) in the aggregate.

We currently expect to use the net proceeds from this offering to fund commercialization of ZEMDRI in the United States, the regulatory approval process for plazomicin in Europe and the development of C-Scape, and any remaining proceeds for working capital and general corporate purposes, including our review of strategic alternatives and search for additional non-dilutive funding opportunities.

The amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the timing of our MAA for plazomicin, the timing of our planned clinical trials for C-Scape, the status of our review of strategic alternatives and the amount of cash used in our operations. We therefore cannot estimate with certainty the amount of net proceeds to be used for the purposes described above. We may find it necessary or advisable to use the net proceeds from this offering for other purposes, and we will have broad discretion in the application of the net proceeds.

Pending the use of the net proceeds from this offering as described above, we intend to invest the net proceeds in a variety of capital preservation investments, including short- and intermediate-term, interest-bearing obligations, investment-grade instruments or U.S. government securities.

Table of Contents**CAPITALIZATION**

The following table sets forth our capitalization as of September 30, 2018:

on an actual basis; and

on an as adjusted basis to give effect to the issuance and sale by us of 15,000,000 shares of our common stock, Series A warrants to purchase up to 15,000,000 shares of common stock and Series B warrants to purchase up to 15,000,000 shares of common stock in this offering at the combined public offering price of \$1.00 per share of common stock and accompanying warrants, assuming no exercise of the warrants issued in this offering and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

You should read this information together with our financial statements and related notes incorporated by reference in this prospectus. For more details on how you can obtain our SEC reports and other information, you should read the section of the prospectus supplement entitled "Where You Can Find More Information."

(In thousands, except share and per share data)	As of September 30, 2018	
	Actual	As adjusted (unaudited)
Loan payable	\$ 24,773	\$ 24,773
Other long-term liabilities	11,188	11,188
Contingently redeemable common stock	10,000	10,000
Stockholders' equity:		
Preferred stock, \$0.001 par value per share; 10,000,000 shares authorized, zero shares issued and outstanding, actual and as adjusted		
Common stock, \$0.001 par value per share; 290,000,000 shares authorized, 45,967,093 shares issued and outstanding, actual; 290,000,000 shares authorized, 60,967,093 shares issued and outstanding, as adjusted	46	61
Additional paid-in capital	536,569	550,119
Accumulated other comprehensive loss		
Accumulated deficit	(511,828)	(511,828)
Total stockholders' equity	24,787	38,352
Total capitalization	\$ 70,748	\$ 84,313

The outstanding share information in the table above is based on 45,967,093 shares of common stock outstanding as of September 30, 2018 and excludes the following, in each case as of such date:

5,811,627 shares of common stock issuable upon exercise of stock options outstanding as of September 30, 2018 at a weighted-average exercise price of \$10.87 per share;

1,591,663 shares of common stock issuable upon vesting of restricted stock units outstanding as of September 30, 2018;

143,631 shares of common stock reserved for issuance pursuant to future awards under our 2014 Equity Incentive Award Plan, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under this plan;

477,670 shares of common stock reserved for future issuance under our Employee Stock Purchase Plan, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under this plan;

377,857 shares of common stock reserved for issuance pursuant to future awards under our 2014 Employment Commencement Incentive Plan;

1,196,296 shares of common stock issuable upon the exercise of warrants outstanding as of September 30, 2018 at a weighted-average exercise price of \$3.78 per share;

S-21

Table of Contents

The outstanding share information in the table above also excludes the following:

2,370,734 shares of common stock issued pursuant to our ATM offering program in the fourth quarter of 2018;

15,000,000 shares issuable upon the exercise of the Series A warrants issued to investors in this offering accompanying the shares of common stock sold in this offering, with an exercise price of \$1.00 per whole share of common stock; and

15,000,000 shares issuable upon the exercise of the Series B warrants issued to investors in this offering accompanying the shares of common stock sold in this offering, with an exercise price of \$1.15 per whole share of common stock.

S-22

Table of Contents**DILUTION**

If you invest in our securities in this offering, your interest will be immediately diluted to the extent of the difference between the public offering price paid by the purchasers of the shares of common stock and warrants sold in this offering and the net tangible book value per share of our common stock after this offering. As of September 30, 2018, we had a historical net tangible book value of \$24.8 million, or \$0.54 per share of common stock. Our net tangible book value represents total tangible assets less total liabilities, convertible preferred stock and contingently redeemable common stock (which is not included in stockholders' equity), all divided by the number of shares of common stock outstanding on September 30, 2018.

After giving effect to the issuance and sale of 15,000,000 shares of common stock, Series A warrants to purchase up to 15,000,000 shares of common stock and Series B warrants to purchase up to 15,000,000 shares of common stock in this offering at the combined public offering price per share of common stock and accompanying warrants of \$1.00, assuming no exercise of the warrants issued in this offering and after deducting the estimated underwriting discounts and commissions and estimated aggregate offering expenses payable by us, our as adjusted net tangible book value as of September 30, 2018 would have been approximately \$38.4 million, or \$0.63 per share. This represents an immediate increase in as adjusted net tangible book value of \$0.09 per share to existing stockholders and an immediate dilution in net tangible book value of \$0.37 per share to new investors purchasing our common stock and the warrants in this offering. The following table illustrates this dilution on a per share basis:

Combined public offering price per share of common stock and related warrants	\$ 1.00
Historical net tangible book value per share as of September 30, 2018	\$ 0.54
Increase per share attributable to new investors	\$ 0.09
As adjusted net tangible book value per share as of September 30, 2018, after giving effect to this offering	\$ 0.63
Dilution per share to new investors	\$ 0.37

If the underwriter fully exercises its option to purchase additional securities, as adjusted net tangible book value after this offering would increase to approximately \$0.64 per share, and there would be an immediate dilution of approximately \$0.36 per share to new investors.

To the extent that outstanding options or warrants are exercised or outstanding restricted stock units vest, investors purchasing our common stock in this offering will experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

The outstanding share information in the table above is based on 45,967,093 shares of common stock outstanding as of September 30, 2018 and excludes the following, in each case as of such date:

5,811,627 shares of common stock issuable upon exercise of stock options outstanding as of September 30, 2018 at a weighted-average exercise price of \$10.87 per share;

1,591,663 shares of common stock issuable upon vesting of restricted stock units outstanding as of September 30, 2018;

143,631 shares of common stock reserved for issuance pursuant to future awards under our 2014 Equity Incentive Award Plan, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under this plan;

477,670 shares of common stock reserved for future issuance under our Employee Stock Purchase Plan, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under this plan;

S-23

Table of Contents

377,857 shares of common stock reserved for issuance pursuant to future awards under our 2014 Employment Commencement Incentive Plan;

1,196,296 shares of common stock issuable upon the exercise of warrants outstanding as of September 30, 2018 at a weighted-average exercise price of \$3.78 per share;

The outstanding share information in the table above also excludes the following:

2,370,734 shares of common stock issued pursuant to our ATM offering program in the fourth quarter of 2018;

15,000,000 shares issuable upon the exercise of the Series A warrants issued to investors in this offering accompanying the shares of common stock sold in this offering, with an exercise price of \$1.00 per whole share of common stock; and

15,000,000 shares issuable upon the exercise of the Series B warrants issued to investors in this offering accompanying the shares of common stock sold in this offering, with an exercise price of \$1.15 per whole share of common stock.

Table of Contents

DIVIDEND POLICY

We have never declared or paid cash dividends on our capital stock. Our loan and security agreement with SVB includes covenants restricting our ability to pay dividends on our capital stock. We intend to retain all available funds and any future earnings, if any, to fund the development and expansion of our business and we do not anticipate paying any cash dividends in the foreseeable future. Any future determination related to dividend policy will be made at the discretion of our board of directors.

S-25

Table of Contents

DESCRIPTION OF SECURITIES WE ARE OFFERING

Common Stock

The material terms and provisions of our common stock and other outstanding securities convertible into or exercisable for shares of our common stock are described under the headings "Description of Capital Stock" in the accompanying prospectus.

Warrants

The following is a summary of all material terms and provisions of the warrants that are being offered hereby. This summary is subject to and qualified in its entirety by the forms of warrants, which will be provided to the investors in this offering and will be filed with the SEC as exhibits to a Current Report on Form 8-K in connection with this offering. Prospective investors should carefully review the terms and provisions of the forms of warrants for a complete description of the terms and conditions of the warrants.

Duration and Exercise Price

Each Series A warrant offered hereby will have an exercise price equal to \$1.00. The Series A warrants will be immediately exercisable and may be exercised until the first anniversary of the issuance date, at which time they will be automatically exercised on a cashless basis. Each Series B warrant offered hereby will have an exercise price equal to \$1.15. The Series B warrants will be immediately exercisable and may be exercised until the fifth anniversary of the issuance date, at which time they will be automatically exercised on a cashless basis. The exercise price and number of shares of common stock issuable upon exercise is subject to appropriate adjustment in the event of stock dividends, stock splits, reorganizations or similar events affecting our common stock and the exercise price. The warrants will be issued separately from the shares of common stock offered hereby, and may be transferred separately immediately thereafter. Warrants will be issued in certificated form only.

Exercisability

The warrants will be exercisable, at the option of each holder, in whole or in part, by delivering to us a duly executed exercise notice accompanied by payment in full for the number of shares of our common stock purchased upon such exercise (except in the case of a cashless exercise as discussed below). A holder (together with its affiliates) may not exercise any portion of such holder's warrants to the extent that the holder would own more than 4.99% of the outstanding common stock immediately after exercise, except that upon at least 61 days' prior notice from the holder to us, the holder may increase the amount of ownership of outstanding stock after exercising the holder's warrants up to 9.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the warrants.

Cashless Exercise

If, at the time a holder exercises its warrants, a registration statement registering the issuance of the shares of common stock underlying the warrants under the Securities Act is not then effective or available for the issuance of such shares, then in lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) the net number of shares of common stock determined according to a formula set forth in the warrant. The warrants will be automatically exercised on a cashless basis on the expiration date.

Fundamental Transactions

In the event of any fundamental transaction, as described in the warrants and generally including any merger with or into another entity, sale of all or substantially all of our assets, tender offer or exchange offer, or reclassification of our common stock, then upon any subsequent exercise of a warrant, the holder will have the

S-26

Table of Contents

right to receive as alternative consideration, for each share of our common stock that would have been issuable upon such exercise immediately prior to the occurrence of such fundamental transaction, the number of shares of common stock of the successor or acquiring corporation or of our company, if it is the surviving corporation, and any additional consideration receivable upon or as a result of such transaction by a holder of the number of shares of our common stock for which the warrant is exercisable immediately prior to such event. In addition, in certain circumstances, upon a fundamental transaction, the holder of Series B Warrants will have the right to require us to repurchase its Series B warrants at their fair value using the Black Scholes option pricing formula; provided, however, such holder may not require us or our successor entity to repurchase the Series B warrants for the Black Scholes value solely in connection with a fundamental transaction that is not approved by our board of directors, and therefore not within our control.

Transferability

Subject to applicable laws and a standard legend with regard to restriction on transfer only in compliance with a public offering or an available exemption therefrom, the warrant may be transferred at the option of the holder upon surrender of the warrant to us together with the appropriate instruments of transfer.

Fractional Shares

No fractional shares of common stock will be issued upon the exercise of the warrants. Rather, the number of shares of common stock to be issued will, at our election, either be rounded up to the nearest whole number or we will pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the exercise price.

Trading Market

There is no established trading market for the warrants, and we do not expect an active trading market to develop. We do not intend to apply to list the warrants on any securities exchange or other trading market. Without a trading market, the liquidity of the warrants will be extremely limited.

Right as a Stockholder

Except as otherwise provided in the warrants or by virtue of the holder's ownership of shares of our common stock, such holder of warrants does not have the rights or privileges of a holder of our common stock, including any voting rights, until such holder exercises such holder's warrants.

Waivers and Amendments

No term of the warrants may be amended or waived without the written consent of the holder of such warrant.

Table of Contents

MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES

The following discussion is a summary of the material U.S. federal income tax consequences of the purchase, ownership and disposition of our common stock and warrants issued pursuant to this offering and shares of our common stock received upon exercise of the warrants, but does not purport to be a complete analysis of all potential tax effects. The effects of other U.S. federal tax laws, such as estate and gift tax laws, and any applicable state, local or non-U.S. tax laws are not discussed. This discussion is based on the U.S. Internal Revenue Code of 1986, as amended (the Code), Treasury Regulations promulgated thereunder, judicial decisions and published rulings and administrative pronouncements of the U.S. Internal Revenue Service (the IRS), in each case in effect as of the date hereof. These authorities may change or be subject to differing interpretations. Any such change or differing interpretation may be applied retroactively in a manner that could adversely affect a holder of our warrants or shares of our common stock. We have not sought and will not seek any rulings from the IRS regarding the matters discussed below. There can be no assurance the IRS or a court will not take a contrary position to that discussed below regarding the tax consequences of the purchase, ownership and disposition of our warrants and shares of our common stock.

This discussion is limited to holders that hold our warrants or shares of our common stock as a capital asset within the meaning of Section 1221 of the Code (generally, property held for investment). This discussion does not address all U.S. federal income tax consequences relevant to a holder's particular circumstances, including the impact of the alternative minimum tax and the Medicare contribution tax on net investment income. In addition, it does not address consequences relevant to holders subject to special rules, including, without limitation:

U.S. expatriates and former citizens or long-term residents of the United States;

persons holding our warrants or shares of our common stock as part of a hedge, straddle or other risk reduction strategy or as part of a conversion transaction or other integrated investment;

banks, insurance companies and other financial institutions;

brokers, dealers or traders in securities;

controlled foreign corporations, passive foreign investment companies and corporations that accumulate earnings to avoid U.S. federal income tax;

partnerships or other entities or arrangements treated as partnerships for U.S. federal income tax purposes (and investors therein);

tax-exempt organizations or governmental organizations;

persons deemed to sell our warrants or shares of our common stock under the constructive sale provisions of the Code;

persons subject to special tax accounting rules as a result of any item of gross income with respect to our warrants or shares of our common stock being taken into account in an applicable financial statement (as defined in the Code);

persons for whom our common stock constitutes qualified small business stock within the meaning of Section 1202 of the Code;

persons who hold or receive our warrants or shares of our common stock pursuant to the exercise of any employee stock option or otherwise as compensation;

tax-qualified retirement plans; and

qualified foreign pension funds as defined in Section 897(l)(2) of the Code and entities all of the interests of which are held by qualified foreign pension funds.

If an entity treated as a partnership for U.S. federal income tax purposes holds our warrants or shares of our common stock, the tax treatment of a partner in the partnership will depend on the status of the partner, the

Table of Contents

activities of the partnership and certain determinations made at the partner level. Accordingly, partnerships and the partners in such partnerships should consult their tax advisors regarding the U.S. federal income tax consequences to them.

THIS DISCUSSION IS NOT TAX ADVICE. INVESTORS SHOULD CONSULT THEIR TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AS WELL AS ANY TAX CONSEQUENCES OF THE PURCHASE, OWNERSHIP, EXERCISE AND DISPOSITION OF OUR WARRANTS AND SHARES OF OUR COMMON STOCK ARISING UNDER THE U.S. FEDERAL ESTATE OR GIFT TAX LAWS OR UNDER THE LAWS OF ANY STATE, LOCAL OR NON-U.S. TAXING JURISDICTION OR UNDER ANY APPLICABLE INCOME TAX TREATY.

Allocation of Purchase Price Between Shares of Our Common Stock and Warrants

The common stock and warrants issued pursuant to this offering should be treated for U.S. federal income tax purposes as an investment unit consisting of one share of our common stock, one Series A warrant and one Series B warrant. In determining its tax basis for such share of common stock and such warrants, a purchaser should allocate its purchase price between each such share of common stock, Series A warrant and Series B warrant based on their respective relative fair market values at the time of issuance. We do not intend to advise purchasers of the common stock and warrants with respect to this determination, and purchasers of the common stock and warrants are advised to consult their tax and financial advisors with respect to the relative fair market values of the common stock, the Series A warrants and the Series B warrants for U.S. federal income tax purposes.

Tax Considerations Applicable to U.S. Holders

Definition of U.S. Holder

For purposes of this discussion, a U.S. holder is any beneficial owner of our warrants or shares of our common stock that, for U.S. federal income tax purposes, is or is treated as any of the following:

an individual who is a citizen or resident of the United States;

a corporation created or organized under the laws of the United States, any state thereof or the District of Columbia;

an estate, the income of which is subject to U.S. federal income tax regardless of its source; or

a trust that (1) is subject to the primary supervision of a U.S. court and the control of one or more United States persons (within the meaning of Section 7701(a)(30) of the Code), or (2) has a valid election in effect to be treated as a United States person for U.S. federal income tax purposes.

Sale or Other Disposition, Exercise or Expiration of Warrants

Upon the sale or other disposition of a warrant (other than by exercise), a U.S. holder will generally recognize capital gain or loss equal to the difference between the amount realized on the sale or other disposition and the U.S. holder's tax basis in the warrant. This capital gain or loss will be long-term capital gain or loss if the U.S. holder's holding period in such warrant is more than one year at the time of the sale or other disposition. The deductibility of capital losses is subject to certain limitations.

In general, a U.S. holder will not be required to recognize income, gain or loss upon exercise of a warrant for its exercise price. A U.S. holder's tax basis in a share of our common stock received upon exercise of a warrant will be equal to the sum of (1) the U.S. holder's tax basis in the warrant exchanged therefor and (2) the exercise price of such warrant. A U.S. holder's holding period in a share of our common stock received upon exercise of a warrant will commence on the day after such U.S. holder exercises the warrant. Although there is no direct legal authority as to the U.S. federal income tax treatment of an exercise of a warrant on a cashless basis, we intend to

S-29

Table of Contents

take the position that such exercise will not be taxable, either because the exercise is not a gain realization event or because it qualifies as a tax-free recapitalization. In the former case, the holding period of the share of our common stock received upon exercise of the warrant should commence on the day after the warrant is exercised. In the latter case, the holding period of the share of our common stock received upon exercise of the warrant would include the holding period of the exercised warrant. However, our position is not binding on the IRS, and the IRS may treat a cashless exercise of a warrant as a taxable exchange. U.S. holders are urged to consult their tax advisors as to the consequences of an exercise of a warrant on a cashless basis, including with respect to their holding period and tax basis in the share of our common stock received.

If a warrant expires without being exercised, a U.S. holder will recognize a capital loss in an amount equal to such holder's tax basis in the warrant. Such loss will be long-term capital loss if, at the time of the expiration, the U.S. holder's holding period in such warrant is more than one year. The deductibility of capital losses is subject to certain limitations.

Constructive Dividends on Warrants

As described in the section entitled "Dividend Policy," we do not anticipate declaring or paying cash dividends to holders of our common stock in the foreseeable future. However, if the exercise price of a warrant is adjusted as a result of certain events affecting our common stock (or in certain circumstances, there is a failure to make adjustments), such adjustments may result in the deemed payment of a taxable dividend to a U.S. holder. U.S. holders should consult their tax advisors regarding the proper treatment of any adjustments to the exercise price of each warrant.

We are currently required to report the amount of any deemed distributions on our website or to the IRS and to holders not exempt from reporting. The IRS has proposed regulations addressing the amount and timing of deemed distributions, as well as obligations of withholding agents and filing and notice obligations of issuers in respect of such deemed distributions. If adopted as proposed, the regulations would generally provide that (i) the amount of a deemed distribution is the excess of the fair market value of the right to acquire stock immediately after the exercise price adjustment over the fair market value of the right to acquire stock (after the exercise price adjustment) without the adjustment, (ii) the deemed distribution occurs at the earlier of the date the adjustment occurs under the terms of the instrument and the date of the actual distribution of cash or property that results in the deemed distribution and (iii) we are required to report the amount of any deemed distributions on our website or to the IRS and to all holders (including holders that would otherwise be exempt from reporting). The final regulations will be effective for deemed distributions occurring on or after the date of adoption, but holders and withholding agents may rely on them prior to that date under certain circumstances.

Distributions on Common Stock

As described in the section entitled "Dividend Policy," we do not anticipate declaring or paying cash dividends to holders of our common stock in the foreseeable future. However, if we do make distributions of cash or property on our common stock, such distributions will constitute dividends to the extent paid from our current or accumulated earnings and profits, as determined for U.S. federal income tax purposes. Dividends received by a corporate U.S. holder may be eligible for a dividends received deduction, subject to applicable limitations. Dividends received by certain non-corporate U.S. holders, including individuals, are generally taxed at the lower applicable capital gains rate provided certain holding period and other requirements are satisfied. Distributions in excess of our current and accumulated earnings and profits will constitute a return of capital and first be applied against and reduce a U.S. holder's adjusted tax basis in its common stock, but not below zero. Any excess will be treated as capital gain and will be treated as described below in the section relating to the sale or disposition of our common stock.

S-30

Table of Contents

Sale, Exchange or Other Disposition of Common Stock

Upon a sale, exchange or other disposition of our common stock, a U.S. holder generally will recognize capital gain or loss equal to the difference between the amount realized (not including any amount attributable to declared and unpaid dividends, which will be taxable as described above to U.S. holders of record who have not previously included such dividends in income) and the U.S. holder's adjusted tax basis in our common stock. A U.S. holder's adjusted tax basis in a share of our common stock generally will equal (i) its cost for the share of our common stock (in the case of common stock acquired in this offering) or (ii) the sum of (A) its tax basis in the warrant exchanged therefor and (B) the exercise price of the warrant (in the case of a share of our common stock acquired upon exercise of a warrant and as discussed above under "Sale or Other Disposition, Exercise or Expiration of Warrants"). Such capital gain or loss generally will be long-term capital gain or loss if the U.S. holder's holding period for our common stock exceeded one year at the time of disposition. Long-term capital gains recognized by certain non-corporate U.S. holders, including individuals, generally are subject to reduced rates of taxation. The deductibility of capital losses is subject to limitations.

Information Reporting and Backup Withholding

A U.S. holder may be subject to information reporting and backup withholding when such holder receives dividend payments (including constructive dividends) or receives proceeds from the sale or other taxable disposition of our warrants or shares of our common stock. Certain U.S. holders are exempt from backup withholding, including corporations and certain tax-exempt organizations. A U.S. holder will be subject to backup withholding if such holder is not otherwise exempt and such holder:

fails to furnish the holder's taxpayer identification number, which for an individual is ordinarily his or her social security number;

furnishes an incorrect taxpayer identification number;

is notified by the IRS that the holder previously failed to properly report payments of interest or dividends;
or

fails to certify under penalties of perjury that the holder has furnished a correct taxpayer identification number and that the IRS has not notified the holder that the holder is subject to backup withholding.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a U.S. holder's U.S. federal income tax liability, provided the required information is timely furnished to the IRS. U.S. holders should consult their tax advisors regarding their qualification for an exemption from backup withholding and the procedures for obtaining such an exemption.

Tax Considerations Applicable to Non-U.S. Holders

For purposes of this discussion, a non-U.S. holder is a beneficial owner of our warrants or shares of our common stock that is neither a U.S. holder nor an entity treated as a partnership for U.S. federal income tax purposes.

Exercise of Warrants

A non-U.S. holder generally will not be subject to U.S. federal income tax upon exercise of a warrant for its exercise price. However, if a cashless exercise of a warrant results in a taxable exchange, as described in Tax Considerations Applicable to U.S. Holders Sale or Other Disposition, Exercise or Expiration of Warrants, the rules described below under Sale or Other Disposition of Common Stock or Warrants would apply.

Constructive Dividends on Warrants

As described in the section entitled Dividend Policy, we do not anticipate declaring or paying cash dividends to holders of our common stock in the foreseeable future. However, if the exercise price of a

S-31

Table of Contents

warrant is adjusted as a result of certain events affecting our common stock (or in certain circumstances, there is a failure to make adjustments), such adjustments may result in the deemed payment of a taxable dividend to a non-U.S. holder. Any resulting withholding tax attributable to deemed dividends may be collected from other amounts payable or distributable to, or other assets of, the non-U.S. holder. See the section above entitled Tax Considerations Applicable to U.S. Holders Constructive Dividends on Warrants. Non-U.S. holders should consult their tax advisors regarding the proper treatment of any adjustments to the exercise price of each warrant.

Distributions on Common Stock

As described in the section entitled Dividend Policy, we do not anticipate declaring or paying cash dividends to holders of our common stock in the foreseeable future. However, if we do make distributions of cash or property on our common stock, 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. Amounts not treated as dividends for U.S. federal income tax purposes will constitute a return of capital and first be applied against and reduce a non-U.S. holder's adjusted tax basis in its common stock, but not below zero. Any excess will be treated as capital gain and will be treated as described below under Sale or Other Disposition of Common Stock or Warrants. Because we may not know the extent to which a distribution is a dividend for U.S. federal income tax purposes at the time it is made, for purposes of the withholding rules discussed below we or the applicable withholding agent may treat the entire distribution as a dividend.

Subject to the discussion below regarding backup withholding and foreign accounts, dividends paid to a non-U.S. holder of our common stock that are not effectively connected with the non-U.S. holder's conduct of a trade or business within the United States will be subject to U.S. federal withholding tax at a rate of 30% of the gross amount of the dividends (or such lower rate specified by an applicable income tax treaty).

Non-U.S. holders will be entitled to a reduction in or an exemption from withholding on dividends as a result of either (a) an applicable income tax treaty or (b) the non-U.S. holder holding our common stock in connection with the conduct of a trade or business within the United States and dividends being effectively connected with that trade or business. To claim such a reduction in or exemption from withholding, the non-U.S. holder must provide the applicable withholding agent with a properly executed (a) IRS Form W-8BEN or W-8BEN-E (or other applicable documentation) claiming an exemption from or reduction of the withholding tax under the benefit of an income tax treaty between the United States and the country in which the non-U.S. holder resides or is established, or (b) IRS Form W-8ECI stating that the dividends are not subject to withholding tax because they are effectively connected with the conduct by the non-U.S. holder of a trade or business within the United States, as may be applicable. These certifications must be provided to the applicable withholding agent, either directly or through other intermediaries, prior to the payment of dividends and must be updated periodically. A non-U.S. holder that does not timely furnish the required documentation, but that qualifies for a reduced treaty rate, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. Non-U.S. holders should consult their tax advisors regarding their entitlement to benefits under any applicable tax treaties.

If dividends paid to a non-U.S. holder are effectively connected with the non-U.S. holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the non-U.S. holder maintains a permanent establishment in the United States to which such dividends are attributable), then, although exempt from U.S. federal withholding tax (provided the non-U.S. holder provides appropriate certification, as described above), the non-U.S. holder will be subject to U.S. federal income tax on such dividends on a net income basis at the regular graduated rates. A non-U.S. holder that is a corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected earnings and profits for the taxable year that are attributable to such dividends, as adjusted for certain items. Non-U.S. holders should consult their

tax advisors regarding any applicable tax treaties that may provide for different rules.

S-32

Table of Contents

Sale or Other Disposition of Common Stock or Warrants

Subject to the discussions below regarding backup withholding and foreign accounts, a non-U.S. holder will not be subject to U.S. federal income tax on any gain realized upon the sale or other taxable disposition of our warrants or our common stock unless:

the gain is effectively connected with the non-U.S. holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the non-U.S. holder maintains a permanent establishment in the United States to which such gain is attributable);

the non-U.S. holder is a nonresident alien individual present in the United States for 183 days or more during the taxable year of the disposition and certain other requirements are met; or

our warrants or shares of our common stock constitute U.S. real property interests (USRPIs) by reason of our status as a U.S. real property holding corporation (USRPHC) for U.S. federal income tax purposes.

Gain described in the first bullet point above generally will be subject to U.S. federal income tax on a net income basis at the regular graduated rates. A non-U.S. holder that is a corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected gain, as adjusted for certain items.

Gain described in the second bullet point above will be subject to U.S. federal income tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty), which may be offset by certain U.S. source capital losses of the non-U.S. holder (even though the individual is not considered a resident of the United States), provided the non-U.S. holder has timely filed U.S. federal income tax returns with respect to such losses.

With respect to the third bullet point above, we believe we currently are not, and do not anticipate becoming, a USRPHC. Because the determination of whether we are a USRPHC depends, however, on the fair market value of our USRPIs relative to the fair market value of our non-U.S. real property interests and our other business assets, there can be no assurance we currently are not a USRPHC or will not become one in the future.

Non-U.S. holders should consult their tax advisors regarding potentially applicable tax treaties that may provide for different rules.

Information Reporting and Backup Withholding

Subject to the discussion below on foreign accounts, a non-U.S. holder will not be subject to backup withholding with respect to distributions on our common stock provided the applicable withholding agent does not have actual knowledge or reason to know such holder is a United States person and the holder certifies its non-U.S. status, such as by furnishing a valid IRS Form W-8BEN, W-8BEN-E or W-8ECI, or otherwise establishes an exemption. However, information returns are required to be filed with the IRS in connection with any distributions (including deemed distributions) made on our warrants and shares of our common stock paid to the non-U.S. holder, regardless of whether any tax was actually withheld.

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Information reporting and backup withholding may apply to the proceeds of a sale or other taxable disposition of our warrants or our common stock within the United States, and information reporting may (although backup withholding generally will not) apply to the proceeds of a sale or other taxable disposition of our warrants or our common stock outside the United States conducted through certain U.S.-related financial

S-33

Table of Contents

intermediaries, in each case, unless the beneficial owner certifies under penalty of perjury that it is a non-U.S. holder on IRS Form W-8BEN or W-8BEN-E, or other applicable form (and the payor does not have actual knowledge or reason to know that the beneficial owner is a U.S. person) or such owner otherwise establishes an exemption. Proceeds of a disposition of our warrants or our common stock conducted through a non-U.S. office of a non-U.S. broker that does not have certain enumerated relationships with the United States generally will not be subject to backup withholding or information reporting.

Copies of information returns that are filed with the IRS may also be made available under the provisions of an applicable treaty or agreement to the tax authorities of the country in which the non-U.S. holder resides or is established.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a non-U.S. holder's U.S. federal income tax liability, provided the required information is timely furnished to the IRS.

Additional Withholding Tax on Payments Made to Foreign Accounts

Withholding taxes may be imposed under Sections 1471 to 1474 of the Code (such Sections commonly referred to as the Foreign Account Tax Compliance Act, or "FATCA") on certain types of payments made to non-U.S. financial institutions and certain other non-U.S. entities. Specifically, a 30% withholding tax may be imposed on dividends (including deemed dividends) on, or (subject to the proposed Treasury Regulations discussed below) gross proceeds from the sale or other disposition of, our warrants or shares of our common stock paid to a foreign financial institution or a non-financial foreign entity (each as defined in the Code), unless (1) the foreign financial institution undertakes certain diligence and reporting obligations, (2) the non-financial foreign entity either certifies it does not have any substantial United States owners (as defined in the Code) or furnishes identifying information regarding each substantial United States owner or (3) the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from these rules. If the payee is a foreign financial institution and is subject to the diligence and reporting requirements in (1) above, it must enter into an agreement with the U.S. Department of the Treasury requiring, among other things, that it undertake to identify accounts held by certain specified United States persons or United States owned foreign entities (each as defined in the Code), annually report certain information about such accounts, and withhold 30% on certain payments to non-compliant foreign financial institutions and certain other account holders. Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing FATCA may be subject to different rules.

Under applicable Treasury Regulations and administrative guidance, withholding under FATCA generally applies to payments of dividends (including deemed dividends). Because we may not know the extent to which a distribution is a dividend for U.S. federal income tax purposes at the time it is made, for purposes of these withholding rules we or the applicable withholding agent may treat the entire distribution as a dividend. While withholding under FATCA would have applied also to payments of gross proceeds from the sale or other disposition of our warrants or shares of our common stock on or after January 1, 2019, recently proposed Treasury Regulations eliminate FATCA withholding on payments of gross proceeds entirely. Taxpayers generally may rely on these proposed Treasury Regulations until final Treasury Regulations are issued.

Prospective investors should consult their tax advisors regarding the potential application of withholding under FATCA to their investment in our warrants and shares of our common stock.

Table of Contents**UNDERWRITING**

H.C. Wainwright & Co., LLC is acting as sole underwriter for this offering. Subject to the terms and conditions set forth in the underwriting agreement between us and the underwriter, we have agreed to sell to the underwriter, and the underwriter has agreed to purchase from us, the number of shares of common stock and warrants set forth opposite its name below.

Underwriter	Number of Shares	Number of Series A Warrants	Number of Series B Warrants
H.C. Wainwright & Co., LLC	15,000,000	15,000,000	15,000,000
Total	15,000,000	15,000,000	15,000,000

Subject to the terms and conditions set forth in the underwriting agreement, the underwriter has agreed to purchase all of the shares and warrants sold under the underwriting agreement if any of these shares and warrants are purchased.

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

The underwriter is offering the shares of common stock and warrants, subject to prior sale, when, as and if issued to and accepted by it, subject to approval of legal matters by its counsel, including the validity of the shares, and other conditions contained in the underwriting agreement, such as the receipt by the underwriter of officers' certificates and legal opinions. The underwriter reserves the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Commissions and Discounts

H.C. Wainwright & Co., LLC has advised us that it proposes initially to offer the shares of common stock and warrants to the public at the combined public offering price set forth on the cover of this prospectus supplement and to dealers at that price less a concession not in excess of \$0.045 per share and related warrants. After the initial offering of the securities, the public offering price, concession or any other term of the offering may be changed by the underwriter.

The following table shows the public offering price, underwriting discounts and commissions and proceeds before expenses to us. The information assumes either no exercise or full exercise by the underwriter of its option to purchase additional securities.

	Per Share and Accompanying Warrants	Without Option	Total With Option
Combined public offering price	\$ 1.00	\$ 15,000,000	\$ 17,250,000
Underwriting discounts and commissions	\$ 0.06	\$ 900,000	\$ 1,035,000
Proceeds, before expenses, to us	\$ 0.94	\$ 14,100,000	\$ 16,215,000

We estimate expenses payable by us in connection with this offering, other than the underwriting discounts and commissions referred to above, will be approximately \$400,000. We have agreed to reimburse the actual expenses of the underwriter, including its legal fees, up to \$125,000 in connection with this offering, and \$10,000 for the clearing expenses of the underwriter in connection with this offering.

We have also granted the underwriter a twelve-month right of first refusal to act as sole book-running manager, sole underwriter or sole placement agent for certain future public or private equity offerings by us or any of our successors or subsidiaries, under certain circumstances.

S-35

Table of Contents

Option to Purchase Additional Securities

We have granted an option to the underwriter, exercisable for 30 days after the date of this prospectus supplement, to purchase up to 2,250,000 additional shares of common stock at a purchase price of \$0.99 per share, less underwriting discounts and commissions and/or additional Series A and Series B warrants together at a purchase price of \$0.01, less underwriting discounts and commissions. If the underwriter exercises this option, it will be obligated, subject to conditions contained in the underwriting agreement, to purchase such number of additional shares and/or warrants.

No Sales of Similar Securities

We have agreed that we will not sell or transfer any shares of our common stock or securities convertible into or exchangeable or exercisable for any shares of our common stock, for 45 days after the date of this prospectus supplement without first obtaining the written consent of H.C. Wainwright & Co., LLC. In addition, our executive officers and directors have agreed not to sell or transfer any shares of our common stock or securities convertible into or exchangeable or exercisable for any shares of our common stock, for 60 days after the date of this prospectus supplement without first obtaining the written consent of H.C. Wainwright & Co., LLC.

Specifically, we and these other persons have agreed not to offer, sell, contract to sell, pledge or otherwise dispose of, directly or indirectly, any shares of our common stock or securities convertible into or exchangeable or exercisable for any shares of our common stock, enter into a transaction which would have the same effect, or enter into any swap, hedge or other arrangement that transfers, in whole or in part, any of the economic consequences of ownership of the shares of our common stock, whether any such aforementioned transaction is to be settled by delivery of the shares of our common stock or such other securities, in cash or otherwise, or publicly disclose the intention to make any such offer, sale, pledge or disposition, or to enter into any such transaction, swap, hedge or other arrangement.

Notwithstanding the above, these lock-up provisions will not apply to us with respect to (a) grants of employee stock options or other equity-based awards pursuant to the terms of our equity incentive plans, (b) issuances of shares of our common stock or any securities convertible into or exchangeable or exercisable for any shares of our common stock pursuant to the exercise of such options or other equity-based awards, (c) issuances of shares of our common stock or any securities convertible into or exchangeable or exercisable for any shares of our common stock pursuant to the conversion or exchange of convertible or exchangeable securities (including cashless or net exercises, other than broker-assisted cashless exercises) or the exercise of warrants or options, in each case outstanding on the date hereof, (d) the sale or issuance of shares of our common stock or any securities convertible into or exchangeable or exercisable for any shares of our common stock in connection with a debt or credit financing facility or equipment leasing arrangement; provided, that the aggregate number of shares of our common stock (on as-converted or as-exercised basis, as the case may be) that we may sell or issue or agree to sell or issue pursuant to this clause (d) shall not exceed 2.5% of the total number of shares of our common stock issued and outstanding immediately following the completion of the transaction contemplated by this prospectus supplement, (e) the sale or issuance of or entry into an agreement to sell or issue shares of our common stock or any securities convertible into or exchangeable or exercisable for any shares of our common stock in connection with any (1) mergers, (2) acquisition of securities, businesses, property or other assets, (3) joint ventures, (4) strategic alliances or (5) any bona fide commercial or licensing arrangement with us; provided, that the aggregate number of shares of our common stock (on as-converted or as-exercised basis, as the case may be) that we may sell or issue or agree to sell or issue pursuant to this clause (e) shall not exceed 10% of the total number of shares of shares of our common stock issued and outstanding immediately following the completion of the transaction contemplated by this prospectus supplement, or (f) the issuance of the shares sold under the underwriting agreement, provided in the case of clauses (b), (c), (d) and (e), the recipients of such shares of our common stock or any securities convertible into or exchangeable or exercisable for any shares of our common stock agree to be bound by a lock-up letter in the form executed by officers and directors.

S-36

Table of Contents

Further, the foregoing lock-up provisions will not apply to our executive officers and directors with respect to (a) transfers of shares of our common stock or other securities as a bona fide gift or gifts or by testate succession or intestate distribution, (b) the exercise of stock options or other similar awards granted pursuant to our equity incentive plans, provided that such restriction shall apply to any of the shares of our common stock issued to the lock-up signatory upon such exercise, (c) any shares of our common stock or other securities that are transferred to us or sold in connection with a vesting event of our securities for the primary purpose of satisfying any tax or other governmental withholding obligation, through cashless surrender or otherwise, with respect to any award of equity-based compensation granted pursuant to our equity incentive plans or in connection with tax or other obligations as a result of testate succession or intestate distribution, provided that to the extent a public announcement or filing under the Exchange Act, if any, is required of or voluntarily made by or on behalf of the lockup signatory or us in respect of such a transfer or sale, such announcement or filing shall include a statement to the effect that such transfer or sale is being made to satisfy a tax or other governmental withholding obligation, (d) the exercise (whether for cash or net exercise) of warrants to purchase shares of our common stock (or any other security convertible into or exercisable or exchangeable for shares of our common stock), provided that such restriction shall apply to any of the shares of our common stock issued to the lock-up signatory upon such exercise, (e) the establishment of any contract, instruction or plan that satisfies all of the requirements of Rule 10b5-1(c)(1)(i)(B) under the Exchange Act, provided that no sales of the lock-up signatory's shares of our common stock shall be made pursuant to such a plan prior to the expiration of the lock-up period, and provided that to the extent a public announcement or filing under the Exchange Act, if any, is required of or voluntarily made by or on by or on behalf of the lock-up signatory regarding the establishment of such plan, such announcement or filing shall include a statement to the effect that no transfer of shares of our common stock may be made under such plan during the lock-up period, (f) transfers not involving a disposition for value to a member or members of the lock-up signatory's family or to a trust, the direct or indirect beneficiaries of which are the lock-up signatory and/or a member or members of his or her family, (g) distributions not involving a disposition for value of shares of our common stock or such other securities to members, partners or stockholders of the lock-up signatory or to any corporation, partnership or other person or entity that is a direct or indirect affiliate of the lock-up signatory, (h) the transfer or disposition of the lock-up signatory's shares of our common stock or other securities that occurs by operation of law, such as pursuant to a qualified domestic order or in connection with a divorce settlement, (i) the transfer of the lock-up signatory's shares of our common stock or other securities to us pursuant to any contractual arrangement in effect on the date of the lock-up agreement that provides for the repurchase of the lock-up signatory's shares of our common stock or such other securities by us or in connection with the termination of the lock-up signatory's employment or other service relationship with us; provided that in the case of any transfer or distribution pursuant to clause (a), (f), (g) or (h), each donee, distributee or transferee shall execute and deliver to the representatives a letter in the form of the lock-up agreement; and provided, further, that in the case of any transfer or distribution pursuant to clause (a) or (f) through (h), no filing by any party (donor, donee, transferor or transferee) under the Exchange Act, or other public announcement shall be required or shall be made voluntarily in connection with such transfer or distribution (other than a filing on a Form 5 made after the expiration of the lock-up period).

Nasdaq Global Market Listing

Our common stock is listed on the Nasdaq Global Market under the symbol AKAO. We do not plan on making an application to list the warrants on any national securities exchange or other nationally recognized trading system.

Discretionary Accounts

The underwriter does not intend to confirm sales of the shares and/or warrants to any accounts over which they have discretionary authority.

S-37

Table of Contents

Price Stabilization, Short Positions and Penalty Bids

In connection with this offering, the underwriter may engage in stabilizing transactions, overallotment transactions, syndicate covering transactions and penalty bids in connection with our common stock.

Stabilizing transactions permit bids to purchase shares of common stock so long as the stabilizing bids do not exceed a specified maximum.

Overallotment transactions involve sales by the underwriter of shares of common stock in excess of the number of shares the underwriter is obligated to purchase. This creates a syndicate short position which may be either a covered short position or a naked short position. In a covered short position, the number of shares over-allotted by the underwriter is not greater than the number of shares that it may purchase in the overallotment option. In a naked short position, the number of shares involved is greater than the number of shares in the overallotment option. The underwriter may close out any short position by exercising its overallotment option and/or purchasing shares in the open market.

Syndicate covering transactions involve purchases of common stock in the open market after the distribution has been completed in order to cover syndicate short positions. Such a naked short position would be closed out by buying securities in the open market. A naked short position is more likely to be created if the underwriter is concerned that there could be downward pressure on the price of the securities in the open market after pricing that could adversely affect investors who purchase in the offering.

Penalty bids permit the underwriter to reclaim a selling concession from a syndicate member when the securities originally sold by the syndicate member are purchased in a stabilizing or syndicate covering transaction to cover syndicate short positions.

These stabilizing transactions, syndicate covering transactions and penalty bids 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 in the open market may be higher than it would otherwise be in the absence of these transactions. Neither we nor the underwriter make any representation or prediction as to the effect that the transactions described above may have on the price of our common stock. These transactions may be effected on the Nasdaq Global Market, in the over-the-counter market or otherwise and, if commenced, may be discontinued at any time.

In connection with this offering, the underwriter also may engage in passive market making transactions in our common stock in accordance with Regulation M during a period before the commencement of offers or sales of shares of our common stock in this offering and extending through the completion of the distribution. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for that security. However, if all independent bids are lowered below the passive market maker's bid that bid must then be lowered when specific purchase limits are exceeded. Passive market making may stabilize the market price of the securities at a level above that which might otherwise prevail in the open market and, if commenced, may be discontinued at any time.

Electronic Distribution

A prospectus in electronic format may be made available on the websites maintained by the underwriter or selling group members, if any, participating in this offering and the underwriter participating in this offering may distribute prospectuses electronically. Other than the prospectus in electronic format, the information on these websites is not part of this prospectus or the registration statement of which this prospectus forms a part, has not been approved or endorsed by us or any underwriter in its capacity as underwriter, and should not be relied upon by investors.

S-38

Table of Contents

Other Relationships

The underwriter and certain of its affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. The underwriter and certain of its affiliates may in the future engage in investment banking and other commercial dealings in the ordinary course of business with us and our affiliates, for which they may in the future receive customary fees, commissions and expenses.

In addition, in the ordinary course of their business activities, the underwriter and its 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 underwriter and its 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.

Selling Restrictions

Notice to Prospective Investors in the European Economic Area

In relation to each Member State of the European Economic Area (each, a Relevant Member State), no offer of securities may be made to the public in that Relevant Member State other than:

- A. to any legal entity which is a qualified investor as defined in the Prospectus Directive;
- B. to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150, natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the representatives; or
- C. in any other circumstances falling within Article 3(2) of the Prospectus Directive,

provided that no such offer of securities shall require the Company or H.C. Wainwright & Co., LLC 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 in a Relevant Member State who initially acquires any securities or to whom any offer is made will be deemed to have represented, acknowledged and agreed that it is a qualified investor within the meaning of the law in that Relevant Member State implementing Article 2(1)(e) of the Prospectus Directive. In the case of any securities being offered to a financial intermediary as that term is used in Article 3(2) of the Prospectus Directive, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the securities acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer of any securities to the public other than their offer or resale in a Relevant Member State to qualified investors as so defined or in circumstances in which the prior consent of the representatives has been obtained to each such proposed offer or resale.

We, H.C. Wainwright & Co., LLC and each of our and H.C. Wainwright & Co., LLC's affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

This prospectus supplement has been prepared on the basis that any offer of securities in any Relevant Member State will be made pursuant to an exemption under the Prospectus Directive from the requirement to publish a prospectus for offers of securities. Accordingly, any person making or intending to make an offer in

S-39

Table of Contents

that Relevant Member State of securities which are the subject of the offering contemplated in this prospectus supplement may only do so in circumstances in which no obligation arises for the company or any of the underwriters to publish a prospectus pursuant to Article 3 of the Prospectus Directive in relation to such offer. Neither the company nor the underwriter have authorized, nor do they authorize, the making of any offer of securities in circumstances in which an obligation arises for the company or the underwriter to publish a prospectus for such offer.

For the purpose of the above provisions, the expression "an offer to the public" in relation to any securities in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the securities to be offered so as to enable an investor to decide to purchase or subscribe the securities, as the same may be varied in the Relevant Member State by any measure implementing the Prospectus Directive in the Relevant Member State and the expression "Prospectus Directive" means Directive 2003/71/EC (including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member States) and includes any relevant implementing measure in the Relevant Member State and the expression "2010 PD Amending Directive" means Directive 2010/73/EU. For these purposes the shares of common stock and the warrants offered hereby are securities.

Notice to Prospective Investors in the United Kingdom

In addition, in the United Kingdom, this prospectus supplement and the accompanying prospectus are being distributed only to, and are directed only at, and any offer subsequently made may only be directed at, persons who are qualified investors within the meaning of Article 2(1)(e) of the Prospectus Directive that are also (i) investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the "Order") or (ii) high net worth entities, and other persons to whom it may lawfully be communicated, falling within Article 49(2)(a) to (d) of the Order (each such person being referred to as a "relevant person"). This prospectus supplement and its contents are confidential and should not be distributed, published or reproduced (in whole or in part) or disclosed by recipients to any other persons in the United Kingdom. Any person in the United Kingdom that is not a relevant person should not act or rely on this document or any of its contents.

Notice to Prospective Investors in Canada

The securities 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 securities 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 supplement (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 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.

For these purposes the shares of common stock and the warrants offered hereby are securities.

S-40

Table of Contents

LEGAL MATTERS

The validity of the issuance of our common stock offered hereby will be passed upon for us by Latham & Watkins LLP, Menlo Park, California. The underwriter is being represented in connection with this offering by Lowenstein Sandler LLP, New York, New York.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2017, and the effectiveness of our internal control over financial reporting as of December 31, 2017, as set forth in their reports, which are incorporated by reference in this prospectus supplement and elsewhere in the registration statement. Our consolidated financial statements are incorporated by reference in reliance on Ernst & Young LLP's reports, given on their authority as experts in accounting and auditing.

S-41

Table of Contents

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-3 under the Securities Act, of which this prospectus supplement and the accompanying base prospectus form a part. The rules and regulations of the SEC allow us to omit from this prospectus supplement and the accompanying base prospectus certain information included in the registration statement. For further information about us and the securities we are offering under this prospectus supplement and the accompanying base prospectus, you should refer to the registration statement and the exhibits and schedules filed with the registration statement. With respect to the statements contained in this prospectus supplement and the accompanying base prospectus regarding the contents of any agreement or any other document, in each instance, the statement is qualified in all respects by the complete text of the agreement or document, a copy of which has been filed as an exhibit to the registration statement.

We file reports, proxy statements and other information with the SEC under the Securities Exchange Act of 1934, as amended. You may read and copy this information from the Public Reference Room of the SEC, 100 F Street, N.E., Room 1580, Washington, D.C. 20549, at prescribed rates. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains an Internet website that contains reports, proxy statements and other information about issuers, like us, that file electronically with the SEC. The address of that website is www.sec.gov.

The SEC allows us to incorporate by reference the information we file with them which means that we can disclose important information to you by referring you to those documents instead of having to repeat the information in this prospectus supplement and the accompanying base prospectus. The information incorporated by reference is considered to be part of this prospectus supplement and the accompanying base prospectus, and later information that we file with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future information filed (rather than furnished) with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act between the date of this prospectus supplement and the termination of this offering, provided, however, that we are not incorporating any information furnished under Item 2.02 or Item 7.01 of any current report on Form 8-K:

our Annual Report on Form 10-K for the year ended December 31, 2017, filed with the SEC on February 27, 2018;

our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2018, June 30, 2018 and September 30, 2018, which were filed with the SEC on May 7, 2018, August 6, 2018 and November 8, 2018, respectively;

our Definitive Proxy Statement on Schedule 14A, filed with the SEC on April 18, 2018;

our Current Reports on Form 8-K filed with the SEC on January 30, 2018, May 3, 2018, June 7, 2018, June 26, 2018, July 26, 2018 (as amended on September 17, 2018), November 2, 2018, January 4, 2019 and February 14, 2019; and

the description of our common stock contained in our registration statement on Form 8-A (File No. 001-36323), filed with the SEC under Section 12(b) of the Exchange Act on February 25, 2014, including any amendments or reports filed for the purpose of updating such description.

These documents may also be accessed on our website at www.achaogen.com. Except as otherwise specifically incorporated by reference in this prospectus supplement and the accompanying base prospectus, information contained in, or accessible through, our website is not a part of this prospectus supplement and the accompanying base prospectus.

S-42

Table of Contents

We will furnish without charge to you, upon written or oral request, a copy of any or all of the documents incorporated by reference, including exhibits to these documents by writing or telephoning us at the following address:

Achaogen, Inc.

1 Tower Place, Suite 400

South San Francisco, CA 94080

(650) 800-3636

Attention: Chief Financial Officer

S-43

Table of Contents

PROSPECTUS

Achaogen, Inc.

\$250,000,000

Common Stock, Preferred Stock, Debt Securities,

Warrants, Units

We may offer and sell up to \$250,000,000 in the aggregate of the securities identified above from time to time in one or more offerings. These securities are inclusive of \$19,087,500 of unsold securities registered pursuant to Registration Statement No. 333-201282 which became effective on April 21, 2015. This prospectus provides you with a general description of the securities.

Each time we offer and sell securities, we will provide a supplement to this prospectus that contains specific information about the offering and the amounts, prices and terms of the securities. The supplement may also add, update or change information contained in this prospectus with respect to that offering. You should carefully read this prospectus and the applicable prospectus supplement before you invest in any of our securities.

We may offer and sell the securities described in this prospectus and any prospectus supplement to or through one or more underwriters, dealers and agents, or directly to purchasers, or through a combination of these methods. If any underwriters, dealers or agents are involved in the sale of any of the securities, their names and any applicable purchase price, fee, commission or discount arrangement between or among them will be set forth, or will be calculable from the information set forth, in the applicable prospectus supplement. See the sections of this prospectus entitled About this Prospectus and Plan of Distribution for more information. No securities may be sold without delivery of this prospectus and the applicable prospectus supplement describing the method and terms of the offering of such securities.

INVESTING IN OUR SECURITIES INVOLVES RISKS. SEE THE RISK FACTORS ON PAGE 5 OF THIS PROSPECTUS AND ANY SIMILAR SECTION CONTAINED IN THE APPLICABLE PROSPECTUS SUPPLEMENT CONCERNING FACTORS YOU SHOULD CONSIDER BEFORE INVESTING IN OUR SECURITIES.

Our common stock is listed on The Nasdaq Global Market under the symbol AKAO. On February 23, 2018, the last reported sale price of our common stock on The Nasdaq Global Market was \$10.99 per share.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is April 25, 2018.

Table of Contents

CONTENTS

	Page
<u>ABOUT THIS PROSPECTUS</u>	1
<u>WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE</u>	2
<u>ABOUT ACHAOPEN</u>	4
<u>RISK FACTORS</u>	5
<u>USE OF PROCEEDS</u>	6
<u>RATIO OF EARNINGS TO FIXED CHARGES AND PREFERENCE DIVIDENDS</u>	7
<u>DESCRIPTION OF CAPITAL STOCK</u>	8
<u>DESCRIPTION OF DEBT SECURITIES</u>	12
<u>DESCRIPTION OF WARRANTS</u>	20
<u>DESCRIPTION OF UNITS</u>	22
<u>GLOBAL SECURITIES</u>	23
<u>PLAN OF DISTRIBUTION</u>	27
<u>LEGAL MATTERS</u>	29
<u>EXPERTS</u>	29

Table of Contents

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the U.S. Securities and Exchange Commission, or the SEC, using a shelf registration process. By using a shelf registration statement, we may sell securities from time to time and in one or more offerings up to a total dollar amount of \$250,000,000 as described in this prospectus. Each time that we offer and sell securities, we will provide a prospectus supplement to this prospectus that contains specific information about the securities being offered and sold and the specific terms of that offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. The prospectus supplement or free writing prospectus may also add, update or change information contained in this prospectus with respect to that offering. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement or free writing prospectus, you should rely on the prospectus supplement or free writing prospectus, as applicable. Before purchasing any securities, you should carefully read both this prospectus and the applicable prospectus supplement (and any applicable free writing prospectuses), together with the additional information described under the heading **Where You Can Find More Information; Incorporation by Reference**.

We have not authorized anyone to provide you with any information or to make any representations other than those contained in this prospectus, any applicable prospectus supplement or any free writing prospectuses prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We will not make an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus and the applicable prospectus supplement to this prospectus is accurate only as of the date on its respective cover, that the information appearing in any applicable free writing prospectus is accurate only as of the date of that free writing prospectus, and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference, unless we indicate otherwise. Our business, financial condition, results of operations and prospects may have changed since those dates. This prospectus incorporates by reference, and any prospectus supplement or free writing prospectus may contain and incorporate by reference, market data and industry statistics and forecasts that are based on independent industry publications and other publicly available information. Although we believe these sources are reliable, we do not guarantee the accuracy or completeness of this information and we have not independently verified this information. In addition, the market and industry data and forecasts that may be included or incorporated by reference in this prospectus, any prospectus supplement or any applicable free writing prospectus may involve estimates, assumptions and other risks and uncertainties and are subject to change based on various factors, including those discussed under the heading **Risk Factors** contained in this prospectus, the applicable prospectus supplement and any applicable free writing prospectus, and under similar headings in other documents that are incorporated by reference into this prospectus. Accordingly, investors should not place undue reliance on this information.

When we refer to **Achaogen**, **we**, **our**, **us** and the **Company** in this prospectus, we mean Achaogen, Inc., and our consolidated subsidiary unless otherwise specified. When we refer to **you**, we mean the holders of the applicable series of securities.

Achaogen and the Achaogen logo are our trademarks. This prospectus includes trademarks, tradenames, and service marks that are the property of other organizations. Solely for convenience, our trademarks and tradenames referred to in this prospectus appear without the symbol, 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.

Table of Contents

WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE

Available Information

We file reports, proxy statements and other information with the SEC. Information filed with the SEC by us can be inspected and copied at the Public Reference Room maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. You may also obtain copies of this information by mail from the Public Reference Room of the SEC at prescribed rates. Further information on the operation of the SEC's Public Reference Room in Washington, D.C. can be obtained by calling the SEC at 1-800-SEC-0330. The SEC also maintains a website that contains reports, proxy and information statements and other information about issuers, such as us, who file electronically with the SEC. The address of that website is <http://www.sec.gov>.

Our website address is www.achaogen.com. The information on our website, however, is not, and should not be deemed to be, a part of this prospectus. We have included our website address as an inactive textual reference only.

This prospectus and any prospectus supplement are part of a registration statement that we filed with the SEC and do not contain all of the information in the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. Forms of the indenture and other documents establishing the terms of the offered securities are or may be filed as exhibits to the registration statement or documents incorporated by reference in the registration statement. Statements in this prospectus or any prospectus supplement about these documents are summaries and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. You may inspect a copy of the registration statement at the SEC's Public Reference Room in Washington, D.C. or through the SEC's website, as provided above.

Incorporation by Reference

The SEC's rules allow us to incorporate by reference information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in this prospectus or a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or a subsequently filed document incorporated by reference modifies or replaces that statement.

We incorporate by reference our documents listed below and any future filings made by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, which we refer to as the Exchange Act in this prospectus, between the date on which Post-Effective Amendment No. 2 to the registration statement that includes this prospectus was initially filed with the SEC and the termination of the offering of the securities described in this prospectus. We are not, however, incorporating by reference any documents or portions thereof, whether specifically listed below or filed in the future, that are not deemed filed with the SEC, including any Compensation Committee report and performance graph or any information furnished pursuant to Items 2.02 or 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K.

This prospectus and any accompanying prospectus supplement incorporate by reference the documents set forth below that have previously been filed with the SEC:

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our Annual Report on Form 10-K for the year ended December 31, 2017, filed with the SEC on February 27, 2018;

our Current Report on Form 8-K filed with the SEC on January 30, 2018; and

Table of Contents

the description of our common stock contained in our registration statement on Form 8-A filed with the SEC on February 25, 2014, including any amendments or reports filed for the purpose of updating such description.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of this offering, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents.

You may request a free copy of any of the documents incorporated by reference in this prospectus by writing or telephoning us at the following address:

Achaogen, Inc.

1 Tower Place, Suite 300

South San Francisco, CA 94080

(650) 800-3636

Attention: Corporate Secretary

Exhibits to the filings will not be sent, however, unless those exhibits have specifically been incorporated by reference in this prospectus and any accompanying prospectus supplement.

Table of Contents

ABOUT ACHAOPEN

We are a late-stage biopharmaceutical company passionately committed to the discovery, development, and commercialization of innovative antibacterial treatments against multi-drug resistant gram-negative infections.

We were incorporated in Delaware in 2002 and commenced operations in 2004. Our principal executive offices are located at 1 Tower Place, Suite 300, South San Francisco, California 94080, and our telephone number is (650) 800-3636.

Table of Contents

RISK FACTORS

Investment in any securities offered pursuant to this prospectus and the applicable prospectus supplement involves risks. You should carefully consider the risk factors incorporated by reference to our most recent Annual Report on Form 10-K and any subsequent Quarterly Reports on Form 10-Q or Current Reports on Form 8-K we file after the date of this prospectus, and all other information contained or incorporated by reference into this prospectus, as updated by our subsequent filings under the Exchange Act, and the risk factors and other information contained in the applicable prospectus supplement and any applicable free writing prospectus before acquiring any of such securities. The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities.

Table of Contents

USE OF PROCEEDS

We intend to use the net proceeds from the sale of the securities as set forth in the applicable prospectus supplement.

Table of Contents**RATIO OF EARNINGS TO FIXED CHARGES AND PREFERENCE DIVIDENDS**

Our earnings have been inadequate to cover fixed charges and preference dividends. The following table sets forth the dollar amount of the deficiency to cover fixed charges for each of the years ended December 31, 2017, 2016, 2015, 2014 and 2013. We have derived the deficiency of earnings to cover fixed charges from our historical financial statements. The following should be read in conjunction with our financial statements, including the notes thereto, and the other financial information included or incorporated by reference herein. See Exhibit 12.1 hereto for additional detail regarding the computation of the deficiency of earnings to cover fixed charges.

(in millions)	Year Ended December 31,				
	2017	2016	2015	2014	2013
Deficiency of earnings available to cover fixed charges	\$ 125.6	\$ 71.2	\$ 27.1	\$ 20.2	\$ 13.1

For the periods indicated above, we have no outstanding shares of preferred stock with required dividend payments. Therefore, the deficiency of earnings to combined fixed charges and preferred stock dividends is identical to the deficiency presented in the table above.

Table of Contents

DESCRIPTION OF CAPITAL STOCK

The following summary describes our capital stock and the material provisions of our amended and restated certificate of incorporation and our amended and restated bylaws, the amended and restated investor rights agreement to which we and certain of our stockholders are parties and of the General Corporation Law of the State of Delaware. Because the following is only a summary, it does not contain all of the information that may be important to you. For a complete description, you should refer to our amended and restated certificate of incorporation, amended and restated bylaws, and amended and restated investor rights agreement, copies of which are incorporated by reference into the registration statement of which this prospectus is a part.

General

We have authorized under our amended and restated certificate of incorporation 290,000,000 shares of common stock, \$0.001 par value per share, and 10,000,000 shares of preferred stock, \$0.001 par value per share.

Common Stock

Voting Rights

Each holder of our common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders, including the election of directors. In the election of directors, a plurality of the votes cast at a meeting of stockholders is sufficient to elect a director. Our stockholders do not have cumulative voting rights in the election of directors. Accordingly, holders of a majority of the voting shares are able to elect all of the directors. In all other matters, except as noted below under Amendment of our Amended and Restated Certificate of Incorporation or our Amended and Restated Bylaws and Election and Removal of Directors and except where a higher threshold is required by law, a majority of the votes cast affirmatively or negatively (excluding abstentions and broker non-votes) will decide such matters.

Dividends

Subject to preferences that may be applicable to any then outstanding preferred stock, holders of our common stock are entitled to receive dividends, if any, as may be declared from time to time by our board of directors out of legally available funds.

Liquidation

In the event of our liquidation, dissolution or winding up, holders of our common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities and the satisfaction of any liquidation preference granted to the holders of any then outstanding shares of preferred stock.

Other Rights and Preferences

Holders of our common stock have no preemptive, conversion, subscription or other rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of our common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of preferred stock that we may designate in the future.

Preferred Stock

Our board of directors has the authority, without further action by our stockholders, to issue up to 10,000,000 shares of preferred stock in one or more series and to fix the rights, preferences, privileges and

Table of Contents

restrictions thereof. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms and the number of shares constituting any series or the designation of such series, any or all of which may be greater than the rights of common stock. The issuance of our preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deferring or preventing a change of control of our company or other corporate action. As of December 31, 2017, no shares of preferred stock were outstanding, and we have no present plan to issue any shares of preferred stock.

Warrants

The following table sets forth information about outstanding warrants to purchase shares of our stock as of December 31, 2017.

Class of Stock	Number of Shares	Exercise Price/Share	Expiration Date
Common stock	1,178,782	\$ 3.66	June 3, 2021
Common stock	11,676	\$ 11.99	November 1, 2021
Common stock	5,838	\$ 11.99	November 1, 2021

Registration Rights

We are party to an amended and restated investor rights agreement, which provides certain of our stockholders and warrant holders the right to demand that we file a registration statement for their shares of common stock or request that their shares of common stock be covered by a registration statement that we are otherwise filing, in each case, to the extent their shares of common stock were issued upon conversion of convertible preferred stock or upon the exercise of such warrants.

Pursuant to the amended and restated investor rights agreement, in the event that we propose to register any of our securities under the Securities Act, either for our own account or for the account of other security holders, these holders are entitled to notice of such registration and are entitled to certain piggyback registration rights allowing the holder to include their common stock in such registration, subject to certain marketing and other limitations. Certain of our stockholders also have the right, to require us, on not more than two occasions, to file a registration statement under the Securities Act to register the resale of their shares of common stock with anticipated gross proceeds, before deduction of underwriting discounts and expenses related to issuance, in excess of \$5.0 million. We may, in certain circumstances, defer such registrations, and any underwriters will have the right, subject to certain limitations, to limit the number of shares included in such registrations. Further, certain of our stockholders and warrant holders may require us to register the resale of all or a portion of their shares of common stock on a registration statement on Form S-3, subject to certain conditions and limitations. In an underwritten offering, the underwriter has the right, subject to specified conditions, to limit the number of registrable securities such holders may include.

In addition, pursuant to a registration rights agreement, we were obligated to file a registration statement on Form S-3 on behalf of the holders of 9,999,995 shares of our common stock, including shares issuable upon exercise of warrants. Accordingly, on June 24, 2016, we filed a registration statement on Form S-3 (File No. 333-205630) for the resale of an aggregate of 9,999,995 shares of our common stock, including those shares issuable upon exercise of warrants.

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Pursuant to a common stock purchase agreement, dated May 4, 2017, we are obligated to use commercially reasonable efforts to file a registration statement on Form S-3 with respect to 407,331 shares of common stock on behalf of the purchaser registering such shares for resale, unless such shares are otherwise eligible for resale without registration pursuant to the terms of such purchase agreement.

Table of Contents

Anti-Takeover Effects of Provisions of our Amended and Restated Certificate of Incorporation, our Amended and Restated Bylaws and Delaware Law

Some provisions of Delaware law, our amended and restated certificate of incorporation and our amended and restated bylaws contain provisions that could make the following transactions more difficult: acquisition of us by means of a tender offer; acquisition of us by means of a proxy contest or otherwise; or removal of our incumbent officers and directors. It is possible that these provisions could make it more difficult to accomplish or could deter transactions that stockholders may otherwise consider to be in their best interest or in our best interests, including transactions that might result in a premium over the market price for our shares.

These provisions, summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors. We believe that the benefits of increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure us outweigh the disadvantages of discouraging these proposals because negotiation of these proposals could result in an improvement of their terms.

Undesignated Preferred Stock

The ability to authorize undesignated preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change control of us. These and other provisions may have the effect of deterring hostile takeovers or delaying changes in control or management of our company.

Stockholder Meetings

Our charter documents provide that a special meeting of stockholders may be called only by our board of directors, the chairman of our board of directors, our Chief Executive Officer or, in the absence of a Chief Executive Officer, our President.

Requirements for Advance Notification of Stockholder Nominations and Proposals

Our amended and restated bylaws establish advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors, other than nominations made by or at the direction of the board of directors or a committee of the board of directors.

Elimination of Stockholder Action by Written Consent

Our amended and restated certificate of incorporation eliminates the right of stockholders to act by written consent without a meeting.

Election and Removal of Directors

Our board of directors is divided into three classes. The directors in each class will serve for a three-year term, one class being elected each year by our stockholders. This system of electing and removing directors may tend to discourage a third party from making a tender offer or otherwise attempting to obtain control of us, because it generally makes it more difficult for stockholders to replace a majority of the directors. Our amended and restated certificate of incorporation provides that directors may be removed only for cause with the vote of holders of 66 2/3% of the voting power of all the then-outstanding shares of our voting stock. Our amended and restated certificate of

incorporation does not permit stockholders to cumulate their votes in the election of directors. Accordingly, the holders of a majority of the outstanding shares of our common stock entitled to vote in any election of directors can elect all of the directors standing for election, if they choose.

Table of Contents

Delaware Anti-Takeover Statute

We are subject to Section 203 of the General Corporation Law of the State of Delaware, which prohibits persons deemed interested stockholders from engaging in a business combination with a publicly-held Delaware corporation for three years following the date these persons become interested stockholders unless the business combination is, or the transaction in which the person became an interested stockholder was, approved in a prescribed manner or another prescribed exception applies. Generally, an interested stockholder is a person who, together with affiliates and associates, owns, or within three years prior to the determination of interested stockholder status did own, 15% or more of a corporation's voting stock. Generally, a business combination includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. The existence of this provision may have an anti-takeover effect with respect to transactions not approved in advance by the board of directors, such as discouraging takeover attempts that might result in a premium over the market price of our common stock.

Amendment of our Amended and Restated Certificate of Incorporation or our Amended and Restated Bylaws

The amendment of any of the above provisions in our amended and restated certificate of incorporation, except for the provision making it possible for our board of directors to issue preferred stock, or the amendment of any provision in our amended and restated bylaws (other than by action of the board of directors), would require approval by holders of at least 66 2/3% of our then outstanding voting stock.

The provisions of the General Corporation Law of the State of Delaware, our amended and restated certificate of incorporation and our amended and restated bylaws could have the effect of discouraging others from attempting hostile takeovers and, as a consequence, they may also inhibit temporary fluctuations in the market price of our common stock that often result from actual or rumored hostile takeover attempts. These provisions may also have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders may otherwise deem to be in their best interests.

Delaware as Sole and Exclusive Forum

Our amended and restated certificate of incorporation provides that unless we consent in writing to an alternative forum, the Court of Chancery of the State of Delaware shall, to the fullest extent permitted by law, be the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of us, (ii) any action asserting a claim of breach of a fiduciary duty owed by, or otherwise wrongdoing by, any of our directors, officers or other employees to us or our stockholders, (iii) any action asserting a claim against us arising pursuant to any provision of the Delaware General Corporation Law or our amended and restated certificate of incorporation or amended and restated bylaws, (iv) any action to interpret, apply, enforce or determine the validity of our amended and restated certificate of incorporation or the bylaws, or (v) any action asserting a claim against us or any of our directors, officers or employees governed by the internal affairs doctrine. Although our amended and restated certificate of incorporation contains the choice of forum provision described above, it is possible that a court could rule that such a provision is inapplicable for a particular claim or action or that such provision is unenforceable.

The Nasdaq Global Market Listing

Our common stock is listed on The Nasdaq Global Market under the symbol **AKAO**.

Transfer Agent and Registrar

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The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC. The transfer agent and registrar's address is 6201 15th Avenue, Brooklyn, New York 11219.

Table of Contents

DESCRIPTION OF DEBT SECURITIES

The following description, together with the additional information we include in any applicable prospectus supplement or free writing prospectus, summarizes certain general terms and provisions of the debt securities that we may offer under this prospectus. When we offer to sell a particular series of debt securities, we will describe the specific terms of the series in a supplement to this prospectus. We will also indicate in the supplement to what extent the general terms and provisions described in this prospectus apply to a particular series of debt securities.

We may issue debt securities either separately, or together with, or upon the conversion or exercise of or in exchange for, other securities described in this prospectus. Debt securities may be our senior, senior subordinated or subordinated obligations and, unless otherwise specified in a supplement to this prospectus, the debt securities will be our direct, unsecured obligations and may be issued in one or more series.

The debt securities will be issued under an indenture between us and a third party to be identified therein as trustee. We have summarized select portions of the indenture below. The summary is not complete. The form of the indenture has been filed as an exhibit to the registration statement and you should read the indenture for provisions that may be important to you. In the summary below, we have included references to the section numbers of the indenture so that you can easily locate these provisions. Capitalized terms used in the summary and not defined herein have the meanings specified in the indenture.

General

The terms of each series of debt securities will be established by or pursuant to a resolution of our board of directors and set forth or determined in the manner provided in a resolution of our board of directors, in an officer's certificate or by a supplemental indenture. (Section 2.2) The particular terms of each series of debt securities will be described in a prospectus supplement relating to such series (including any pricing supplement or term sheet).

We can issue an unlimited amount of debt securities under the indenture that may be in one or more series with the same or various maturities, at par, at a premium, or at a discount. (Section 2.1) We will set forth in a prospectus supplement (including any pricing supplement or term sheet) relating to any series of debt securities being offered, the aggregate principal amount and the following terms of the debt securities, if applicable:

the title and ranking of the debt securities (including the terms of any subordination provisions);

the price or prices (expressed as a percentage of the principal amount) at which we will sell the debt securities;

any limit on the aggregate principal amount of the debt securities;

the date or dates on which the principal of the securities of the series is payable;

the rate or rates (which may be fixed or variable) per annum or the method used to determine the rate or rates (including any commodity, commodity index, stock exchange index or financial index) at which the debt securities will bear interest, the date or dates from which interest will accrue, the date or dates on which interest will commence and be payable and any regular record date for the interest payable on any interest payment date;

the place or places where principal of, and interest, if any, on the debt securities will be payable (and the method of such payment), where the securities of such series may be surrendered for registration of transfer or exchange, and where notices and demands to us in respect of the debt securities may be delivered;

the period or periods within which, the price or prices at which and the terms and conditions upon which we may redeem the debt securities;

Table of Contents

any obligation we have to redeem or purchase the debt securities pursuant to any sinking fund or analogous provisions or at the option of a holder of debt securities and the period or periods within which, the price or prices at which and in the terms and conditions upon which securities of the series shall be redeemed or purchased, in whole or in part, pursuant to such obligation;

the dates on which and the price or prices at which we will repurchase debt securities at the option of the holders of debt securities and other detailed terms and provisions of these repurchase obligations;

the denominations in which the debt securities will be issued, if other than denominations of \$1,000 and any integral multiple thereof;

whether the debt securities will be issued in the form of certificated debt securities or global debt securities;

the portion of principal amount of the debt securities payable upon declaration of acceleration of the maturity date, if other than the principal amount;

the currency of denomination of the debt securities, which may be United States Dollars or any foreign currency, and if such currency of denomination is a composite currency, the agency or organization, if any, responsible for overseeing such composite currency;

the designation of the currency, currencies or currency units in which payment of principal of, premium and interest on the debt securities will be made;

if payments of principal of, premium or interest on the debt securities will be made in one or more currencies or currency units other than that or those in which the debt securities are denominated, the manner in which the exchange rate with respect to these payments will be determined;

the manner in which the amounts of payment of principal of, premium, if any, or interest on the debt securities will be determined, if these amounts may be determined by reference to an index based on a currency or currencies or by reference to a commodity, commodity index, stock exchange index or financial index;

any provisions relating to any security provided for the debt securities;

any addition to, deletion of or change in the Events of Default described in this prospectus or in the indenture with respect to the debt securities and any change in the acceleration provisions described in this prospectus or in the indenture with respect to the debt securities;

any addition to, deletion of or change in the covenants described in this prospectus or in the indenture with respect to the debt securities;

any depositaries, interest rate calculation agents, exchange rate calculation agents or other agents with respect to the debt securities;

the provisions, if any, relating to conversion or exchange of any debt securities of such series, including if applicable, the conversion or exchange price and period, provisions as to whether conversion or exchange will be mandatory, the events requiring an adjustment of the conversion or exchange price and provisions affecting conversion or exchange;

any other terms of the debt securities, which may supplement, modify or delete any provision of the indenture as it applies to that series, including any terms that may be required under applicable law or regulations or advisable in connection with the marketing of the securities; and

whether any of our direct or indirect subsidiaries will guarantee the debt securities of that series, including the terms of subordination, if any, of such guarantees. (Section 2.2)

We may issue debt securities that provide for an amount less than their stated principal amount to be due and payable upon declaration of acceleration of their maturity pursuant to the terms of the indenture. We will provide you with information on the federal income tax considerations and other special considerations applicable to any of these debt securities in the applicable prospectus supplement.

Table of Contents

If we denominate the purchase price of any of the debt securities in a foreign currency or currencies or a foreign currency unit or units, or if the principal of and any premium and interest on any series of debt securities is payable in a foreign currency or currencies or a foreign currency unit or units, we will provide you with information on the restrictions, elections, general tax considerations, specific terms and other information with respect to that issue of debt securities and such foreign currency or currencies or foreign currency unit or units in the applicable prospectus supplement.

Transfer and Exchange

Each debt security will be represented by either one or more global securities registered in the name of The Depository Trust Company, or the Depository, or a nominee of the Depository (we will refer to any debt security represented by a global debt security as a *book-entry debt security*), or a certificate issued in definitive registered form (we will refer to any debt security represented by a certificated security as a *certificated debt security*) as set forth in the applicable prospectus supplement. Except as set forth under the heading *Global Debt Securities and Book-Entry System* below, book-entry debt securities will not be issuable in certificated form.

Certificated Debt Securities. You may transfer or exchange certificated debt securities at any office we maintain for this purpose in accordance with the terms of the indenture. (Section 2.4) No service charge will be made for any transfer or exchange of certificated debt securities, but we may require payment of a sum sufficient to cover any tax or other governmental charge payable in connection with a transfer or exchange. (Section 2.7)

You may effect the transfer of certificated debt securities and the right to receive the principal of, premium and interest on certificated debt securities only by surrendering the certificate representing those certificated debt securities and either reissuance by us or the trustee of the certificate to the new holder or the issuance by us or the trustee of a new certificate to the new holder.

Global Debt Securities and Book-Entry System. Each global debt security representing book-entry debt securities will be deposited with, or on behalf of, the Depository, and registered in the name of the Depository or a nominee of the Depository. Please see *Global Securities*.

Covenants

We will set forth in the applicable prospectus supplement any restrictive covenants applicable to any issue of debt securities. (Article IV)

No Protection in the Event of a Change of Control

Unless we state otherwise in the applicable prospectus supplement, the debt securities will not contain any provisions which may afford holders of the debt securities protection in the event we have a change in control or in the event of a highly leveraged transaction (whether or not such transaction results in a change in control) which could adversely affect holders of debt securities.

Consolidation, Merger and Sale of Assets

We may not consolidate with or merge with or into, or convey, transfer or lease all or substantially all of our properties and assets to any person (a *successor person*) unless:

we are the surviving corporation or the successor person (if other than Achaogen) is a corporation organized and validly existing under the laws of any U.S. domestic jurisdiction and expressly assumes our obligations on the debt securities and under the indenture; and

immediately after giving effect to the transaction, no Default or Event of Default, shall have occurred and be continuing.

Table of Contents

Notwithstanding the above, any of our subsidiaries may consolidate with, merge into or transfer all or part of its properties to us. (Section 5.1)

Events of Default

Event of Default means with respect to any series of debt securities, any of the following:

default in the payment of any interest upon any debt security of that series when it becomes due and payable, and continuance of such default for a period of 30 days (unless the entire amount of the payment is deposited by us with the trustee or with a paying agent prior to the expiration of the 30-day period);

default in the payment of principal of any security of that series at its maturity;

default in the performance or breach of any other covenant or warranty by us in the indenture (other than a covenant or warranty that has been included in the indenture solely for the benefit of a series of debt securities other than that series), which default continues uncured for a period of 60 days after we receive written notice from the trustee or Achaogen and the trustee receive written notice from the holders of not less than 25% in principal amount of the outstanding debt securities of that series as provided in the indenture;

certain voluntary or involuntary events of bankruptcy, insolvency or reorganization of Achaogen; and

any other Event of Default provided with respect to debt securities of that series that is described in the applicable prospectus supplement. (Section 6.1)

No Event of Default with respect to a particular series of debt securities (except as to certain events of bankruptcy, insolvency or reorganization) necessarily constitutes an Event of Default with respect to any other series of debt securities. (Section 6.1) The occurrence of certain Events of Default or an acceleration under the indenture may constitute an event of default under certain indebtedness of ours or our subsidiaries outstanding from time to time.

We will provide the trustee written notice of any Default or Event of Default within 30 days of becoming aware of the occurrence of such Default or Event of Default, which notice will describe in reasonable detail the status of such Default or Event of Default and what action we are taking or propose to take in respect thereof. (Section 6.1)

If an Event of Default with respect to debt securities of any series at the time outstanding occurs and is continuing, then the trustee or the holders of not less than 25% in principal amount of the outstanding debt securities of that series may, by a notice in writing to us (and to the trustee if given by the holders), declare to be due and payable immediately the principal of (or, if the debt securities of that series are discount securities, that portion of the principal amount as may be specified in the terms of that series) and accrued and unpaid interest, if any, on all debt securities of that series. In the case of an Event of Default resulting from certain events of bankruptcy, insolvency or reorganization, the principal (or such specified amount) of and accrued and unpaid interest, if any, on all outstanding debt securities will become and be immediately due and payable without any declaration or other act on the part of the trustee or any holder of outstanding debt securities. At any time after a declaration of acceleration with respect to debt securities of any series has been made, but before a judgment or decree for payment of the money due has been

obtained by the trustee, the holders of a majority in principal amount of the outstanding debt securities of that series may rescind and annul the acceleration if all Events of Default, other than the non-payment of accelerated principal and interest, if any, with respect to debt securities of that series, have been cured or waived as provided in the indenture. (Section 6.2) We refer you to the prospectus supplement relating to any series of debt securities that are discount securities for the particular provisions relating to acceleration of a portion of the principal amount of such discount securities upon the occurrence of an Event of Default.

Table of Contents

The indenture provides that the trustee may refuse to perform any duty or exercise any of its rights or powers under the indenture unless the trustee receives indemnity satisfactory to it against any cost, liability or expense which might be incurred by it in performing such duty or exercising such right or power. (Section 7.1(e)) Subject to certain rights of the trustee, the holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred on the trustee with respect to the debt securities of that series. (Section 6.12)

No holder of any debt security of any series will have any right to institute any proceeding, judicial or otherwise, with respect to the indenture or for the appointment of a receiver or trustee, or for any remedy under the indenture, unless:

that holder has previously given to the trustee written notice of a continuing Event of Default with respect to debt securities of that series; and

the holders of not less than 25% in principal amount of the outstanding debt securities of that series have made written request, and offered indemnity or security satisfactory to the trustee, to the trustee to institute the proceeding as trustee, and the trustee has not received from the holders of not less than a majority in principal amount of the outstanding debt securities of that series a direction inconsistent with that request and has failed to institute the proceeding within 60 days. (Section 6.7)

Notwithstanding any other provision in the indenture, the holder of any debt security will have an absolute and unconditional right to receive payment of the principal of, premium and any interest on that debt security on or after the due dates expressed in that debt security and to institute suit for the enforcement of payment. (Section 6.8)

The indenture requires us, within 120 days after the end of our fiscal year, to furnish to the trustee a statement as to compliance with the indenture. (Section 4.3) If a Default or Event of Default occurs and is continuing with respect to the securities of any series and if it is known to a responsible officer of the trustee, the trustee shall mail to each Securityholder of the securities of that series notice of a Default or Event of Default within 90 days after it occurs or, if later, after a responsible officer of the trustee has knowledge of such Default or Event of Default. The indenture provides that the trustee may withhold notice to the holders of debt securities of any series of any Default or Event of Default (except in payment on any debt securities of that series) with respect to debt securities of that series if the trustee determines in good faith that withholding notice is in the interest of the holders of those debt securities. (Section 7.5)

Modification and Waiver

We and the trustee may modify, amend or supplement the indenture or the debt securities of any series without the consent of any holder of any debt security:

to cure any ambiguity, defect or inconsistency;

to comply with covenants in the indenture described above under the heading Consolidation, Merger and Sale of Assets ;

to provide for uncertificated securities in addition to or in place of certificated securities;

to add guarantees with respect to debt securities of any series or secure debt securities of any series;

to surrender any of our rights or powers under the indenture;

to add covenants or events of default for the benefit of the holders of debt securities of any series;

to comply with the applicable procedures of the applicable depositary;

Table of Contents

to make any change that does not adversely affect the rights of any holder of debt securities;

to provide for the issuance of and establish the form and terms and conditions of debt securities of any series as permitted by the indenture;

to effect the appointment of a successor trustee with respect to the debt securities of any series and to add to or change any of the provisions of the indenture to provide for or facilitate administration by more than one trustee; or

to comply with requirements of the SEC in order to effect or maintain the qualification of the indenture under the Trust Indenture Act. (Section 9.1)

We may also modify and amend the indenture with the consent of the holders of at least a majority in principal amount of the outstanding debt securities of each series affected by the modifications or amendments. We may not make any modification or amendment without the consent of the holders of each affected debt security then outstanding if that amendment will:

reduce the amount of debt securities whose holders must consent to an amendment, supplement or waiver;

reduce the rate of or extend the time for payment of interest (including default interest) on any debt security;

reduce the principal of or premium on or change the fixed maturity of any debt security or reduce the amount of, or postpone the date fixed for, the payment of any sinking fund or analogous obligation with respect to any series of debt securities;

reduce the principal amount of discount securities payable upon acceleration of maturity;

waive a default in the payment of the principal of, premium or interest on any debt security (except a rescission of acceleration of the debt securities of any series by the holders of at least a majority in aggregate principal amount of the then outstanding debt securities of that series and a waiver of the payment default that resulted from such acceleration);

make the principal of or premium or interest on any debt security payable in currency other than that stated in the debt security;

make any change to certain provisions of the indenture relating to, among other things, the right of holders of debt securities to receive payment of the principal of, premium and interest on those debt securities and to institute suit for the enforcement of any such payment and to waivers or

amendments; or

waive a redemption payment with respect to any debt security. (Section 9.3)

Except for certain specified provisions, the holders of at least a majority in principal amount of the outstanding debt securities of any series may on behalf of the holders of all debt securities of that series waive our compliance with provisions of the indenture. (Section 9.2) The holders of a majority in principal amount of the outstanding debt securities of any series may on behalf of the holders of all the debt securities of such series waive any past default under the indenture with respect to that series and its consequences, except a default in the payment of the principal of, premium or any interest on any debt security of that series; provided, however, that the holders of a majority in principal amount of the outstanding debt securities of any series may rescind an acceleration and its consequences, including any related payment default that resulted from the acceleration. (Section 6.13)

Defeasance of Debt Securities and Certain Covenants in Certain Circumstances

Legal Defeasance. The indenture provides that, unless otherwise provided by the terms of the applicable series of debt securities, we may be discharged from any and all obligations in respect of the debt securities of

Table of Contents

any series (subject to certain exceptions). We will be so discharged upon the irrevocable deposit with the trustee, in trust, of money and/or U.S. government obligations or, in the case of debt securities denominated in a single currency other than U.S. Dollars, government obligations of the government that issued or caused to be issued such currency, that, through the payment of interest and principal in accordance with their terms, will provide money or U.S. government obligations in an amount sufficient in the opinion of a nationally recognized firm of independent public accountants or investment bank to pay and discharge each installment of principal, premium and interest on and any mandatory sinking fund payments in respect of the debt securities of that series on the stated maturity of those payments in accordance with the terms of the indenture and those debt securities.

This discharge may occur only if, among other things, we have delivered to the trustee an opinion of counsel stating that we have received from, or there has been published by, the United States Internal Revenue Service a ruling or, since the date of execution of the indenture, there has been a change in the applicable United States federal income tax law, in either case to the effect that, and based thereon such opinion shall confirm that, the holders of the debt securities of that series will not recognize income, gain or loss for United States federal income tax purposes as a result of the deposit, defeasance and discharge and will be subject to United States federal income tax on the same amounts and in the same manner and at the same times as would have been the case if the deposit, defeasance and discharge had not occurred. (Section 8.3)

Defeasance of Certain Covenants. The indenture provides that, unless otherwise provided by the terms of the applicable series of debt securities, upon compliance with certain conditions:

we may omit to comply with the covenant described under the heading Consolidation, Merger and Sale of Assets and certain other covenants set forth in the indenture, as well as any additional covenants which may be set forth in the applicable prospectus supplement; and

any omission to comply with those covenants will not constitute a Default or an Event of Default with respect to the debt securities of that series (covenant defeasance).

The conditions include:

depositing with the trustee money and/or U.S. government obligations or, in the case of debt securities denominated in a single currency other than U.S. Dollars, government obligations of the government that issued or caused to be issued such currency, that, through the payment of interest and principal in accordance with their terms, will provide money in an amount sufficient in the opinion of a nationally recognized firm of independent public accountants or investment bank to pay and discharge each installment of principal of, premium and interest on and any mandatory sinking fund payments in respect of the debt securities of that series on the stated maturity of those payments in accordance with the terms of the indenture and those debt securities; and

delivering to the trustee an opinion of counsel to the effect that we have received from, or there has been published by, the United States Internal Revenue Service a ruling or, since the date of execution of the indenture, there has been a change in the applicable United States federal income tax law, in either case to the effect that, and based thereon such opinion shall confirm that, the holders of the debt securities of that

series will not recognize income, gain or loss for United States federal income tax purposes as a result of the deposit and related covenant defeasance and will be subject to United States federal income tax on the same amounts and in the same manner and at the same times as would have been the case if the deposit and related covenant defeasance had not occurred. (Section 8.4)

No Personal Liability of Directors, Officers, Employees or Stockholders

None of our past, present or future directors, officers, employees or stockholders, as such, will have any liability for any of our obligations under the debt securities or the indenture or for any claim based on, or in respect or by reason of, such obligations or their creation. By accepting a debt security, each holder waives and releases all such liability. This waiver and release is part of the consideration for the issue of the debt securities.

Table of Contents

However, this waiver and release may not be effective to waive liabilities under U.S. federal securities laws, and it is the view of the SEC that such a waiver is against public policy.

Governing Law

The indenture and the debt securities, including any claim or controversy arising out of or relating to the indenture or the securities, will be governed by the laws of the State of New York.

The indenture will provide that we, the trustee and the holders of the debt securities (by their acceptance of the debt securities) irrevocably waive, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to the indenture, the debt securities or the transactions contemplated thereby.

The indenture will provide that any legal suit, action or proceeding arising out of or based upon the indenture or the transactions contemplated thereby may be instituted in the federal courts of the United States of America located in the City of New York or the courts of the State of New York in each case located in the City of New York, and we, the trustee and the holder of the debt securities (by their acceptance of the debt securities) irrevocably submit to the non-exclusive jurisdiction of such courts in any such suit, action or proceeding. The indenture will further provide that service of any process, summons, notice or document by mail (to the extent allowed under any applicable statute or rule of court) to such party's address set forth in the indenture will be effective service of process for any suit, action or other proceeding brought in any such court. The indenture will further provide that we, the trustee and the holders of the debt securities (by their acceptance of the debt securities) irrevocably and unconditionally waive any objection to the laying of venue of any suit, action or other proceeding in the courts specified above and irrevocably and unconditionally waive and agree not to plead or claim any such suit, action or other proceeding has been brought in an inconvenient forum. (Section 10.10)

Table of Contents

DESCRIPTION OF WARRANTS

We may issue warrants for the purchase of shares of our common stock or preferred stock or of debt securities. We may issue warrants independently or together with other securities, and the warrants may be attached to or separate from any offered securities. Each series of warrants will be issued under a separate warrant agreement to be entered into between us and the investors or a warrant agent. The following summary of material provisions of the warrants and warrant agreements are subject to, and qualified in their entirety by reference to, all the provisions of the warrant agreement and warrant certificate applicable to a particular series of warrants. The terms of any warrants offered under a prospectus supplement may differ from the terms described below. We urge you to read the applicable prospectus supplement and any related free writing prospectus, as well as the complete warrant agreements and warrant certificates that contain the terms of the warrants.

The particular terms of any issue of warrants will be described in the prospectus supplement relating to the issue. Those terms may include:

the number of shares of common stock or preferred stock purchasable upon the exercise of warrants to purchase such shares and the price at which such number of shares may be purchased upon such exercise;

the designation, stated value and terms (including, without limitation, liquidation, dividend, conversion and voting rights) of the series of preferred stock purchasable upon exercise of warrants to purchase preferred stock;

the principal amount of debt securities that may be purchased upon exercise of a debt warrant and the exercise price for the warrants, which may be payable in cash, securities or other property;

the date, if any, on and after which the warrants and the related debt securities, preferred stock or common stock will be separately transferable;

the terms of any rights to redeem or call the warrants;

the date on which the right to exercise the warrants will commence and the date on which the right will expire;

United States Federal income tax consequences applicable to the warrants; and

any additional terms of the warrants, including terms, procedures, and limitations relating to the exchange, exercise and settlement of the warrants.

Holders of equity warrants will not be entitled:

to vote, consent or receive dividends;

receive notice as stockholders with respect to any meeting of stockholders for the election of our directors or any other matter; or

exercise any rights as stockholders of Achaogen.

Each warrant will entitle its holder to purchase the principal amount of debt securities or the number of shares of preferred stock or common stock at the exercise price set forth in, or calculable as set forth in, the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Table of Contents

A holder of warrant certificates may exchange them for new warrant certificates of different denominations, present them for registration of transfer and exercise them at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement. Until any warrants to purchase debt securities are exercised, the holder of the warrants will not have any rights of holders of the debt securities that can be purchased upon exercise, including any rights to receive payments of principal, premium or interest on the underlying debt securities or to enforce covenants in the applicable indenture. Until any warrants to purchase common stock or preferred stock are exercised, the holders of the warrants will not have any rights of holders of the underlying common stock or preferred stock, including any rights to receive dividends or payments upon any liquidation, dissolution or winding up on the common stock or preferred stock, if any.

Table of Contents

DESCRIPTION OF UNITS

We may issue units consisting of any combination of the other types of securities offered under this prospectus in one or more series. We may evidence each series of units by unit certificates that we will issue under a separate agreement. We may enter into unit agreements with a unit agent. Each unit agent will be a bank or trust company that we select. We will indicate the name and address of the unit agent in the applicable prospectus supplement relating to a particular series of units.

The following description, together with the additional information included in any applicable prospectus supplement, summarizes the general features of the units that we may offer under this prospectus. You should read any prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the series of units being offered, as well as the complete unit agreements that contain the terms of the units. Specific unit agreements will contain additional important terms and provisions and we will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from another report that we file with the SEC, the form of each unit agreement relating to units offered under this prospectus.

If we offer any units, certain terms of that series of units will be described in the applicable prospectus supplement, including, without limitation, the following, as applicable:

the title of the series of units;

identification and description of the separate constituent securities comprising the units;

the price or prices at which the units will be issued;

the date, if any, on and after which the constituent securities comprising the units will be separately transferable;

a discussion of certain United States federal income tax considerations applicable to the units; and

any other terms of the units and their constituent securities.

Table of Contents

GLOBAL SECURITIES

Book-Entry, Delivery and Form

Unless we indicate differently in a prospectus supplement or free writing prospectus, the securities initially will be issued in book-entry form and represented by one or more global notes or global securities, or, collectively, global securities. The global securities will be deposited with, or on behalf of, The Depository Trust Company, New York, New York, as depository, or DTC, and registered in the name of Cede & Co., the nominee of DTC. Unless and until it is exchanged for individual certificates evidencing securities under the limited circumstances described below, a global security may not be transferred except as a whole by the depository to its nominee or by the nominee to the depository, or by the depository or its nominee to a successor depository or to a nominee of the successor depository.

DTC has advised us that it is:

a limited-purpose trust company organized under the New York Banking Law;

a banking organization within the meaning of the New York Banking Law;

a member of the Federal Reserve System;

a clearing corporation within the meaning of the New York Uniform Commercial Code; and

a clearing agency registered pursuant to the provisions of Section 17A of the Exchange Act.

DTC holds securities that its participants deposit with DTC. DTC also facilitates the settlement among its participants of securities transactions, such as transfers and pledges, in deposited securities through electronic computerized book-entry changes in participants' accounts, thereby eliminating the need for physical movement of securities certificates. Direct participants in DTC include securities brokers and dealers, including underwriters, banks, trust companies, clearing corporations and other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation, or DTCC. DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others, which we sometimes refer to as indirect participants, that clear through or maintain a custodial relationship with a direct participant, either directly or indirectly. The rules applicable to DTC and its participants are on file with the SEC.

Purchases of securities under the DTC system must be made by or through direct participants, which will receive a credit for the securities on DTC's records. The ownership interest of the actual purchaser of a security, which we sometimes refer to as a beneficial owner, is in turn recorded on the direct and indirect participants' records. Beneficial owners of securities will not receive written confirmation from DTC of their purchases. However, beneficial owners are expected to receive written confirmations providing details of their transactions, as well as periodic statements of their holdings, from the direct or indirect participants through which they purchased securities. Transfers of ownership interests in global securities are to be accomplished by entries made on the books of participants acting on behalf of beneficial owners. Beneficial owners will not receive certificates representing their ownership interests in the global

securities, except under the limited circumstances described below.

To facilitate subsequent transfers, all global securities deposited by direct participants with DTC will be registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of securities with DTC and their registration in the name of Cede & Co. or such other nominee will not change the beneficial ownership of the securities. DTC has no knowledge of the actual beneficial owners of the securities. DTC's records reflect only the identity of the direct participants to whose accounts the securities are credited, which may or may not be the beneficial owners. The participants are responsible for keeping account of their holdings on behalf of their customers.

Table of Contents

So long as the securities are in book-entry form, you will receive payments and may transfer securities only through the facilities of the depository and its direct and indirect participants. We will maintain an office or agency in the location specified in the prospectus supplement for the applicable securities, where notices and demands in respect of the securities and the indenture may be delivered to us and where certificated securities may be surrendered for payment, registration of transfer or exchange.

Conveyance of notices and other communications by DTC to direct participants, by direct participants to indirect participants and by direct participants and indirect participants to beneficial owners will be governed by arrangements among them, subject to any legal requirements in effect from time to time.

Redemption notices will be sent to DTC. If less than all of the securities of a particular series are being redeemed, DTC's practice is to determine by lot the amount of the interest of each direct participant in the securities of such series to be redeemed.

Neither DTC nor Cede & Co. (or such other DTC nominee) will consent or vote with respect to the securities. Under its usual procedures, DTC will mail an omnibus proxy to us as soon as possible after the record date. The omnibus proxy assigns the consenting or voting rights of Cede & Co. to those direct participants to whose accounts the securities of such series are credited on the record date, identified in a listing attached to the omnibus proxy.

So long as securities are in book-entry form, we will make payments on those securities to the depository or its nominee, as the registered owner of such securities, by wire transfer of immediately available funds. If securities are issued in definitive certificated form under the limited circumstances described below and unless if otherwise provided in the description of the applicable securities herein or in the applicable prospectus supplement, we will have the option of making payments by check mailed to the addresses of the persons entitled to payment or by wire transfer to bank accounts in the United States designated in writing to the applicable trustee or other designated party at least 15 days before the applicable payment date by the persons entitled to payment, unless a shorter period is satisfactory to the applicable trustee or other designated party.

Redemption proceeds, distributions and dividend payments on the securities will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit direct participants' accounts upon DTC's receipt of funds and corresponding detail information from us on the payment date in accordance with their respective holdings shown on DTC records. Payments by participants to beneficial owners will be governed by standing instructions and customary practices, as is the case with securities held for the account of customers in bearer form or registered in street name. Those payments will be the responsibility of participants and not of DTC or us, subject to any statutory or regulatory requirements in effect from time to time. Payment of redemption proceeds, distributions and dividend payments to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC, is our responsibility, disbursement of payments to direct participants is the responsibility of DTC, and disbursement of payments to the beneficial owners is the responsibility of direct and indirect participants.

Except under the limited circumstances described below, purchasers of securities will not be entitled to have securities registered in their names and will not receive physical delivery of securities. Accordingly, each beneficial owner must rely on the procedures of DTC and its participants to exercise any rights under the securities and the indenture.

The laws of some jurisdictions may require that some purchasers of securities take physical delivery of securities in definitive form. Those laws may impair the ability to transfer or pledge beneficial interests in securities.

DTC may discontinue providing its services as securities depositary with respect to the securities at any time by giving reasonable notice to us. Under such circumstances, in the event that a successor depositary is not obtained, securities certificates are required to be printed and delivered.

Table of Contents

As noted above, beneficial owners of a particular series of securities generally will not receive certificates representing their ownership interests in those securities. However, if:

DTC notifies us that it is unwilling or unable to continue as a depositary for the global security or securities representing such series of securities or if DTC ceases to be a clearing agency registered under the Exchange Act at a time when it is required to be registered and a successor depositary is not appointed within 90 days of the notification to us or of our becoming aware of DTC's ceasing to be so registered, as the case may be;

we determine, in our sole discretion, not to have such securities represented by one or more global securities; or

an Event of Default has occurred and is continuing with respect to such series of securities, we will prepare and deliver certificates for such securities in exchange for beneficial interests in the global securities. Any beneficial interest in a global security that is exchangeable under the circumstances described in the preceding sentence will be exchangeable for securities in definitive certificated form registered in the names that the depositary directs. It is expected that these directions will be based upon directions received by the depositary from its participants with respect to ownership of beneficial interests in the global securities.

Euroclear and Clearstream

If so provided in the applicable prospectus supplement, you may hold interests in a global security through Clearstream Banking S.A., which we refer to as Clearstream, or Euroclear Bank S.A./N.V., as operator of the Euroclear System, which we refer to as Euroclear, either directly if you are a participant in Clearstream or Euroclear or indirectly through organizations which are participants in Clearstream or Euroclear. Clearstream and Euroclear will hold interests on behalf of their respective participants through customers' securities accounts in the names of Clearstream and Euroclear, respectively, on the books of their respective U.S. depositaries, which in turn will hold such interests in customers' securities accounts in such depositaries' names on DTC's books.

Clearstream and Euroclear are securities clearance systems in Europe. Clearstream and Euroclear hold securities for their respective participating organizations and facilitate the clearance and settlement of securities transactions between those participants through electronic book-entry changes in their accounts, thereby eliminating the need for physical movement of certificates.

Payments, deliveries, transfers, exchanges, notices and other matters relating to beneficial interests in global securities owned through Euroclear or Clearstream must comply with the rules and procedures of those systems. Transactions between participants in Euroclear or Clearstream, on one hand, and other participants in DTC, on the other hand, are also subject to DTC's rules and procedures.

Investors will be able to make and receive through Euroclear and Clearstream payments, deliveries, transfers and other transactions involving any beneficial interests in global securities held through those systems only on days when those systems are open for business. Those systems may not be open for business on days when banks, brokers and other institutions are open for business in the United States.

Cross-market transfers between participants in DTC, on the one hand, and participants in Euroclear or Clearstream, on the other hand, will be effected through DTC in accordance with the DTC's rules on behalf of Euroclear or Clearstream, as the case may be, by their respective U.S. depositaries; however, such cross-market transactions will require delivery of instructions to Euroclear or Clearstream, as the case may be, by the counterparty in such system in accordance with the rules and procedures and within the established deadlines (European time) of such system. Euroclear or Clearstream, as the case may be, will, if the transaction meets its settlement requirements, deliver instructions to its U.S. depositary to take action to effect final settlement on its behalf by delivering or receiving interests in the global securities through DTC, and making or receiving payment in accordance with normal procedures for same-day fund settlement. Participants in Euroclear or Clearstream may not deliver instructions directly to their respective U.S. depositaries.

Table of Contents

Due to time zone differences, the securities accounts of a participant in Euroclear or Clearstream purchasing an interest in a global security from a direct participant in DTC will be credited, and any such crediting will be reported to the relevant participant in Euroclear or Clearstream, during the securities settlement processing day (which must be a business day for Euroclear or Clearstream) immediately following the settlement date of DTC. Cash received in Euroclear or Clearstream as a result of sales of interests in a global security by or through a participant in Euroclear or Clearstream to a direct participant in DTC will be received with value on the settlement date of DTC but will be available in the relevant Euroclear or Clearstream cash account only as of the business day for Euroclear or Clearstream following DTC's settlement date.

Other

The information in this section of this prospectus concerning DTC, Clearstream, Euroclear and their respective book-entry systems has been obtained from sources that we believe to be reliable, but we do not take responsibility for this information. This information has been provided solely as a matter of convenience. The rules and procedures of DTC, Clearstream and Euroclear are solely within the control of those organizations and could change at any time. Neither we nor the trustee nor any agent of ours or of the trustee has any control over those entities and none of us takes any responsibility for their activities. You are urged to contact DTC, Clearstream and Euroclear or their respective participants directly to discuss those matters. In addition, although we expect that DTC, Clearstream and Euroclear will perform the foregoing procedures, none of them is under any obligation to perform or continue to perform such procedures and such procedures may be discontinued at any time. Neither we, nor the underwriters, nor the trustee, nor any agent of ours will have any responsibility for the performance or nonperformance by DTC, Clearstream and Euroclear or their respective direct or indirect participants of these or any other rules or procedures governing their respective operations.

Table of Contents

PLAN OF DISTRIBUTION

We may sell the securities from time to time pursuant to underwritten public offerings, negotiated transactions, block trades or a combination of these methods or through underwriters or dealers, through agents and/or directly to one or more purchasers. The securities may be distributed from time to time in one or more transactions:

at a fixed price or prices, which may be changed;

at market prices prevailing at the time of sale;

at prices related to such prevailing market prices; or

at negotiated prices.

Each time that we sell securities covered by this prospectus, we will provide a prospectus supplement or supplements that will describe the method of distribution and set forth the terms and conditions of the offering of such securities, including the offering price of the securities and the proceeds to us, if applicable.

Offers to purchase the securities being offered by this prospectus may be solicited directly. Agents may also be designated to solicit offers to purchase the securities from time to time. Any agent involved in the offer or sale of our securities will be identified in a prospectus supplement.

If a dealer is utilized in the sale of the securities being offered by this prospectus, the securities will be sold to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale.

If an underwriter is utilized in the sale of the securities being offered by this prospectus, an underwriting agreement will be executed with the underwriter at the time of sale and the name of any underwriter will be provided in the prospectus supplement that the underwriter will use to make resales of the securities to the public. In connection with the sale of the securities, we or the purchasers of securities for whom the underwriter may act as agent, may compensate the underwriter in the form of underwriting discounts or commissions. The underwriter may sell the securities to or through dealers, and those dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters and/or commissions from the purchasers for which they may act as agent. Unless otherwise indicated in a prospectus supplement, an agent will be acting on a best efforts basis and a dealer will purchase securities as a principal, and may then resell the securities at varying prices to be determined by the dealer.

Any compensation paid to underwriters, dealers or agents in connection with the offering of the securities, and any discounts, concessions or commissions allowed by underwriters to participating dealers will be provided in the applicable prospectus supplement. Underwriters, dealers and agents participating in the distribution of the securities may be deemed to be underwriters within the meaning of the Securities Act of 1933, as amended, and any discounts and commissions received by them and any profit realized by them on resale of the securities may be deemed to be underwriting discounts and commissions. We may enter into agreements to indemnify underwriters, dealers and agents against civil liabilities, including liabilities under the Securities Act, or to contribute to payments they may be required to make in respect thereof and to reimburse those persons for certain expenses.

Any common stock will be listed on The Nasdaq Global Market, but any other securities may or may not be listed on a national securities exchange. To facilitate the offering of securities, certain persons participating in the offering may engage in transactions that stabilize, maintain or otherwise affect the price of the securities. This may include over-allotments or short sales of the securities, which involve the sale by persons participating in the offering of more securities than were sold to them. In these circumstances, these persons would cover such over-allotments or short positions by making purchases in the open market or by exercising their over-allotment

Table of Contents

option, if any. In addition, these persons may stabilize or maintain the price of the securities by bidding for or purchasing securities in the open market or by imposing penalty bids, whereby selling concessions allowed to dealers participating in the offering may be reclaimed if securities sold by them are repurchased in connection with stabilization transactions. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. These transactions may be discontinued at any time.

We may engage in at the market offerings into an existing trading market in accordance with Rule 415(a)(4) under the Securities Act. In addition, we may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement so indicates, in connection with those derivatives, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and may use securities received from us in settlement of those derivatives to close out any related open borrowings of stock. The third party in such sale transactions will be an underwriter and, if not identified in this prospectus, will be named in the applicable prospectus supplement (or a post-effective amendment). In addition, we may otherwise loan or pledge securities to a financial institution or other third party that in turn may sell the securities short using this prospectus and an applicable prospectus supplement. Such financial institution or other third party may transfer its economic short position to investors in our securities or in connection with a concurrent offering of other securities.

The specific terms of any lock-up provisions in respect of any given offering will be described in the applicable prospectus supplement.

The underwriters, dealers and agents may engage in transactions with us, or perform services for us, in the ordinary course of business for which they receive compensation.

Table of Contents

LEGAL MATTERS

Latham & Watkins LLP will pass upon certain legal matters relating to the issuance and sale of the securities offered hereby on behalf of Achaogen, Inc. Additional legal matters may be passed upon for us or any underwriters, dealers or agents, by counsel that we will name in the applicable prospectus supplement.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2017, and the effectiveness of our internal control over financial reporting as of December 31, 2017, as set forth in their reports, which are incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

Table of Contents

15,000,000 Shares of Common Stock

Series A Warrants to Purchase up to 15,000,000 Shares of Common Stock

Series B Warrants to Purchase up to 15,000,000 Shares of Common Stock

Prospectus Supplement

H.C. Wainwright & Co.

February 15, 2019